



Jason Michelson
Project Manager

**Chevron Environmental
Management Company**
1500 Louisiana Street, #38116
Houston, Texas 77002
Work: 832-854-5601
Cell: 281-660-8564
jmichelson@chevron.com

February 28, 2020

New Mexico Oil Conservation Division, District 1
1625 N. French Drive
Hobbs, NM 88240

**Re: Vacuum Glorietta West Unit Satellite No. 4 Injection Trunk Line
Case No. 1RP-3941
2019 Remediation Summary and Soil Closure Request
Lea County, New Mexico**

Dear whom it concerns,

Please find enclosed for your files, copies of the following report:

- Vacuum Glorietta West Unit Satellite No. 4 Injection Trunk Line 2019 Remediation Summary and Soil Closure Request

The submittal was prepared by ETech Environmental & Safety Solutions, Inc. (ETech) on behalf of Chevron Environmental Management Company (CEMC).

Please do not hesitate to call Scott Foord with Arcadis U.S., Inc., the current consultant, at 713-953-4853 or myself at 832-854-5601, should you have any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jason Michelson".

Jason Michelson

Encl. Vacuum Glorietta West Unit Satellite No. 4 Injection Trunk Line 1RP-3941 2019 Remediation Summary and Soil Closure Request

C.C. Amy Barnhill, Chevron/MCBU

Incident ID	nKJ153004304
District RP	1RP-3941
Facility ID	
Application ID	pKJ1530041545

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: Jason Michelson Title: Project Manager
Signature: Jason Michelson Date: 2/17/2020
email: JMichelson@chevron.com Telephone: 832-854-5601

OCD Only

Received by: _____ Date: _____

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

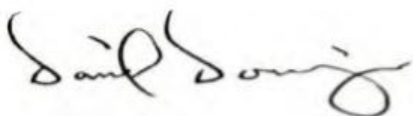
Closure Approved by: Bradford Billings Date: 09/13/2021
Printed Name: Bradford Billings Title: Envi.Spec.A

Remediation Summary and Soil Closure Request

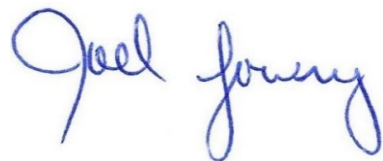
Chevron Environmental Management Company
VGWU SAT No. 4
Lea County, New Mexico
Unit Letter "B", Section 1, Township 18 South, Range 34 East
Latitude 32.78244 North, Longitude 103.51009 West
NMOCD Reference No. 1RP-3941

Prepared By:

Etech Environmental & Safety Solutions, Inc.
3100 Plains Highway
Lovington, New Mexico 88260



Daniel Dominguez



Joel W. Lowry



Midland • San Antonio • Lubbock • Lovington • Lafayette

TABLE OF CONTENTS

	<i>Section</i>
PROJECT INFORMATION.....	1.0
SITE CHARACTERIZATION.....	2.0
CLOSURE CRITERIA FOR SOILS IMPACTED BY A RELEASE.....	3.0
BACKGROUND INFORMATION.....	4.0
INITIAL SITE ASSESSMENT.....	5.0
PROPOSED REMEDIATION PLAN.....	6.0
REGULATORY APPROVALS & STIPULATIONS.....	7.0
REMEDATION ACTIVITIES SUMMARY.....	8.0
RESTORATION, RECLAMATION AND RE-VEGETATION PLAN.....	9.0
SOIL CLOSURE REQUEST.....	10.0
LIMITATIONS.....	11.0
DISTRIBUTION.....	12.0

FIGURES

Figure 1 - Topographic Map
Figure 2 - Aerial Proximity Map
Figure 3a -Site & Sample Location Map - Pasture
Figure 3b -Site & Sample Location Map - Pad

TABLES

Table 1 - Concentrations of BTEX, TPH and/or Chloride in Soil

APPENDICES

Appendix A - Depth to Groundwater Information
Appendix B - Field Data and Soil Profile Logs
Appendix C - Laboratory Analytical Reports
Appendix D - Photographic Log

1.0 PROJECT INFORMATION

Etech Environmental & Safety Solutions, Inc. (Etech), on behalf of Chevron Environmental Management Company (CEMC), has prepared this Remediation Summary and Soil Closure Request for the Release Site known as the Vacuum Glorietta West Unit (VGWU) Satellite No. 4 Injection Trunk Line. Details of the release are summarized below:

Location of Release Source				
Latitude: <u>32.78244</u>		Longitude: <u>-103.51009</u>		
Provided GPS are in WGS84 format.				
Site Name: <u>VGWU SAT No. 4</u>		Site Type: <u>Pipeline</u>		
Date Release Discovered: <u>3/6/2009</u>		API # (if applicable):		
Unit Letter	Section	Township	Range	County
"B"	1	18S	34E	Lea
Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private (Name _____)				
Nature and Volume of Release				
☐ Crude Oil	Volume Released (bbls)		Volume Recovered (bbls)	
☒ Produced Water	Volume Released (bbls) <u>29</u>		Volume Recovered (bbls) <u>None</u>	
		Is the concentration of dissolved chloride in the produced water > 10,000 mg/L? ☐ Yes ☐ No ☒ N/A		
☐ Condensate	Volume Released (bbls)		Volume Recovered (bbls)	
☐ Natural Gas	Volume Released (Mcf)		Volume Recovered (Mcf)	
☐ Other (describe)	Volume/Weight Released		Volume/Weight Recovered	
Cause of Release: The release was attributed to a line developing a leak.				
Initial Response				
☒ The source of the release has been stopped. ☒ The impacted area has been secured to protect human health and the environment. ☒ Release materials have been contained via the use of berms or dikes, absorbent pad, or other containment devices ☒ All free liquids and recoverable materials have been removed and managed appropriately.				

The initial NMOCD Form C-141 are available on the NMOCD Imaging System.

2.0 SITE CHARACTERIZATION

A search of groundwater databases maintained by the New Mexico Office of the State Engineer (NMOSE) and United States Geological Survey (USGS) was conducted in an effort to determine the horizontal distance to known water sources within a half mile radius of the Release Site. Probable groundwater depth was determined utilizing data from a monitor well approximately 320 Ft. Northeast of the Site. Depth to groundwater information is provided as Appendix A.

What is the shallowest depth to groundwater beneath the area affected by the release?	130 Ft.	
Did the release impact groundwater or surface water?	☐ Yes	☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes	☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes	☒ No
Are the lateral extents of the release within 300 feet of any occupied permanent residence, school, hospital, institution or church?	☐ Yes	☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes	☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes	☒ No
Are the lateral extents of the release within the incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes	☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes	☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes	☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes	☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes	☒ No
Did the release impact areas not on an exploration, development, production or storage site?	☒ Yes	☐ No

NMOCD Siting Criteria data was gathered from available resources including Bureau of Land Management (BLM) shapefiles; topographic maps; NMOSE and USGS databases; and aerial imagery. The results are depicted on Figures 1 & 2.

3.0 CLOSURE CRITERIA FOR SOILS IMPACTED BY A RELEASE

Based on the volume and nature of the release, inferred depth to groundwater and NMOCD Siting Criteria, the NMOCD Closure Criteria for the Site is as follows:

Closure Criteria for Soil Impacted by a Release			
Probable Depth to Groundwater	Constituent	Method	Limit
130 Ft.	Chloride	EPA 300.0 or SM4500 Cl B	20000 mg/kg
	TPH (GRO + DRO + MRO)	EPA SW-846 Method 8015M Ext	2500 mg/kg
	DRO + GRO	EPA SW-846 Method 8015M	1000 mg/kg
	BTEX	EPA SW-846 Methods 8021b or 8260b	50 mg/kg
	Benzene	EPA SW-846 Methods 8021b or 8260b	10 mg/kg

4.0 BACKGROUND INFORMATION

On August 4, and September 21, 2009, an initial site assessment was conducted by the original environmental contractor. During the initial site assessment, twenty (20) soil samples (SS-1 @ 0-6", SS-1 @ 1', SS-1 @ 2', SS-1 @ 2.5', SS-2 @ 0-6", SS-2 @ 1', SS-2 @ 2', SS-2 @ 3', SS-3 @ 0-6", SS-3 @ 1', SS-3 @ 2', SS-3 @ 3', SS-3 @ 4', SS-4 @ 0-6", SS-5 @ 0-6", SS-5 @ 1', SS-6 @ 0-6", SS-6 @ 1', SS-7 @ 0.5' and SS-7 @ 1') were collected and submitted to a commercial laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations were below the current NMOCD Closure Criteria in each of the submitted soil samples with the exception of soil samples SS-2 @ 0-6" and SS-4 @ 0-6", which exhibited chloride concentrations of 23,400 mg/kg and 29,400 mg/kg, respectively. Information regarding sample locations from the original initial site assessment is not readily available. A "Soil Chemistry Table" is provided as Table 1. Laboratory Analytical Reports are provided in Appendix C.

On October 6, 2010, the site was revisited in an effort to further characterize soil impacts at the Site. During the site visit, an environmental drilling rig was utilized to advance three (3) investigative soil borings (BH-1 through BH-3) within the affected area. During the advancement of the soil borings, fourteen (14) soil samples (BH-1 @ 4-6', BH-1 @ 10-11', BH-1 @ 15-16', BH-1 @ 20-21', BH-1 @ 25-26', BH-1 @ 30-31', BH-2 @ 5-6', BH-2 @ 10-11', BH-2 @ 15-16', BH-2 @ 20-21', BH-3 @ 5-6', BH-3 @ 10-11', BH-3 @ 15-16' and BH-1 @ 20-21') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations were below the current NMOCD Closure Criteria in each of the submitted soil samples. A "Site & Sample Location Map" is provided as Figure 3. Field data is provided as Appendix B.

On March 18, 2014, a site assessment was conducted by an alternate environmental contractor. During the site assessment, an environmental drilling rig was utilized to advance six (6) investigative soil borings (SB-1 through SB-6) in an effort to further characterize chloride impacts across the release site. Soil boring SB-2 was advanced within the release margins, soil borings SB-1 and SB-3 through SB-6 were advanced outside of the release margins. During the advancement of the soil borings, twenty-six (26) soil samples (SB-1 @ 0', SB-1 @ 10', SB-1 @ 20', SB-1 @ 35', SB-2 @ 0', SB-2 @ 5', SB-2 @ 15', SB-2 @ 35', SB-2 @ 50', SB-3 @ 0', SB-3 @ 5', SB-3 @ 15', SB-3 @ 35', SB-4 @ 0', SB-4 @ 5', SB-4 @ 15', SB-4 @ 35', SB-4 @ 50', SB-5 @ 0', SB-5 @ 5', SB-5 @ 15', SB-5 @ 35', SB-6 @ 0', SB-6 @ 5', SB-6 @ 15' and SB-6 @ 35') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations were below the current NMOCD Closure Criteria in each of the submitted soil samples.

On August 24, 2015, the Site was revisited in an effort to further characterize chloride impacts. During the site visit, an environmental drilling rig was utilized to advance three (3) additional investigative soil borings (SB-7 through SB-9) in an effort to further characterize chloride impacts across the release site. Soil boring SB-7 was advanced within the release margins, soil borings SB-8 and SB-9 were advanced outside of the release margins. During the advancement of the soil borings, twenty-seven (27) soil samples (SB-7 @ 0', SB-7 @ 5', SB-7 @ 10', SB-7 @ 15', SB-7 @ 20', SB-7 @ 30', SB-7 @ 50', SB-7 @ 70', SB-7 @ 90', SB-8 @ 0', SB-8 @ 5', SB-8 @ 10', SB-8 @ 15', SB-8 @ 20', SB-8 @ 30', SB-8 @ 50', SB-8 @ 70', SB-8 @ 90', SB-9 @ 0', SB-9 @ 5', SB-9 @ 10', SB-9 @ 15', SB-9 @ 20', SB-9 @ 30', SB-9 @ 50', SB-9 @ 70' and SB-9 @ 90') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations were below the current NMOCD Closure Criteria in each of the submitted soil samples.

Between June and August 2017, electromagnetic (EM) and electrical resistivity (ER) surveys were conducted at the Site in an effort to further characterize chloride impacted soil. For additional information regarding the EM and ER surveys, including maps, please reference the *2017 Soil Assessment Report*, dated May 21, 2018.

On October 16, 2017, the Site was revisited in an effort to further characterize chloride based on the results of the EM and ER surveys. During the site visit, an environmental drilling rig was utilized to advance three (3) additional investigative soil borings (SB-10 through SB-12) in an effort to further characterize chloride impacts across the release site. Soil boring SB-10 was advanced within the release margins, soil borings SB-11 and SB-12 were advanced outside of the release margins. During

the advancement of the soil borings, thirty-three (33) soil samples (SB-10 @ 0.5-1, SB-10 @ 4-5', SB-10 @ 9-10', SB-10 @ 19-20', SB-10 @ 29-30', SB-10 @ 29-30', SB-10 @ 39-40', SB-10 @ 49-50', SB-10 @ 59-60', SB-10 @ 69-70', SB-10 @ 79-80', SB-10 @ 89-90', SB-11 @ 0.5-1, SB-11 @ 4-5', SB-11 @ 9-10', SB-11 @ 19-20', SB-11 @ 29-30', SB-11 @ 29-30', SB-11 @ 39-40', SB-11 @ 49-50', SB-11 @ 59-60', SB-11 @ 69-70', SB-11 @ 79-80', SB-11 @ 89-90', SB-12 @ 0.5-1, SB-12 @ 4-5', SB-12 @ 9-10', SB-12 @ 19-20', SB-12 @ 29-30', SB-12 @ 29-30', SB-12 @ 39-40', SB-12 @ 49-50', SB-12 @ 59-60', SB-12 @ 69-70', SB-12 @ 79-80' and SB-12 @ 89-90') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations were below the current NMOCD Closure Criteria in each of the submitted soil samples. Please reference the 2017 Soil Assessment Report, dated May 21, 2018, for additional information including soil boring logs.

On July 25, 2018, the Site was revisited in an effort to further characterize chloride impacts based on the results of the EM and ER surveys. During the site visit, an environmental drilling rig was utilized to advance seven (7) additional investigative soil borings (SB-13 through SB-19) in an effort to further characterize chloride impacts across the release site. Each of the soil borings were advanced outside of the release margins. During the advancement of the soil borings, thirty-eight (38) soil samples (SB-13 @ 2-4', SB-13 @ 10', SB-13 @ 15', SB-13 @ 20', SB-14 @ 4', SB-14 @ 10', SB-14 @ 15', SB-14 @ 20', SB-15 @ 2-4', SB-15 @ 10', SB-15 @ 15', SB-15 @ 20', SB-15 @ 30', SB-15 @ 40', SB-15 @ 50', SB-16 @ 2-4', SB-16 @ 10', SB-16 @ 15', SB-16 @ 20', SB-17 @ 2-4', SB-17 @ 10', SB-17 @ 15', SB-17 @ 20', SB-17 @ 30', SB-17 @ 40', SB-17 @ 50', SB-17 @ 60', SB-17 @ 70', SB-17 @ 80', SB-17 @ 90', SB-18 @ 2-4', SB-18 @ 10', SB-18 @ 15', SB-18 @ 20', SB-19 @ 2-4', SB-19 @ 10', SB-19 @ 15' and SB-19 @ 20') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations were below the current NMOCD Closure Criteria in each of the submitted soil samples.

In October 2018, a *Soil Assessment Report and 2018 Remediation Workplan* was submitted to the NMOCD and NMSLO proposing remediation activities designed to advance the site toward an approved closure. The Workplan proposed excavating soil inferred to be affected above the NMOCD Reclamation Standard present within the uppermost 4 Ft. from within an area measuring approximately 53,000 square feet on the caliche well pad, the adjacent pasture, caliche access road and adjacent well pad. Excavated material would be field screened for concentrations of chloride and segregated into 50-100 cubic yard stockpiles. Soil stockpiles exhibiting chloride concentrations below 600 mg/kg would be used as backfill material. Upon excavating impacted soil affected above the NMOCD Reclamation Standard present within the uppermost 4 Ft. and collecting confirmation soil samples on 200 square foot increments, a liner would be placed in the bottom of the excavation atop soil exhibiting "elevated" chloride concentrations. The *Soil Assessment Report and 2018 Remediation Workplan* was subsequently approved. For additional details regarding delineation activities, laboratory analytical results and proposed remediation activities please reference Appendix E - Soil Assessment Report and 2018 Remediation Workplan.

5.0 INITIAL SITE ASSESSMENT

On September 12, 2019, Etech revisited the release Site in an effort to further characterize chloride impacted soil present within the uppermost 4 Ft. and determine the depth and nature of the calcrete hardpan present within the region. During the initial site assessment, a series of test trenches (TT-1 through TT-15) were advanced within the affected area inferred to be in need of remediation identified in the Soil Assessment Report and 2018 Remediation Workplan. During the advancement of the test trenches, thirty-seven (37) soil samples (TT-1 @ Surf., TT-1 @ 10", TT-1 @ 20", TT-2 @ Surf., TT-2 @ 10", TT-2 @ 20"-R, TT-3 @ Surf., TT-3 @ 10", TT-3 @ 20"-R, TT-4 @ Surf., TT-4 @ 10"-R, TT-5 @ Surf., TT-5 @ 10", TT-5 @ 20", TT-6 @ Surf., TT-6 @ 10", TT-6 @ 20"-R, TT-7 @ Surf., TT-7 @ 10", TT-8 @ Surf., TT-8 @ 10", TT-9 @ Surf., TT-9 @ 10", TT-9 @ 20", TT-10 @ Surf., TT-10 @ 10", TT-11 @ Surf., TT-11 @ 10", TT-12 @ Surf., TT-12 @ 10"-R, TT-13 @ Surf., TT-13 @ 10", TT-13 @ 20"-R, TT-14 @ Surf., TT-14 @ 10", TT-15 @ Surf. and TT-15 @ 10") were collected and submitted to the laboratory for analysis of BTEX, TPH and chloride concentrations. Laboratory analytical results indicated BTEX, TPH and chloride concentrations were below the NMOCD Closure Criteria in each of the submitted soil samples. Analytical results indicated BTEX, TPH and chloride concentrations were below the NMOCD Reclamation Standard in each of the submitted soil samples with the exception of soil sample TT-3 @ 10", which exhibited a chloride concentration 1,100 mg/kg, soil sample TT-3 @ 20"-R, which exhibited a chloride concentration of 2,000 mg/kg, TT-8 @ Surf., which exhibited a chloride concentration of 2,400 mg/kg, soil sample TT-8 @ 10", which exhibited a chloride concentration of 2,300 mg/kg, soil sample TT-10 @ 10", which exhibited a chloride concentration of 620 mg/kg, soil sample TT-11 @ Surf., which exhibited a chloride concentration of 4,100 mg/kg and soil sample TT-11 @ 10", which exhibited a chloride concentration of 3,300 mg/kg.

Further advancement of test trenches TT-2, TT-3, TT-4, TT-6, TT-12 and TT-13 was precluded due to the presence of a resilient calcrete hardpan layer. During the advancement of test trenches TT-5, TT-7, TT-8, TT-10, TT-11 TT-12 TT-13, TT-14 and TT-15, evidences of a historic drilling reserve pit including pit liner, cement and/or clay was encountered at depths ranging from 2 in. to 22 in. bgs. Further advancement of test trenches TT-5, TT-7, TT-8, TT-10, TT-11 TT-12 TT-13, TT-14 and TT-15 was precluded in an effort to limit the disturbance to the inferred drilling reserve pit.

6.0 PROPOSED REMEDIATION PLAN

Based on laboratory analytical results, site characteristics and field observations made during the initial site assessment, Chevron Environmental Management Company proposes the following remediation activities designed to advance the Site toward an approved closure:

- Prior to mobilizing to the Site, locate and clear utilities via New Mexico One-Call.
- Upon receiving utilities clearance, a Chevron Dig Plan will be prepared and approved by Chevron.
- Buried utilities proximate to the proposed excavation will be daylighted utilizing a hydroexcavator.
- Utilizing mechanical equipment, excavate impacted soil affected above the NMOCD Closure Criteria in the areas identified on Figure 3 as the "Original Release Area" and the "2018 Proposed Excavation". The floor and sidewalls of the excavation will be advanced until laboratory analytical results from confirmation soil samples indicate BTEX, TPH and chloride concentrations are below the NMOCD Closure Criteria.
- Utilizing mechanical equipment, excavate impacted soil affected above the NMOCD Reclamation Standard present within the uppermost 4 Ft of the affected pasture in the areas characterized by sample points SB-3, TT-4, SB-4, TT-8, TT-10 and TT-11.
- Excavated soil will be field screened for chloride during excavation activities utilizing Hach Quantab ® chloride test strips. Impacted soil affected above 600 mg/kg will be transported to an NMOCD-approved disposal facility. Excavated soil exhibiting chloride concentrations below 600 mg/kg will be segregating into 50-100 cy stockpiles for confirmation analysis of BTEX, TPH and chloride. Excavated material exhibited BTEX, TPH and chloride concentrations below the NMOCD Reclamation Standard will be utilized as backfill material.
- In the event impacts appear to extend past 4 Ft. bgs, the sides of the excavation will be sloped and a 20-mil polyethylene liner will be placed in the bottom of the excavation. Liner seams will be overlapped a minimum of 24 In. and padded in an effort to maintain the liners integrity during backfilling activities.
- Upon receiving laboratory analytical results from excavation confirmation and stockpile characterization soil samples, the excavated area will be backfilled with a combination of locally-sourced, non-impacted material and stockpiled material exhibited BTEX, TPH and chloride concentrations below the NMOCD Reclamation Standard.
- Excavation backfill will be placed at or near original relative positions. The affected area will be contoured and/or compacted to achieve erosion control, stability and preservation of surface water flow to the extent practicable. Affected areas not on production pads and/or lease roads will be reseeded with an NMSLO-approved seed mixture during the first favorable growing season following closure of the site.
- Upon completion of remediation activities, a *Remediation Summary and Soil Closure Request* will be prepared documenting field activities and laboratory analytical results from confirmation soil samples.

Upon completion of excavation activities, representative five-point composite excavation confirmation soil samples will be collected from the excavation sidewalls in each cardinal direction, representing no more than 50 linear ft. Based on the nature and amount of delineation data, data collected during the ER and EM surveys, Etech proposes that a minimum of **one (1)** representative five-point composite excavation confirmation soil sample will be collected from the base of the excavated area representing every **500 square feet**. Additional, discrete grab samples will be collected from wet or visibly stained areas inferred to have been affected by the release, as necessary.

7.0 REGULATORY APPROVALS AND STIPULATIONS

On October 31, 2019, a Site Assessment Report and Amended Proposed Remediation Workplan was submitted to the NMOCD proposing remediation activities designed to advance the Site toward regulatory closure. The Site Assessment Report and Amended Proposed Remediation Workplan was subsequently approved.

Please reference the Site Assessment Report and Amended Proposed Remediation Workplan for additional details regarding site characterization and proposed remediation activities.

8.0 REMEDIATION ACTIVITIES SUMMARY

On December 12, 2019, remediation activities commenced at the Site. In accordance with the approved Workplan, impacted soil affected above the NMOCD Closure Criteria on the caliche well pad was scraped and impacted soil affected above the NMOCD Reclamation Standard within the affected pasture was excavated. Excavated material was temporarily stockpiled on-site, atop an impermeable liner, pending final disposition at an NMOCD-approved surface waste facility. The floor and sidewalls of the excavation were advanced until field observations and test results suggested concentrations of BTEX, TPH and chloride were below the applicable NMOCD Closure Criteria and/or NMOCD Reclamation Standard.

Between December 18 through December 20, 2019, Etech collected twenty-seven (27) excavation confirmation soil samples (Floor 1 - Floor 21, SW1b, SW2b, SW8b, SW9b, SW10b and SW11b) from the floor and sidewalls of the excavated area. The collected soil samples were submitted to a certified commercial laboratory for analysis of BTEX, TPH and chloride. Laboratory analytical results indicated BTEX, TPH and chloride concentrations below the applicable NMOCD Closure Criteria and/or the NMOCD Reclamation Standard in each of the submitted soil samples with the exception of the chloride concentration in soil samples Floor 1 (1,240 mg/kg), Floor 2 (1,400 mg/kg), Floor 4 (1,020 mg/kg), Floor 7 (969 mg/kg), Floor 8 (1,390 mg/kg), Floor 12 (1,510 mg/kg), Floor 13 (1,350 mg/kg), Floor 16 (2,180 mg/kg), Floor 17 (1,850 mg/kg), Floor 20 (910 mg/kg), and Floor 21 (950 mg/kg), which exhibited chloride concentrations above the NMOCD Reclamation Standard. Further advancement of the floor of the excavation in the areas characterized by soil samples Floor 1, Floor 2, Floor 4, Floor 7, Floor 8, Floor 12, Floor 13, Floor 16, Floor 17, Floor 20 and Floor 21 was precluded due to the presence of a resilient calcrete layer.

On December 23, 2019, upon discovering the resilient calcrete layer, Etech requested NMOCD and NMSLO approval to cease further advancement of the floor of the excavation within the affected pasture. Etech proposed excavating impacted topsoil affected above the NMOCD Reclamation Standard to the resilient calcrete layer and installing a layer of gypsum atop the impacted rock affected above the NMOCD Reclamation Standard in an effort to inhibit the upward migration of chloride remaining in-situ, protect the sodium absorption ration of the overlying soil and promote revegetation. The proposal was subsequently approved.

On January 2, 2020, Etech collected twenty-five (25) excavation confirmation soil samples (Floor 22 -Floor 29, NEFloor, NE Floor 2, NESW1, NESW2b, NESW3, NESW4, SW 12 -SW 22) from the floor and sidewalls of the excavated area. The collected soil samples were submitted to a certified commercial laboratory for analysis of BTEX, TPH and/or chloride. Laboratory analytical results indicated BTEX, TPH and chloride concentrations below the applicable NMOCD Closure Criteria and/or the NMOCD Reclamation Standard in each of the submitted soil samples with the exception of soil samples Floor 22, Floor 23, Floor 24, Floor 26, Floor 28, NE Floor 1, and NE Floor 2, which exhibited chloride concentrations above the NMOCD Reclamation Standard. Further advancement of the floor of the excavation in the area characterized by soil samples Floor 22, Floor 23, Floor 24, Floor 26, Floor 28, NE Floor 1, and NE Floor 2 was precluded due to the presence of the resilient calcrete layer.

On January 7, 2020, Etech collected eighty-eight (88) excavation confirmation soil samples (Pad 1 - Pad 88) from the scraped area on the caliche well pad. The collected soil samples were submitted to a certified commercial laboratory for analysis of BTEX, TPH and chloride. Laboratory analytical results indicated BTEX, TPH and chloride concentrations below the applicable NMOCD Closure Criteria and/or the NMOCD Reclamation Standard in each of the submitted soil samples with the exception of Pad 8, and Pad 45, which exhibited chloride concentrations above the NMOCD Closure Criteria. Impacted soil affected above the NMOCD Closure Criteria in the areas characterized by soil samples Pad 8 and Pad 45 was excavated.

On January 9, 2020, Etech collected five (5) excavation confirmation soil samples (SW3b- SW7b) from the sidewalls of the excavated area. The collected soil samples were submitted to a certified commercial laboratory for analysis of BTEX, TPH and/or chloride. Laboratory analytical results indicated BTEX, TPH and chloride concentrations below the applicable NMOCD Closure Criteria and/or the NMOCD Reclamation Standard in each of the submitted soil samples.

On January 14, 2020, Etech collected two (2) additional excavation confirmation soil samples (Pad 8b and Pad 45b) and submitted them to the laboratory for analysis of chloride. Laboratory analytical results indicated chloride concentrations were below the applicable NMOCD Closure Criteria in each of the submitted soil samples.

Site and Sample Location Maps are provided for the Pasture excavation area as Figures 3a and Figure 3b. A "Soil Chemistry Table" is provided as Table 1. Laboratory Analytical Reports are provided in Appendix C.

The final dimensions of the excavated pasture area were approximately 200 feet in length, 43 to 80 feet in width and ranged from 12 to 24 inches in depth. The final dimensions of the northern excavation area were approximately 52 feet in length, 23 to 32 feet in width and approximately 12 inches in depth. The final dimensions of the excavated area on the caliche well pad were approximately 232 feet in length, 40 to 142 feet in width and approximately 2 to 3 inches in depth. During the course or remediation activities approximately 1,368 cubic yards of impacted soil were transported to an NMOCD-approved surface waste facility for disposal.

9.0 RESTORATION, RECLAMATION AND RE-VEGETATION PLAN

Upon receiving laboratory analytical results from confirmation soil samples, excavated areas were then backfilled with locally sourced, non-impacted "like" material placed at or near original relative positions. The affected area was contoured and/or compacted to achieve erosion control, stability and preservation of surface water flow to the extent practicable. Affected areas not on production pads and/or lease roads will be reseeded with an NMSLO-approved seed mixture free of noxious weeds during the first favorable growing season following closure of the site.

10.0 SOIL CLOSURE REQUEST

Remediation activities were conducted in accordance with an approved Workplan. Impacted soil affected above the NMOCD Closure Criteria and/or NMOCD Reclamation Standard was excavated and transported to an NMOCD-approved disposal facility. Laboratory analytical results from confirmation soil samples indicate concentrations of BTEX, TPH and chloride are below the NMOCD Closure Criteria in each of the submitted soil samples. Impacted soil affected above the NMOCD Reclamation Standard present within the affected pasture was excavated to the maximum extent practicable. Excavation sidewalls were advanced until laboratory analytical results indicated concentrations of BTEX, TPH and chloride were below the NMOCD Closure Criteria and/or the NMOCD Reclamation Standard. Further advancement of the floor of the excavated area within the affected pasture was precluded due to the presence of a resilient calcrete layer. Upon receiving NMOCD and NMSLO approval a layer of gypsum was installed on the floor of the excavated area. This control is designed to inhibit the upward migration of chloride impacts remaining in-situ, protect the sodium absorption ratio of the overlying soil and promote revegetation.

Based on laboratory analytical results and field activities conducted to date, Etech recommends Chevron Environmental Management Company provide copies of this Remediation Summary and Soil Closure Request to the appropriate agencies and request closure be granted to the VGWU SAT No. 4 Site.

11.0 LIMITATIONS

Etech Environmental & Safety Solutions, Inc., has prepared this Remediation Summary and Soil Closure Request to the best of its ability. No other warranty, expressed or implied, is made or intended. Etech has examined and relied upon documents reference in the report and on oral statements made by certain individuals. Etech has not conducted an independent examination of the facts contained in referenced materials and statements. Etech has presumed the genuineness of these documents and statements and that the information provided therein is true and accurate. Etech has prepared the report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Etech notes that the facts and conditions referenced in this report may change over time, and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of Chevron Environmental Management Company. Use of the information contained in this report is prohibited without the consent of Etech and/or Chevron Environmental Management Company.

12.0 DISTRIBUTION

Chevron Environmental Management Company

1500 Louisiana St.

Office 38116

Houston, TX 77002

New Mexico Energy, Minerals and Natural Resources Department

Oil Conservation Division, District 1

1220 South St. Francis Drive

Santa Fe, NM 87505

Hobbs Field Office

New Mexico State Land Office

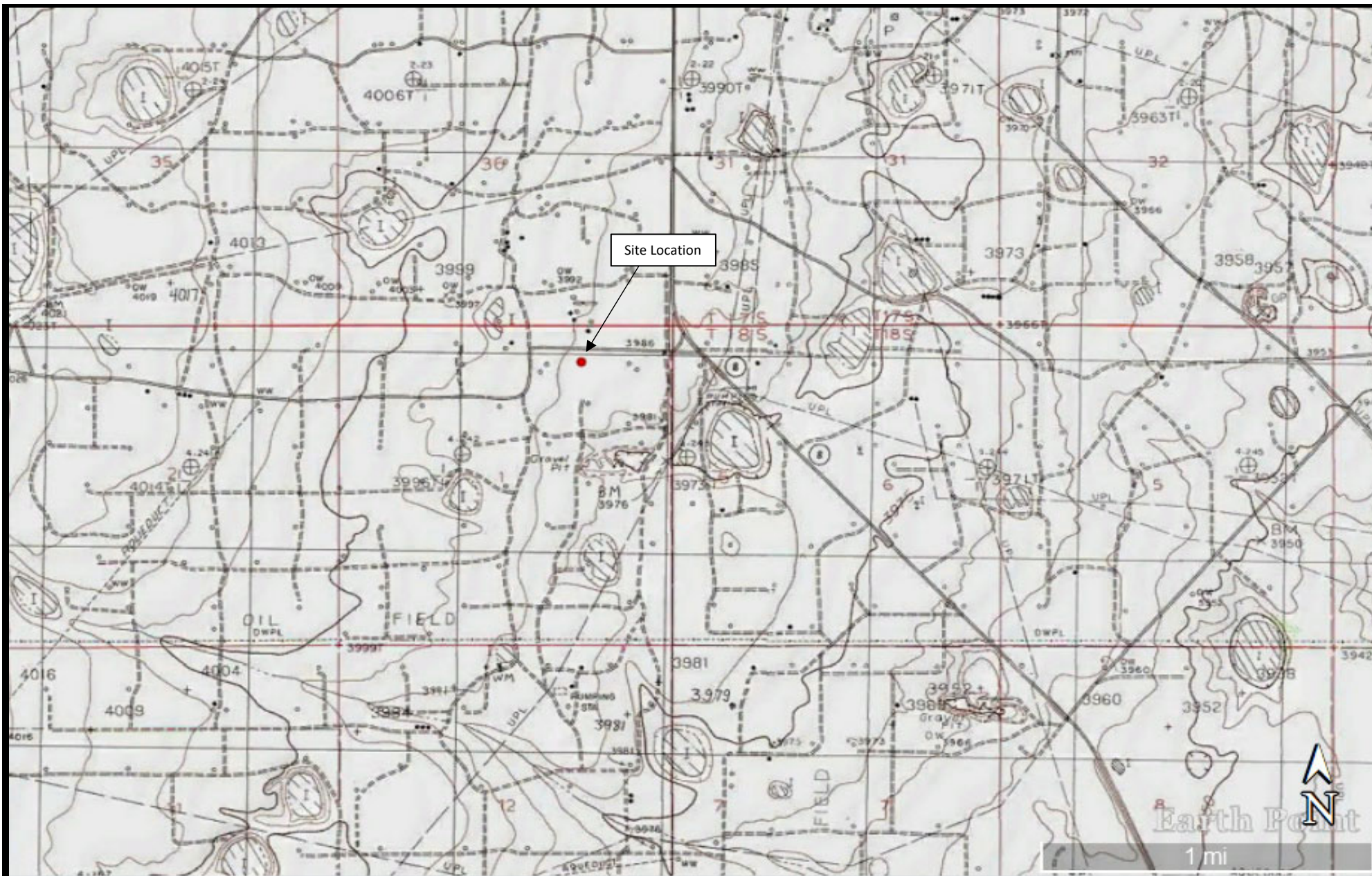
2827 North Dal Paso Street

Suite 117

(Electronic Submission)

Figure 1

Topographic Map



Legend:

- Site Location

Figure 1

Topographic Map
Chevron Environmental Management Company
VGWU SAT No. 4
GPS: 32.78244, -103.51009
Lea County



Drafted:

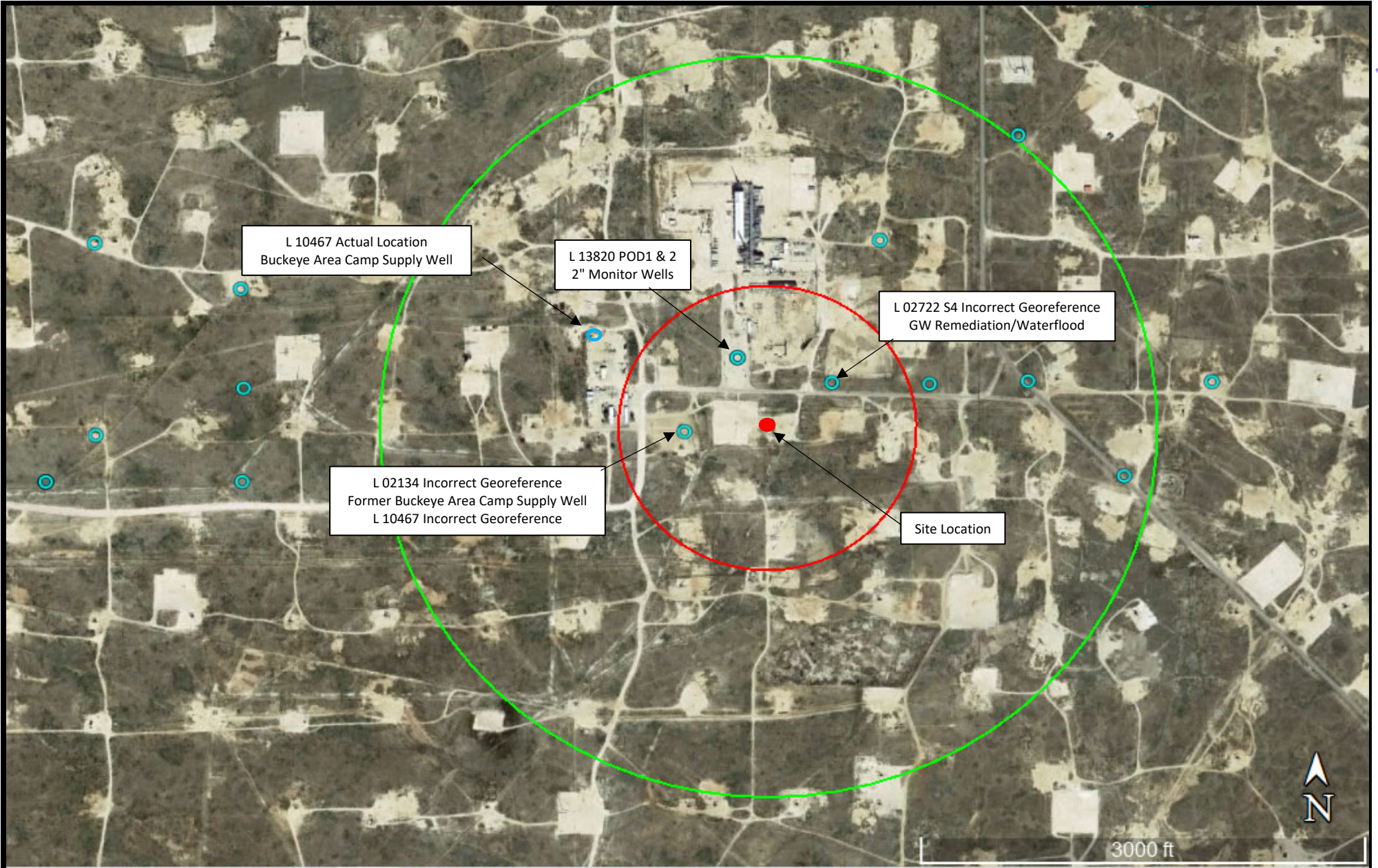
Checked: jwl

Date:

9/25/19

Figure 2

Aerial Proximity Map



Legend:	
●	Site Location
○	OSE Water Well
▨	100-Year Floodplain
▨	High/Critical Karst
■	Non-Industrial Building
■	Subsurface Mine
○	1,000 Ft. Radius
○	0.5 Mi Radius

Figure 2
Aerial Map
 Chevron Environmental Management Company
 VGWU SAT No. 4
 GPS: 32.78244, -103.51009
 Lea County



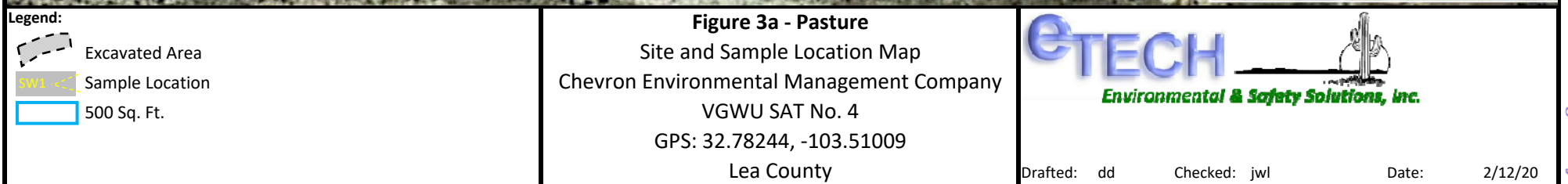
eTECH
 Environmental & Safety Solutions, Inc.



Drafted:
Checked: jwl
Date: 2/12/20

Figure 3

Site and Sample Location Map





Legend:

- Excavated Area
- Sample Location
- 500 Sq. Ft.

Figure 3b - Pad
 Site and Sample Location Map
 Chevron Environmental Management Company
 VGWU SAT No. 4
 GPS: 32.78244, -103.51009
 Lea County

ETECH
 Environmental & Safety Solutions, Inc.

Drafted: dd Checked: jwl Date: 2/12/20

Table 1
Concentrations of BTEX, TPH, and/or Chloride in Soil

TABLE 1
CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL
Chevron Environmental Management Company
VGWU SAT No. 4
NMOCD Ref. #: 1RP-3941

Sample ID	Date	Depth	Pad or Pasture	Soil Status	SW 846 8021B		SW 846 8015M Ext.					4500/300.0
					Benzene (mg/kg)	BTEX (mg/kg)	GRO C ₆ -C ₁₀ (mg/kg)	DRO C ₁₀ -C ₂₈ (mg/kg)	GRO + DRO C ₆ -C ₂₈ (mg/kg)	ORO C ₂₈ -C ₃₆ (mg/kg)	TPH C ₆ -C ₃₆ (mg/kg)	Chloride (mg/kg)
SS-1	8/4/2009	0.5'	Pad	In-Situ	--	--	--	--	--	--	--	4,890
SS-1	9/21/2009	1'	Pad	In-Situ	--	--	--	--	--	--	--	3,400
SS-1	9/21/2009	2'	Pad	In-Situ	--	--	--	--	--	--	--	4,040
SS-1	9/21/2009	2.5'	Pad	In-Situ	--	--	--	--	--	--	--	1,880
SS-2	8/4/2009	0.5'	Pad	Excavated	--	--	--	--	--	--	--	23,400
SS-2	9/21/2009	1'	Pad	In-Situ	--	--	--	--	--	--	--	1,280
SS-2	9/21/2009	2'	Pad	In-Situ	--	--	--	--	--	--	--	1,180
SS-2	9/21/2009	3'	Pad	In-Situ	--	--	--	--	--	--	--	1,460
SS-3	8/4/2009	0.5'	Pad	In-Situ	--	--	--	--	--	--	--	15,500
SS-3	9/21/2009	1'	Pad	In-Situ	--	--	--	--	--	--	--	1,380
SS-3	9/21/2009	2'	Pad	In-Situ	--	--	--	--	--	--	--	64.0
SS-3	9/21/2009	3'	Pad	In-Situ	--	--	--	--	--	--	--	864
SS-3	9/21/2009	4'	Pad	In-Situ	--	--	--	--	--	--	--	1,250
SS-4	8/4/2009	0.5'	Pad	Excavated	--	--	--	--	--	--	--	29,400
SS-5	9/21/2009	0.5'	Pad	In-Situ	--	--	--	--	--	--	--	480
SS-5	9/21/2009	1'	Pad	In-Situ	--	--	--	--	--	--	--	224
SS-6	9/21/2009	0.5'	Pad	In-Situ	--	--	--	--	--	--	--	64.0
SS-6	9/21/2009	1'	Pad	In-Situ	--	--	--	--	--	--	--	32.0
SS-7	9/21/2009	0.5'	Pad	In-Situ	--	--	--	--	--	--	--	480
SS-7	9/21/2009	1'	Pad	In-Situ	--	--	--	--	--	--	--	32.0
BH-1	10/6/2010	4-5'	Pad	In-Situ	--	--	--	--	--	--	--	1,520
BH-1	10/6/2010	10-11'	Pad	In-Situ	--	--	--	--	--	--	--	736
BH-1	10/6/2010	15-16'	Pad	In-Situ	--	--	--	--	--	--	--	528
BH-1	10/6/2010	20-21'	Pad	In-Situ	--	--	--	--	--	--	--	1,520
BH-1	10/6/2010	25-26'	Pad	In-Situ	--	--	--	--	--	--	--	2,360
BH-1	10/6/2010	30-31'	Pad	In-Situ	--	--	--	--	--	--	--	1,140
BH-2	10/6/2010	5-6'	Pad	In-Situ	--	--	--	--	--	--	--	160
BH-2	10/6/2010	10-11'	Pad	In-Situ	--	--	--	--	--	--	--	304
BH-2	10/6/2010	15-16'	Pad	In-Situ	--	--	--	--	--	--	--	96.0
BH-2	10/6/2010	20-21'	Pad	In-Situ	--	--	--	--	--	--	--	80.0
BH-3	10/6/2010	5-6'	Pad	In-Situ	--	--	--	--	--	--	--	576
BH-3	10/6/2010	10-11'	Pad	In-Situ	--	--	--	--	--	--	--	640
BH-3	10/6/2010	15-16'	Pad	In-Situ	--	--	--	--	--	--	--	144
BH-3	10/6/2010	20-21'	Pad	In-Situ	--	--	--	--	--	--	--	96.0
NMOCD Closure Criteria					10	50	-	-	1,000	-	2,500	20,000
NMOCD Reclamation Standard					10	50	-	-	-	-	100	600

NOTES:

- =

Bold text denotes a concentration that exceeds the NMOCD Closure Criteria and/or Reclamation Standard.

TABLE 1
CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL
Chevron Environmental Management Company
VGWU SAT No. 4
NMOCD Ref. #: 1RP-3941

Sample ID	Date	Depth	Pad or Pasture	Soil Status	SW 846 8021B		SW 846 8015M Ext.					4500/300.0
					Benzene (mg/kg)	BTEX (mg/kg)	GRO C ₆ -C ₁₀ (mg/kg)	DRO C ₁₀ -C ₂₈ (mg/kg)	GRO + DRO C ₆ -C ₂₈ (mg/kg)	ORO C ₂₈ -C ₃₆ (mg/kg)	TPH C ₆ -C ₃₆ (mg/kg)	Chloride (mg/kg)
SB-1	3/18/2014	0	Pad	In-Situ	--	--	--	--	--	--	--	163
SB-1	3/18/2014	10'	Pad	In-Situ	--	--	--	--	--	--	--	11.1
SB-1	3/18/2014	20'	Pad	In-Situ	--	--	--	--	--	--	--	4.7
SB-1	3/18/2014	35'	Pad	In-Situ	--	--	--	--	--	--	--	3.58
SB-2	3/18/2014	0	Pad	In-Situ	--	--	--	--	--	--	--	8,150
SB-2	3/18/2014	5'	Pad	In-Situ	--	--	--	--	--	--	--	857
SB-2	3/18/2014	15'	Pad	In-Situ	--	--	--	--	--	--	--	1,360
SB-2	3/18/2014	35'	Pad	In-Situ	--	--	--	--	--	--	--	1,890
SB-2	3/18/2014	50'	Pad	In-Situ	--	--	--	--	--	--	--	2,700
SB-3	3/18/2014	0	Pad	In-Situ	--	--	--	--	--	--	--	9,960
SB-3	3/18/2014	5'	Pad	In-Situ	--	--	--	--	--	--	--	1,880
SB-3	3/18/2014	15'	Pad	In-Situ	--	--	--	--	--	--	--	68.2
SB-3	3/18/2014	35'	Pad	In-Situ	--	--	--	--	--	--	--	32.1
SB-4	3/18/2014	0	Pasture	Excavated	--	--	--	--	--	--	--	11,300
SB-4	3/18/2014	5'	Pasture	In-Situ	--	--	--	--	--	--	--	4,110
SB-4	3/18/2014	15'	Pasture	In-Situ	--	--	--	--	--	--	--	6,220
SB-4	3/18/2014	35'	Pasture	In-Situ	--	--	--	--	--	--	--	12,400
SB-4	3/18/2014	50'	Pasture	In-Situ	--	--	--	--	--	--	--	1,880
SB-5	3/18/2014	0	Pad	In-Situ	--	--	--	--	--	--	--	111
SB-5	3/18/2014	5'	Pad	In-Situ	--	--	--	--	--	--	--	622
SB-5	3/18/2014	15'	Pad	In-Situ	--	--	--	--	--	--	--	553
SB-5	3/18/2014	35'	Pad	In-Situ	--	--	--	--	--	--	--	18.8
SB-6	3/18/2014	0	Pad	In-Situ	--	--	--	--	--	--	--	311
SB-6	3/18/2014	5'	Pad	In-Situ	--	--	--	--	--	--	--	21.5
SB-6	3/18/2014	15'	Pad	In-Situ	--	--	--	--	--	--	--	13.4
SB-6	3/18/2014	35'	Pad	In-Situ	--	--	--	--	--	--	--	4.05
NMOCD Closure Criteria					10	50	-	-	1,000	-	2,500	20,000
NMOCD Reclamation Standard					10	50	-	-	-	-	100	600

NOTES:

--

Bold text denotes a concentration that exceeds the NMOCD Closure Criteria and/or Reclamation Standard.

TABLE 1
CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL
Chevron Environmental Management Company
VGWU SAT No. 4
NMOCD Ref. #: 1RP-3941

Sample ID	Date	Depth	Pad or Pasture	Soil Status	SW 846 8021B		SW 846 8015M Ext.					4500/300.0
					Benzene (mg/kg)	BTEX (mg/kg)	GRO C ₆ -C ₁₀ (mg/kg)	DRO C ₁₀ -C ₂₈ (mg/kg)	GRO + DRO C ₆ -C ₂₈ (mg/kg)	ORO C ₂₈ -C ₃₆ (mg/kg)	TPH C ₆ -C ₃₆ (mg/kg)	Chloride (mg/kg)
SB-7	8/21/2015	0	Pad	In-Situ	--	--	--	--	--	--	--	24.2
SB-7	8/21/2015	5'	Pad	In-Situ	--	--	--	--	--	--	--	25.7
SB-7	8/21/2015	10'	Pad	In-Situ	--	--	--	--	--	--	--	277
SB-7	8/21/2015	15'	Pad	In-Situ	--	--	--	--	--	--	--	144
SB-7	8/21/2015	20'	Pad	In-Situ	--	--	--	--	--	--	--	203
SB-7	8/21/2015	30'	Pad	In-Situ	--	--	--	--	--	--	--	53.3
SB-7	8/21/2015	50'	Pad	In-Situ	--	--	--	--	--	--	--	7.3
SB-7	8/21/2015	70'	Pad	In-Situ	--	--	--	--	--	--	--	<2.10
SB-7	8/21/2015	90'	Pad	In-Situ	--	--	--	--	--	--	--	<2.10
SB-8	8/21/2015	0	Pasture	In-Situ	--	--	--	--	--	--	--	9.1
SB-8	8/21/2015	5'	Pasture	In-Situ	--	--	--	--	--	--	--	289
SB-8	8/21/2015	10'	Pasture	In-Situ	--	--	--	--	--	--	--	172
SB-8	8/21/2015	15'	Pasture	In-Situ	--	--	--	--	--	--	--	41
SB-8	8/21/2015	20'	Pasture	In-Situ	--	--	--	--	--	--	--	55.9
SB-8	8/21/2015	30'	Pasture	In-Situ	--	--	--	--	--	--	--	630
SB-8	8/21/2015	50'	Pasture	In-Situ	--	--	--	--	--	--	--	72.2
SB-8	8/21/2015	70'	Pasture	In-Situ	--	--	--	--	--	--	--	67.4
SB-8	8/21/2015	90'	Pasture	In-Situ	--	--	--	--	--	--	--	80.4
SB-9	8/21/2015	0	Pasture	In-Situ	--	--	--	--	--	--	--	79.6
SB-9	8/21/2015	5'	Pasture	In-Situ	--	--	--	--	--	--	--	2,540
SB-9	8/21/2015	10'	Pasture	In-Situ	--	--	--	--	--	--	--	474
SB-9	8/21/2015	15'	Pasture	In-Situ	--	--	--	--	--	--	--	23.9
SB-9	8/21/2015	20'	Pasture	In-Situ	--	--	--	--	--	--	--	114
SB-9	8/21/2015	30'	Pasture	In-Situ	--	--	--	--	--	--	--	77
SB-9	8/21/2015	50'	Pasture	In-Situ	--	--	--	--	--	--	--	21.4
SB-9	8/21/2015	70'	Pasture	In-Situ	--	--	--	--	--	--	--	4.21
SB-9	8/21/2015	90'	Pasture	In-Situ	--	--	--	--	--	--	--	3.63
NMOCD Closure Criteria					10	50	-	-	1,000	-	2,500	20,000
NMOCD Reclamation Standard					10	50	-	-	-	-	100	600

NOTES:

- =

Bold text denotes a concentration that exceeds the NMOCD Closure Criteria and/or Reclamation Standard.

TABLE 1
CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL
Chevron Environmental Management Company
VGWU SAT No. 4
NMOCD Ref. #: 1RP-3941

Sample ID	Date	Depth	Pad or Pasture	Soil Status	SW 846 8021B		SW 846 8015M Ext.					4500/300.0
					Benzene (mg/kg)	BTEX (mg/kg)	GRO C ₆ -C ₁₀ (mg/kg)	DRO C ₁₀ -C ₂₈ (mg/kg)	GRO + DRO C ₆ -C ₂₈ (mg/kg)	ORO C ₂₈ -C ₃₆ (mg/kg)	TPH C ₆ -C ₃₆ (mg/kg)	Chloride (mg/kg)
SB-10	10/16/2017	0.5-1'	Pad	In-Situ	--	--	--	--	--	--	--	5,720
SB-10	10/16/2017	4-5'	Pad	In-Situ	--	--	--	--	--	--	--	1,130
SB-10	10/16/2017	9-10'	Pad	In-Situ	--	--	--	--	--	--	--	325
SB-10	10/16/2017	19-20'	Pad	In-Situ	--	--	--	--	--	--	--	47.3
SB-10	10/16/2017	29-30'	Pad	In-Situ	--	--	--	--	--	--	--	17.1
SB-10	10/16/2017	39-40'	Pad	In-Situ	--	--	--	--	--	--	--	15
SB-10	10/16/2017	49-50'	Pad	In-Situ	--	--	--	--	--	--	--	254
SB-10	10/16/2017	59-60'	Pad	In-Situ	--	--	--	--	--	--	--	522
SB-10	10/16/2017	69-70'	Pad	In-Situ	--	--	--	--	--	--	--	487
SB-10	10/16/2017	79-80'	Pad	In-Situ	--	--	--	--	--	--	--	452
SB-10	10/16/2017	89-90'	Pad	In-Situ	--	--	--	--	--	--	--	354
SB-11	10/16/2017	0.5-1'	Pasture	Excavated	--	--	--	--	--	--	--	2,520
SB-11	10/16/2017	4-5'	Pasture	In-Situ	--	--	--	--	--	--	--	1,920
SB-11	10/16/2017	9-10'	Pasture	In-Situ	--	--	--	--	--	--	--	3,180
SB-11	10/16/2017	19-20'	Pasture	In-Situ	--	--	--	--	--	--	--	7,690
SB-11	10/16/2017	29-30'	Pasture	In-Situ	--	--	--	--	--	--	--	970
SB-11	10/16/2017	39-40'	Pasture	In-Situ	--	--	--	--	--	--	--	166
SB-11	10/16/2017	49-50'	Pasture	In-Situ	--	--	--	--	--	--	--	135
SB-11	10/16/2017	59-60'	Pasture	In-Situ	--	--	--	--	--	--	--	69.8
SB-12	10/16/2017	0.5-1'	Pasture	In-Situ	--	--	--	--	--	--	--	59.7
SB-12	10/16/2017	4-5'	Pasture	In-Situ	--	--	--	--	--	--	--	169
SB-12	10/16/2017	9-10'	Pasture	In-Situ	--	--	--	--	--	--	--	355
SB-12	10/16/2017	19-20'	Pasture	In-Situ	--	--	--	--	--	--	--	322
SB-12	10/16/2017	29-30'	Pasture	In-Situ	--	--	--	--	--	--	--	23.9
SB-12	10/16/2017	39-40'	Pasture	In-Situ	--	--	--	--	--	--	--	10.3
NMOCD Closure Criteria					10	50	-	-	1,000	-	2,500	20,000
NMOCD Reclamation Standard					10	50	-	-	-	-	100	600

NOTES:

--

Bold text denotes a concentration that exceeds the NMOCD Closure Criteria and/or Reclamation Standard.

TABLE 1
CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL
Chevron Environmental Management Company
VGWU SAT No. 4
NMOCD Ref. #: 1RP-3941

Sample ID	Date	Depth	Pad or Pasture	Soil Status	SW 846 8021B		SW 846 8015M Ext.					4500/300.0
					Benzene (mg/kg)	BTEX (mg/kg)	GRO C ₆ -C ₁₀ (mg/kg)	DRO C ₁₀ -C ₂₈ (mg/kg)	GRO + DRO C ₆ -C ₂₈ (mg/kg)	ORO C ₂₈ -C ₃₆ (mg/kg)	TPH C ₆ -C ₃₆ (mg/kg)	Chloride (mg/kg)
SB-13	10/16/2017	2-4'	Pasture	In-Situ	--	--	--	--	--	--	--	221
SB-13	7/25/2018	10'	Pasture	In-Situ	--	--	--	--	--	--	--	49.6
SB-13	7/25/2018	15'	Pasture	In-Situ	--	--	--	--	--	--	--	29.0
SB-13	7/25/2018	20'	Pasture	In-Situ	--	--	--	--	--	--	--	16.7
SB-14	7/25/2018	4'	Pad	In-Situ	--	--	--	--	--	--	--	34.8
SB-14	7/25/2018	10'	Pad	In-Situ	--	--	--	--	--	--	--	75.8
SB-14	7/25/2018	15'	Pad	In-Situ	--	--	--	--	--	--	--	15.9
SB-14	7/25/2018	20'	Pad	In-Situ	--	--	--	--	--	--	--	<5.33
SB-15	7/25/2018	2-4'	Pasture	In-Situ	--	--	--	--	--	--	--	114
SB-15	7/25/2018	10'	Pasture	In-Situ	--	--	--	--	--	--	--	524
SB-15	7/25/2018	15'	Pasture	In-Situ	--	--	--	--	--	--	--	736
SB-15	7/25/2018	20'	Pasture	In-Situ	--	--	--	--	--	--	--	884
SB-15	7/25/2018	30'	Pasture	In-Situ	--	--	--	--	--	--	--	1,670
SB-15	7/25/2018	40'	Pasture	In-Situ	--	--	--	--	--	--	--	499
SB-15	7/25/2018	50'	Pasture	In-Situ	--	--	--	--	--	--	--	186
SB-16	7/25/2018	2-4'	Pasture	In-Situ	--	--	--	--	--	--	--	8.3
SB-16	7/25/2018	10'	Pasture	In-Situ	--	--	--	--	--	--	--	<5.47
SB-16	7/25/2018	15'	Pasture	In-Situ	--	--	--	--	--	--	--	<5.20
SB-16	7/25/2018	20'	Pasture	In-Situ	--	--	--	--	--	--	--	26.8
SB-17	7/25/2018	2-4'	Pad	In-Situ	--	--	--	--	--	--	--	419
SB-17	7/25/2018	10'	Pad	In-Situ	--	--	--	--	--	--	--	425
SB-17	7/25/2018	15'	Pad	In-Situ	--	--	--	--	--	--	--	471
SB-17	7/25/2018	20'	Pad	In-Situ	--	--	--	--	--	--	--	851
SB-17	7/25/2018	30'	Pad	In-Situ	--	--	--	--	--	--	--	1,080
SB-17	7/25/2018	40'	Pad	In-Situ	--	--	--	--	--	--	--	1,490
SB-17	7/25/2018	50'	Pad	In-Situ	--	--	--	--	--	--	--	2,790
SB-17	7/25/2018	60'	Pad	In-Situ	--	--	--	--	--	--	--	2,540
SB-17	7/25/2018	70'	Pad	In-Situ	--	--	--	--	--	--	--	2,450
SB-17	7/25/2018	80'	Pad	In-Situ	--	--	--	--	--	--	--	2,190
SB-17	7/25/2018	90'	Pad	In-Situ	--	--	--	--	--	--	--	1,060
SB-18	7/25/2018	2-4'	Pasture	In-Situ	--	--	--	--	--	--	--	215
SB-18	7/25/2018	10'	Pasture	In-Situ	--	--	--	--	--	--	--	351
SB-18	7/25/2018	15'	Pasture	In-Situ	--	--	--	--	--	--	--	297
SB-18	7/25/2018	20'	Pasture	In-Situ	--	--	--	--	--	--	--	38.7
SB-19	7/25/2018	2-4'	Pasture	In-Situ	--	--	--	--	--	--	--	135
SB-19	7/25/2018	10'	Pasture	In-Situ	--	--	--	--	--	--	--	106
SB-19	7/25/2018	15'	Pasture	In-Situ	--	--	--	--	--	--	--	56.6
SB-19	7/25/2018	20'	Pasture	In-Situ	--	--	--	--	--	--	--	23.4
NMOCD Closure Criteria					10	50	-	-	1,000	-	2,500	20,000
NMOCD Reclamation Standard					10	50	-	-	-	-	100	600

NOTES:

--

Bold text denotes a concentration that exceeds the NMOCD Closure Criteria and/or Reclamation Standard.

TABLE 1
CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL
Chevron Environmental Management Company
VGWU SAT No. 4
NMOCD Ref. #: 1RP-3941

Sample ID	Date	Depth	Pad or Pasture	Soil Status	SW 846 8021B		SW 846 8015M Ext.					4500/300.0
					Benzene (mg/kg)	BTEX (mg/kg)	GRO C ₆ -C ₁₀ (mg/kg)	DRO C ₁₀ -C ₂₈ (mg/kg)	GRO + DRO C ₆ -C ₂₈ (mg/kg)	ORO C ₂₈ -C ₃₆ (mg/kg)	TPH C ₆ -C ₃₆ (mg/kg)	Chloride (mg/kg)
TT-1 @ Surf.	9/12/2019	0	Pad	Scraped	--	--	--	--	--	--	--	3,900
TT-1 @ 10"	9/12/2019	10"	Pad	In-Situ	<0.025	<0.098	<4.9	<9.3	<9.3	<47	<47	800
TT-1 @ 20"	9/12/2019	20"	Pad	In-Situ	<0.025	<0.10	<5.0	<8.7	<8.7	<43	<43	1,000
TT-2 @ Surf.	9/12/2019	0	Pad	Scraped	-	-	-	-	-	-	-	5,000
TT-2 @ 10"	9/12/2019	10"	Pad	In-Situ	<0.023	<0.093	<4.7	<9.6	<9.6	<48	<48	2,600
TT-2 @ 20"-R	9/12/2019	20"	Pad	In-Situ	<0.024	<0.097	<4.9	<9.9	<9.9	<50	<50	4,700
TT-3 @ Surf.	9/12/2019	0	Pad	Scraped	--	--	--	--	--	--	--	5700
TT-3 @ 10"	9/12/2019	10"	Pad	In-Situ	<0.024	<0.095	<4.7	<9.7	<9.7	<49	<49	1,100
TT-3 @ 20"-R	9/12/2019	20"	Pasture	In-Situ	<0.023	<0.046	<4.6	<9.2	<9.2	<46	<46	2,000
TT-4 @ Surf.	9/12/2019	0	Pasture	In-Situ	<0.024	<0.097	<4.8	<9.3	<9.3	<46	<46	<60
TT-4 @ 10"-R	9/12/2019	10"	Pasture	In-Situ	<0.025	<0.099	<4.9	<9.1	<9.1	<46	<46	400
TT-5 @ Surf.	9/12/2019	0	Pasture	Excavated	--	--	--	--	--	--	--	140
TT-5 @ 10"	9/12/2019	10"	Pasture	Excavated	<0.024	<0.096	<4.8	<9.6	<9.6	<48	<48	120
TT-5 @ 20"	9/12/2019	20"	Pasture	Excavated	<0.024	<0.096	<4.9	<9.7	<9.7	<48	<48	82
TT-6 @ Surf.	9/12/2019	0	Pad	Scraped	--	--	--	--	--	--	--	1,200
TT-6 @ 10"	9/12/2019	10"	Pad	In-Situ	<0.024	<0.096	<4.8	<9.2	<9.2	<46	<46	2,500
TT-6 @ 20"-R	9/12/2019	20"	Pad	In-Situ	<0.023	<0.092	<4.6	<9.8	<9.8	<49	<49	2,300
TT-7 @ Surf.	9/12/2019	0	Pad	Scraped	<0.024	<0.095	<4.7	<9.0	<9.0	<45	<45	180
TT-7 @ 10"	9/12/2019	10"	Pad	In-Situ	<0.024	<0.097	<4.9	16	16	52	68	1,400
TT-8 @ Surf.	9/12/2019	0	Pasture	Excavated	<0.024	<0.096	<4.8	11	11	<49	<49	2,400
TT-8 @ 10"	9/12/2019	10"	Pasture	Excavated	<0.024	<0.097	<4.8	<10.0	<10.0	<50	<50	2,300
TT-9 @ Surf.	9/12/2019	0	Pasture	In-Situ	--	--	--	--	--	--	--	<60
TT-9 @ 10"	9/12/2019	10"	Pasture	In-Situ	<0.023	<0.092	<4.6	<9.7	<9.7	<49	<49	220
TT-9 @ 20"	9/12/2019	20"	Pasture	In-Situ	<0.024	<0.094	<4.7	<10.0	<10.0	<50	<50	480
TT-10 @ Surf.	9/12/2019	0	Pasture	Excavated	<0.024	<0.095	<4.8	<9.0	<9.0	<45	<45	130
TT-10 @ 10"	9/12/2019	10"	Pasture	Excavated	<0.024	<0.097	<4.8	<9.6	<9.6	<48	<48	620
TT-11 @ Surf.	9/12/2019	0	Pasture	Excavated	<0.024	<0.097	<4.9	<9.8	<9.8	<49	<49	4,100
TT-11 @ 10"	9/12/2019	10"	Pasture	Excavated	<0.023	<0.093	<4.6	<9.5	<9.5	<47	<47	3,300
TT-12 @ Surf.	9/12/2019	0	Pasture	In-Situ	<0.025	<0.10	<5.0	<9.6	<9.6	<48	<48	<60
TT-12 @ 10"-R	9/12/2019	10"	Pasture	In-Situ	<0.023	<0.093	<4.7	<8.9	<8.9	<44	<44	<60
TT-13 @ Surf.	9/12/2019	0	Pad	Scraped	--	--	--	--	--	--	--	<60
TT-13 @ 10"	9/12/2019	10"	Pad	In-Situ	<0.024	<0.097	<4.8	<9.6	<9.6	<48	<48	<60
TT-13 @ 20"-R	9/12/2019	20"	Pad	In-Situ	<0.025	<0.10	<5.0	<9.8	<9.8	<49	<49	<60
TT-14 @ Surf.	9/12/2019	0	Pasture	In-Situ	<0.024	<0.096	<4.8	<9.7	<9.7	<48	<48	<60
TT-14 @ 10"	9/12/2019	10"	Pasture	In-Situ	<0.023	<0.093	<4.7	<9.2	<9.2	<46	<46	<60
TT-15 @ Surf.	9/12/2019	0	Pasture	In-Situ	<0.023	<0.092	<4.6	<8.5	<8.5	<42	<42	<60
TT-15 @ 10"	9/12/2019	10"	Pasture	In-Situ	<0.023	<0.094	<4.7	<10.0	<10.0	<50	<50	78
NMOCD Closure Criteria					10	50	-	-	1,000	-	2,500	20,000
NMOCD Reclamation Standard					10	50	-	-	-	-	100	600

NOTES:

-- = Not analyzed for constituent

Bold text denotes a concentration that exceeds the NMOCD Closure Criteria and/or Reclamation Standard.

TABLE 1
CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL
Chevron Environmental Management Company
VGWU SAT No. 4
NMOCD Ref. #: 1RP-3941

Sample ID	Date	Depth	Pad or Pasture	Soil Status	SW 846 8021B		SW 846 8015M Ext.					4500/300.0
					Benzene (mg/kg)	BTEX (mg/kg)	GRO C ₆ -C ₁₀ (mg/kg)	DRO C ₁₀ -C ₂₈ (mg/kg)	GRO + DRO C ₆ -C ₂₈ (mg/kg)	ORO C ₂₈ -C ₃₆ (mg/kg)	TPH C ₆ -C ₃₆ (mg/kg)	Chloride (mg/kg)
Floor1	12/20/2019	2'	Pasture	In-Situ	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	1,240
Floor2	12/20/2019	2'	Pasture	In-Situ	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	<49.8	1,400
Floor3	12/20/2019	2'	Pasture	In-Situ	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	508
Floor4	12/20/2019	2'	Pasture	In-Situ	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	1,020
Floor5	12/20/2019	2'	Pasture	In-Situ	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	92.8
Floor6	12/20/2019	2'	Pasture	In-Situ	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	163
Floor7	12/20/2019	2'	Pasture	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	969
Floor8	12/20/2019	2'	Pasture	In-Situ	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	<49.9	1,390
Floor9	12/20/2019	2'	Pasture	In-Situ	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	230
Floor10	12/20/2019	2'	Pasture	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	458
Floor11	12/20/2019	2'	Pasture	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	510
Floor12	12/20/2019	2'	Pasture	In-Situ	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	<49.9	1,510
Floor13	12/20/2019	2'	Pasture	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	1,350
Floor14	12/20/2019	2'	Pasture	In-Situ	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	135
Floor15	12/20/2019	2'	Pasture	In-Situ	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	302
Floor16	12/20/2019	2'	Pasture	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	2,180
Floor17	12/20/2019	2'	Pasture	In-Situ	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	1,850
Floor18	12/20/2019	2'	Pasture	In-Situ	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	348
Floor19	12/20/2019	2'	Pasture	In-Situ	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	441
Floor20	12/20/2019	2'	Pasture	In-Situ	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	<49.8	910
Floor21	12/20/2019	2'	Pasture	In-Situ	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	950
SW1b	12/18/2019	2'	Pasture	In-Situ	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	67.6
SW2b	12/18/2019	2'	Pasture	In-Situ	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	352
SW8b	12/18/2019	2'	Pasture	In-Situ	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	421
SW9b	12/18/2019	2'	Pasture	In-Situ	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	<49.9	100
SW10b	12/18/2019	2'	Pasture	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	20.1
SW11b	12/19/2019	2'	Pasture	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	77.7
Floor22	1/2/2020	2'	Pasture	In-Situ	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	1,040
Floor23	1/2/2020	2'	Pasture	In-Situ	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	785
Floor24	1/2/2020	2'	Pasture	In-Situ	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	635
Floor25	1/2/2020	2'	Pasture	In-Situ	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	537
Floor26	1/2/2020	2'	Pasture	In-Situ	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	648
Floor27	1/2/2020	2'	Pasture	In-Situ	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	<49.9	487
Floor28	1/2/2020	2'	Pasture	In-Situ	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	964
Floor29	1/2/2020	2'	Pasture	In-Situ	0.00383	0.00712	<50.0	<50.0	<50.0	<50.0	<50.0	18.7
NEFloor1	1/2/2020	1'	Pasture	In-Situ	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	1,070
NEFloor2	1/2/2020	1'	Pasture	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	789
NMOCD Closure Criteria					10	50	-	-	1,000	-	2,500	20,000
NMOCD Reclamation Standard					10	50	-	-	-	-	100	600

NOTES:

-- = Not analyzed for constituent

Bold text denotes a concentration that exceeds the NMOCD Closure Criteria and/or Reclamation Standard.

TABLE 1
CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL
Chevron Environmental Management Company
VGWU SAT No. 4
NMOCD Ref. #: 1RP-3941

Sample ID	Date	Depth	Pad or Pasture	Soil Status	SW 846 8021B		SW 846 8015M Ext.					4500/300.0
					Benzene (mg/kg)	BTEX (mg/kg)	GRO C ₆ -C ₁₀ (mg/kg)	DRO C ₁₀ -C ₂₈ (mg/kg)	GRO + DRO C ₆ -C ₂₈ (mg/kg)	ORO C ₂₈ -C ₃₆ (mg/kg)	TPH C ₆ -C ₃₆ (mg/kg)	Chloride (mg/kg)
NESW1	1/2/2020	6"	Pad	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	848
NESW2b	1/3/2020	6"	Pasture	In-Situ	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	230
NESW3	1/2/2020	6"	Pasture	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	125
NESW4	1/2/2020	6"	Pasture	In-Situ	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	590
SW12	1/2/2020	2'	Pasture	In-Situ	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	<49.8	496
SW13	1/2/2020	2'	Pad	In-Situ	<0.00200	0.00204	<50.0	<50.0	<50.0	<50.0	<50.0	1,130
SW14	1/2/2020	2'	Pasture	In-Situ	0.00298	0.00582	<50.0	<50.0	<50.0	<50.0	<50.0	9.05
SW15	1/2/2020	2'	Pad	In-Situ	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	4,930
SW16	1/2/2020	2'	Pad	In-Situ	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	2,800
SW17	1/2/2020	2'	Pasture	In-Situ	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	<49.9	445
SW18	1/2/2020	2'	Pasture	In-Situ	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	<49.8	157
SW19	1/2/2020	2'	Pasture	In-Situ	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	425
SW20	1/2/2020	2'	Pasture	In-Situ	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	198
SW21	1/2/2020	2'	Pasture	In-Situ	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	307
SW22	1/2/2020	2'	Pasture	In-Situ	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	397
Pad1	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	12,600
Pad2	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	1,830
Pad3	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	8,840
Pad4	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	99.8
Pad5	1/7/2020	2"	Pad	In-Situ	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	7,960
Pad6	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	1,560
Pad7	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	11,400
Pad8	1/7/2020	2"	Pad	Excavated	--	--	--	--	--	--	--	20,600
Pad9	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	1,240
Pad10	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	10,800
Pad11	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	14,100
Pad12	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	12,900
Pad13	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	11,700
Pad14	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	5,130
Pad15	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	3,390
Pad16	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	3,010
Pad17	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	941
Pad18	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	1,250
Pad19	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	12,000
Pad20	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	10,500
Pad21	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	10,000
Pad22	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	2,830
NMOCD Closure Criteria					10	50	-	-	1,000	-	2,500	20,000
NMOCD Reclamation Standard					10	50	-	-	-	-	100	600

NOTES:

-- = Not analyzed for constituent

Bold text denotes a concentration that exceeds the NMOCD Closure Criteria and/or Reclamation Standard.

TABLE 1
CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL
Chevron Environmental Management Company
VGWU SAT No. 4
NMOCD Ref. #: 1RP-3941

Sample ID	Date	Depth	Pad or Pasture	Soil Status	SW 846 8021B		SW 846 8015M Ext.					4500/300.0
					Benzene (mg/kg)	BTEX (mg/kg)	GRO C ₆ -C ₁₀ (mg/kg)	DRO C ₁₀ -C ₂₈ (mg/kg)	GRO + DRO C ₆ -C ₂₈ (mg/kg)	ORO C ₂₈ -C ₃₆ (mg/kg)	TPH C ₆ -C ₃₆ (mg/kg)	Chloride (mg/kg)
Pad23	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	14,300
Pad24	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	3,850
Pad25	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	1,160
Pad26	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	695
Pad27	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	15,000
Pad28	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	4,920
Pad29	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	4,730
Pad30	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	3,840
Pad31	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	18,300
Pad32	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	3,770
Pad33	1/7/2020	2"	Pad	In-Situ	--	--	<49.9	<49.9	<49.9	<49.9	<49.9	4,970
Pad34	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	6,060
Pad35	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	3,010
Pad36	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	3,300
Pad37	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	4,460
Pad38	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	3,610
Pad39	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	10,900
Pad40	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	10,100
Pad41	1/7/2020	2"	Pad	In-Situ	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	<49.9	11,300
Pad42	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	5,140
Pad43	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	11,200
Pad44	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	10,800
Pad45	1/7/2020	2"	Pad	Excavated	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	21,300
Pad46	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	12,700
Pad47	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	9,730
Pad48	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	15,200
Pad49	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	10,800
Pad50	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	1,730
Pad51	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	6,420
Pad52	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	278
Pad53	1/7/2020	2"	Pad	In-Situ	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	7,270
Pad54	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	3,800
Pad55	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	3,130
Pad56	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	57.8
Pad57	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	5,310
Pad58	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	14,200
Pad59	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	610
NMOCD Closure Criteria					10	50	-	-	1,000	-	2,500	20,000
NMOCD Reclamation Standard					10	50	-	-	-	-	100	600

NOTES:

-- = Not analyzed for constituent

Bold text denotes a concentration that exceeds the NMOCD Closure Criteria and/or Reclamation Standard.

TABLE 1
CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL
Chevron Environmental Management Company
VGWU SAT No. 4
NMOCD Ref. #: 1RP-3941

Sample ID	Date	Depth	Pad or Pasture	Soil Status	SW 846 8021B		SW 846 8015M Ext.					4500/300.0
					Benzene (mg/kg)	BTEX (mg/kg)	GRO C ₆ -C ₁₀ (mg/kg)	DRO C ₁₀ -C ₂₈ (mg/kg)	GRO + DRO C ₆ -C ₂₈ (mg/kg)	ORO C ₂₈ -C ₃₆ (mg/kg)	TPH C ₆ -C ₃₆ (mg/kg)	Chloride (mg/kg)
Pad60	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	1,320
Pad61	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	3,110
Pad62	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	94.5
Pad63	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	5,600
Pad64	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	616
Pad65	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	3,540
Pad66	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	4,410
Pad67	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	1,010
Pad68	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	1,740
Pad69	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	2,910
Pad70	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	31.8
Pad71	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	<4.97
Pad72	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	240
Pad73	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	559
Pad74	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	78
Pad75	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	1,060
Pad76	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	642
Pad77	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	336
Pad78	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	1,210
Pad79	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	446
Pad80	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	780
Pad81	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	1,560
Pad82	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	1,510
Pad83	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	385
Pad84	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	880
Pad85	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	1,320
Pad86	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	848.0
Pad87	1/7/2020	2"	Pad	In-Situ	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	<49.9	1,220
Pad88	1/7/2020	2"	Pad	In-Situ	--	--	--	--	--	--	--	932
SW3b	1/9/2020	2'	Pasture	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	14
SW4b	1/9/2020	2'	Pasture	In-Situ	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	23.9
SW5b	1/9/2020	2'	Pasture	In-Situ	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	103
SW6b	1/9/2020	2'	Pasture	In-Situ	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	<49.8	30.1
SW7b	1/9/2020	2'	Pasture	In-Situ	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	23
Pad8b	1/14/2020	3"	Pad	In-Situ	--	--	--	--	--	--	--	12,100
Pad45b	1/14/2020	3"	Pad	In-Situ	--	--	--	--	--	--	--	3,080
NMOCD Closure Criteria					10	50	-	-	1,000	-	2,500	20,000
NMOCD Reclamation Standard					10	50	-	-	-	-	100	600

NOTES:

-- = Not analyzed for constituent

Bold text denotes a concentration that exceeds the NMOCD Closure Criteria and/or Reclamation Standard.

Appendix A

Depth to Groundwater Information



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced,
O=orphaned,
C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

		POD														
		Sub-		Q	Q	Q										Water
POD Number	Code	basin	County	64	16	4	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	Column	
L 13820 POD1		L	LE	3	1	3	01	18S	34E	639472	3628296		158	150	131	19
L 13820 POD2		L	LE	3	1	3	01	18S	34E	639472	3628296		158	150	131	19
L 02722 S4		L	LE	1	2	2	01	18S	34E	639666	3628246*		160	234		
L 10467		L	LE		1	2	01	18S	34E	639365	3628137*		171	231	115	116
L 02722 S5		L	LE	2	2	2	01	18S	34E	639866	3628246*		343	232		
L 05288		L	LE		4	4	36	17S	34E	639760	3628552*		458	231	90	141
L 05288	R	L	LE		4	4	36	17S	34E	639760	3628552*		458	231	90	141
L 07119		L	LE	1	1	1	06	18S	35E	640068	3628255*		542	233	95	138
L 10337		L	LE	4	1	1	06	18S	35E	640268	3628055*		738	190	100	90
L 04247 POD7		L	LE	1	3	3	31	17S	35E	640054	3628747		789		240	

Average Depth to Water: **124 feet**

Minimum Depth: **90 feet**

Maximum Depth: **240 feet**

Record Count: 10

UTM NAD83 Radius Search (in meters):

Easting (X): 639535.8

Northing (Y): 3628152.1

Radius: 806

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

9/25/19 2:12 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced,
O=orphaned,
C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
L 13820 POD1		L	LE	3	1	3	01	18S	34E	639472	3628296	158	150	131	19
L 13820 POD2		L	LE	3	1	3	01	18S	34E	639472	3628296	158	150	131	19
L 02722 S4		L	LE	1	2	2	01	18S	34E	639666	3628246*	160	234		
L 10467		L	LE		1	2	01	18S	34E	639365	3628137*	171	231	115	116
Average Depth to Water:															125 feet
Minimum Depth:															115 feet
Maximum Depth:															131 feet

Record Count: 4

UTMNAD83 Radius Search (in meters):

Easting (X): 639535.8

Northing (Y): 3628152.1

Radius: 333

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

9/25/19 2:13 PM

WATER COLUMN/ AVERAGE DEPTH TO
WATER



New Mexico Office of the State Engineer Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)						(NAD83 UTM in meters)	
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
L 13820	POD1	3	1	3	01	18S	34E	639472	3628296 
Driller License: 1731		Driller Company: HARRISON & COOPER, INC (WD-1731)							
Driller Name: KENNY COOPER									
Drill Start Date: 03/30/2015		Drill Finish Date: 03/30/2015		Plug Date:					
Log File Date: 04/15/2015		PCW Rev Date:		Source: Shallow					
Pump Type:		Pipe Discharge Size:		Estimated Yield:					
Casing Size: 2.00		Depth Well: 150 feet		Depth Water: 131 feet					
Water Bearing Stratifications:		Top	Bottom	Description					
		125	150	Sandstone/Gravel/Conglomerate					
Casing Perforations:		Top	Bottom						
		120	150						

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

9/25/19 2:15 PM

POINT OF DIVERSION SUMMARY



New Mexico Office of the State Engineer

Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)						(NAD83 UTM in meters)	
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
L 02722	S4	1	2	2	01	18S	34E	639666	3628246* 
Driller License:	421	Driller Company:		GLENN'S WATER WELL SERVICE					
Driller Name:	CORKY GLENN								
Drill Start Date:	02/28/1990	Drill Finish Date:		02/28/1990		Plug Date:			
Log File Date:	03/30/1990	PCW Rev Date:		03/26/1991		Source:		Shallow	
Pump Type:		Pipe Discharge Size:				Estimated Yield:			
Casing Size:	6.00	Depth Well:		234 feet		Depth Water:			
Casing Perforations:		Top	Bottom						
		214	234						

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

9/25/19 2:20 PM

POINT OF DIVERSION SUMMARY

**IMPORTANT—READ INSTRUCTIONS ON BACK BEFORE FILLING OUT THIS FORM
CORRECTIVE**

Application for Permit to Change Location of Well

Date Received May 20, 1991 File No. L-2722 & L-2723-Comb-S-2

1. Name of Water Right Owner TEXACO EXPLORATION AND PRODUCTION INC.
Street or Post Office Address Post Office Box 730
City and State Hobbs, New Mexico

2. Source of water supply shallow, located in Lea County
(artesian or shallow water aquifer) (name of underground basin)

3. Well from which rights are to be covered: Incorrect Well Location
(a) Well is in the NW $\frac{1}{4}$ SE $\frac{1}{4}$ NE SW $\frac{1}{4}$, Section 2 Township 18S Range 34E N.M.P.M.,
or Tract No. _____ of Map No. _____ of the _____

(b) Is well to be plugged n/a; If not, state for what use retained _____

4. Application is made to change location of well for the following reasons (If well is to be used for only a part of original right describe that part by legal description under item number 6): Well was drilled in a location not correctly described in the permit.

5. Well to which transfer is to be made: Correct Well Location
(a) Located in the SW SE $\frac{1}{4}$ NE NW $\frac{1}{4}$ NE $\frac{1}{4}$, Section 2 Township 18S Range 34E N.M.P.M.,
or Tract No. _____ of Map No. _____ of the _____
on land owned by applicant - State of New Mexico

(b) Quantity of water to be appropriated 1569.15 acre feet applied to _____ acres
of land; if not for irrigation, specify purpose secondary recovery of oil

(c) If existing well, give File No. L-2722 & L-2723-S-2

(d) If a new well, give name of driller Existing Well

(e) Outside diameter of casing 14 inches; Approximate depth to be drilled 222 feet.

6. Additional statements or explanations Well was drilled in a location not correctly described in Permit L-2722 & L-2723 et al. Well is approximately $\frac{1}{2}$ mile northeast of original well description. Well is used with wells L-2722 & L-2723 and L-2722 & L-2723-S-3 through L-2722 & L-2723-S-5 to appropriate 1,670 acre feet of water per year for the secondary recovery of oil by waterflood.

I, H. C. PATTISON, affirm that the foregoing statements are true to the best of my knowledge and belief and that I am the agent for owner and holder of said water right,
(sole, partial, agent for, etc.)

TEXACO EXPLORATION AND PRODUCTION INC., Applicant

By: H. C. Pattison
H. C. PATTISON

ACTION OF STATE ENGINEER

After notice pursuant to statute and by authority vested in me, this application is approved provided it is not exercised to the impairment of any others having existing rights; further provided that all rules and regulations of the State Engineer pertaining to the drilling of shallow wells be complied with; and further subject to the following conditions:

1. The diversion of water shall not exceed a maximum of 1569.15 acre-feet per annum for secondary recovery of oil measured at the wells.
2. This is a corrective change location of well only. No new well is to be drilled.
3. Well L-2722 & L-2723-Combined-S-2 shall be equipped with a totalizing meter of a type approved by and installed in a manner acceptable to the State Engineer.
4. Records of the amount of water pumped during the 3 preceding calendar months shall be submitted to the State Engineer Office in Roswell on or before the 10th day of January, April, July and October of each year.

Proof of completion of well shall be filed on or before COMPLETE 197

Witness my hand and seal this 18th day of December, A.D., 1991

Eluid Martinez

XXXXXXXXXXXX State Engineer

By: Glenn W. Brim File No. L-2722 & L-2723-Comb-S-2

Glenn W. Brim
District II Supervisor

450

IMPORTANT — READ INSTRUCTIONS ON BACK BEFORE FILLING OUT THIS FORM.

Declaration of Owner of Underground Water Right

LEA COUNTY UNDERGROUND WATER BASIN

Declaration No. 1-2134 Book LC-8 Date received March 20, 1953.

I, J. G. Blevins, Jr. being first duly sworn upon my oath, depose and say that the following is a full and complete statement prepared in accordance with the instructions on the reverse side of this form and submitted in evidence of ownership of a valid underground water right, that I have carefully read each and all of the items contained therein and that the same are true to the best of my knowledge and belief.

THE TEXAS COMPANY declarant.

BY: [Signature]

Subscribed and sworn to before me this 19th day of March, A.D. 1953

My commission expires Oct. 24, 1953 [Signature] Notary Public

STATEMENT

1. Name of water right owner THE TEXAS COMPANY
of Box 1270, Midland,
County of Midland State of Texas

2. Source of water supply Shallow
(state whether artesian or shallow water basin)
located in LEA COUNTY UNDERGROUND BASIN
(name of underground stream, valley, artesian basin, etc.)

3. The well is located in the 1/4 NW 1/4 NE 1/4
of section 1 Township 18 Range 34 N.M.P.M.
on land owned by The State of New Mexico

4. Description of well: date drilled 1937 driller Not known depth 113 feet.
diameter (outside) of casing 8 5/8 inches; original flow 45 gal. per min.;
present flow 42 gal. per min.; maximum pumping lift 100 feet;
make and type of pump Beam pump

make, type, horsepower, etc., of power plant F & M ZC 346, 15 HP

Fractional or percentage interest claimed in well ALL

5. Quantity of water appropriated and beneficially used 18 Acre Feet
(feet depth or acre feet per acre)
for Lease Camp, Warehouse & Shop Facilities purposes.

6. Acreage actually irrigated and with water right None acres,
located and described as follows (describe only lands actually irrigated):

Subdivision	Sec.	Twp.	Range	Acres Irrigated	Owner
STATE ENGINEER-LEA CO. I. E.					
RECEIVED					
APR 10 1953					
7.0.0.10.11.12.1.2.3.4.5.6					
A					

FILED
MAR 20 1953
OFFICE
ARTESIAN WELL SUPERVISOR
ROSWELL, NEW MEXICO

Section (s) 1, Township 18, Range 34, N. M. P. M.

[illegible]

If additional space is necessary, use a separate sheet or sheets and attach securely hereto.



New Mexico Office of the State Engineer

Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)					(NAD83 UTM in meters)		
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
L	10467	1	2	01	18S	34E	639365	3628137*	
Driller License:	421	Driller Company:			GLENN'S WATER WELL SERVICE				
Driller Name:	GLENN, CLARK A."CORKY" (LD)								
Drill Start Date:	02/01/1995	Drill Finish Date:			02/01/1995		Plug Date:		
Log File Date:	02/10/1995	PCW Rev Date:						Source:	Shallow
Pump Type:		Pipe Discharge Size:						Estimated Yield:	100 GPM
Casing Size:	6.00	Depth Well:			231 feet		Depth Water:		
							115 feet		
Water Bearing Stratifications:				Top	Bottom	Description			
				135	230	Other/Unknown			
Casing Perforations:				Top	Bottom				
				151	231				

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

9/25/19 2:23 PM

POINT OF DIVERSION SUMMARY

TABLE I

**CUMULATIVE SUMMARY OF FLUID LEVEL MEASUREMENTS
BUCKEYE VACUUM FIELD UNIT SITE
SECTION 1-T18S-R34E, LEA COUNTY, NM**

<i>Monitoring Well ID</i>	<i>Date Gauged</i>	<i>Elevation of TOC (famsl)</i>	<i>Depth To Water (fbtoc)</i>	<i>Elevation of Potentiometric Surface (famsl)</i>
TW-9	05/15/03	3988.69	129.01	3859.68
TW-9	11/18/03	3988.69	128.97	3859.72
TW-9	02/11/04	3988.69	128.62	3860.07
TW-9	05/27/04	3988.69	128.65	3860.04
TW-9	08/06/04	3988.69	128.64	3860.05
TW-9	03/03/05	3988.69	127.79	3860.90
TW-9	05/09/05	3988.69	128.67	3860.02
TW-9	11/01/05	3988.69	128.62	3860.07
TW-9	01/12/06	3988.69	129.05	3859.64
TW-9	04/03/06	3988.69	129.55	3859.14
TW-9	09/06/06	3988.69	129.20	3859.49
TW-9	10/03/06	3988.69	129.15	3859.54
TW-9	01/31/07	3988.69	126.39	3862.30
TW-9	04/23/07	3988.69	129.10	3859.59
TW-9	08/06/07	3988.69	128.98	3859.71
TW-9	10/02/07	3988.69	128.81	3859.88
TW-9	02/20/08	3988.69	128.92	3859.77
TW-9	05/21/08	3988.69	128.81	3859.88
TW-9	08/14/08	3988.69	129.58	3859.11
TW-9	10/09/08	3988.69	128.99	3859.70
TW-9	01/19/09	3988.69	130.05	3858.64
TW-9	04/09/09	3988.69	130.26	3858.43
TW-9	07/06/09	3988.69	130.36	3858.33
TW-9	09/28/09	3988.69	131.00	3857.69
TW-9	04/05/10	3988.69	131.10	3857.59
TW-9	10/04/10	3988.69	131.89	3856.80
TW-9	04/12/11	3988.69	132.28	3856.41
TW-10	05/15/03	3987.87	127.99	3859.88
TW-10	11/19/03	3987.87	128.11	3859.76
TW-10	02/11/04	3987.87	127.69	3860.18
TW-10	05/28/04	3987.87	127.66	3860.21
TW-10	08/06/04	3987.87	127.69	3860.18
TW-10	03/03/05	3987.87	126.80	3861.07
TW-10	05/09/05	3987.87	126.68	3861.19
TW-10	11/01/05	3987.87	127.54	3860.33
TW-10	04/03/06	3987.87	128.47	3859.40
TW-10	10/03/06	3987.87	128.17	3859.70
TW-10	04/23/07	3987.87	128.14	3859.73
TW-10	10/02/07	3987.87	127.86	3860.01
TW-10	05/21/08	3987.87	127.89	3859.98

TABLE I
CUMULATIVE SUMMARY OF FLUID LEVEL MEASUREMENTS
BUCKEYE VACUUM FIELD UNIT SITE
SECTION 1-T18S-R34E, LEA COUNTY, NM

<i>Monitoring Well ID</i>	<i>Date Gauged</i>	<i>Elevation of TOC (famsl)</i>	<i>Depth To Water (fbtoc)</i>	<i>Elevation of Potentiometric Surface (famsl)</i>
TW-10	10/09/08	3987.87	128.09	3859.78
TW-10	04/09/09	3987.87	129.02	3858.85
TW-10	09/28/09	3987.87	129.76	3858.11
TW-10	04/05/10	3987.87	129.92	3857.95
TW-10	10/04/10	3987.87	130.41	3857.46
TW-10	04/12/11	3987.87	130.95	3856.92
TW-10	10/17/11	3987.87	132.12	3855.75
TW-11	05/15/03	3989.11	128.97	3860.14
TW-11	11/19/03	3989.11	129.14	3859.97
TW-11	02/11/04	3989.11	128.67	3860.44
TW-11	05/28/04	3989.11	128.39	3860.72
TW-11	08/05/04	3989.11	128.42	3860.69
TW-11	03/03/05	3989.11	127.56	3861.55
TW-11	05/09/05	3989.11	127.41	3861.70
TW-11	11/01/05	3989.11	128.11	3861.00
TW-11	04/03/06	3989.11	128.97	3860.14
TW-11	10/03/06	3989.11	128.98	3860.13
TW-11	04/23/07	3989.11	128.94	3860.17
TW-11	10/02/07	3989.11	128.66	3860.45
TW-11	05/22/08	3989.11	128.69	3860.42
TW-11	10/09/08	3989.11	128.91	3860.20
TW-11	04/09/09	3989.11	129.48	3859.63
TW-11	09/28/09	3989.11	130.01	3859.10
TW-11	04/05/10	3989.11	130.27	3858.84
TW-11	10/04/10	3989.11	130.59	3858.52
TW-11	04/12/11	3989.11	129.95	3859.16
TW-11	10/18/11	3989.11	131.46	3857.65
TW-13	05/15/03	3988.73	128.85	3859.88
TW-13	11/18/03	3988.73	128.89	3859.84
TW-13	02/11/04	3988.73	128.67	3860.06
TW-13	05/27/04	3988.73	128.67	3860.06
TW-13	08/06/04	3988.73	128.66	3860.07
TW-13	03/03/05	3988.73	127.74	3860.99
TW-13	05/09/05	3988.73	127.68	3861.05
TW-13	11/01/05	3988.73	128.43	3860.30
TW-13	04/03/06	3988.73	129.31	3859.42
TW-13	10/03/06	3988.73	129.13	3859.60
TW-13	04/23/07	3988.73	129.00	3859.73
TW-13	10/02/07	3988.73	128.76	3859.97

TABLE I
CUMULATIVE SUMMARY OF FLUID LEVEL MEASUREMENTS
BUCKEYE VACUUM FIELD UNIT SITE
SECTION 1-T18S-R34E, LEA COUNTY, NM

<i>Monitoring Well ID</i>	<i>Date Gauged</i>	<i>Elevation of TOC (famsl)</i>	<i>Depth To Water (fbtoc)</i>	<i>Elevation of Potentiometric Surface (famsl)</i>
TW-13	05/21/08	3988.73	128.86	3859.87
TW-13	10/09/08	3988.73	128.96	3859.77
TW-13	04/09/09	3988.73	129.70	3859.03
TW-13	09/28/09	3988.73	130.32	3858.41
TW-13	04/05/10	3988.73	130.56	3858.17
TW-13	10/04/10	3988.73	130.91	3857.82
TW-13	04/12/11	3988.73	131.45	3857.28
TW-13	10/17/11	3988.73	131.67	3857.06
TW-13	10/18/11	3988.73	131.57	3857.16
TW-14	05/15/03	3986.77	126.78	3859.99
TW-14	11/19/03	3986.77	127.28	3859.49
TW-14	02/11/04	3986.77	127.32	3859.45
TW-14	05/28/04	3986.77	126.44	3860.33
TW-14	08/05/04	3986.77	126.48	3860.29
TW-14	03/03/05	3986.77	125.55	3861.22
TW-14	05/09/05	3986.77	125.43	3861.34
TW-14	11/01/05	3986.77	126.24	3860.53
TW-14	04/03/06	3986.77	127.09	3859.68
TW-14	10/03/06	3986.77	127.05	3859.72
TW-14	04/23/07	3986.77	127.04	3859.73
TW-14	10/02/07	3986.77	126.67	3860.10
TW-14	05/22/08	3986.77	126.66	3860.11
TW-14	10/09/08	3986.77	126.98	3859.79
TW-14	04/09/09	3986.77	127.56	3859.21
TW-14	09/28/09	3986.77	128.22	3858.55
TW-14	04/05/10	3986.77	128.45	3858.32
TW-14	10/04/10	3986.77	128.77	3858.00
TW-14	04/12/11	3986.77	129.42	3857.35
TW-14	10/17/11	3986.77	129.75	3857.02
TW-15	05/15/03	3984.14	123.50	3860.64
TW-15	11/19/03	3984.14	123.76	3860.38
TW-15	02/11/04	3984.14	123.34	3860.80
TW-15	05/27/04	3984.14	123.06	3861.08
TW-15	08/05/04	3984.14	123.07	3861.07
TW-15	03/03/05	3984.14	122.18	3861.96
TW-15	05/09/05	3984.14	122.13	3862.01
TW-15	11/01/05	3984.14	122.68	3861.46
TW-15	01/12/06	3984.14	123.33	3860.81
TW-15	04/03/06	3984.14	123.65	3860.49

TABLE I
CUMULATIVE SUMMARY OF FLUID LEVEL MEASUREMENTS
BUCKEYE VACUUM FIELD UNIT SITE
SECTION 1-T18S-R34E, LEA COUNTY, NM

<i>Monitoring Well ID</i>	<i>Date Gauged</i>	<i>Elevation of TOC (famsl)</i>	<i>Depth To Water (fbtoc)</i>	<i>Elevation of Potentiometric Surface (famsl)</i>
TW-15	09/06/06	3984.14	123.61	3860.53
TW-15	10/03/06	3984.14	123.59	3860.55
TW-15	01/31/07	3984.14	123.33	3860.81
TW-15	04/23/07	3984.14	123.59	3860.55
TW-15	08/06/07	3984.14	123.58	3860.56
TW-15	10/02/07	3984.14	123.24	3860.90
TW-15	02/20/08	3984.14	123.40	3860.74
TW-15	05/21/08	3984.14	123.39	3860.75
TW-15	08/14/08	3984.14	123.77	3860.37
TW-15	10/09/08	3984.14	123.64	3860.50
TW-15	01/19/09	3984.14	124.03	3860.11
TW-15	04/09/09	3984.14	124.29	3859.85
TW-15	07/06/09	3984.14	124.28	3859.86
TW-15	09/28/09	3984.14	124.73	3859.41
TW-15	04/05/10	3984.14	125.08	3859.06
TW-15	10/04/10	3984.14	125.21	3858.93
TW-15	04/12/11	3984.14	125.70	3858.44
TW-17	05/15/03	3986.01	122.87	3863.14
TW-17	11/19/03	3986.01	125.64	3860.37
TW-17	02/11/04	3986.01	125.15	3860.86
TW-17	05/28/04	3986.01	124.89	3861.12
TW-17	08/05/04	3986.01	124.88	3861.13
TW-17	03/03/05	3986.01	124.06	3861.95
TW-17	05/09/05	3986.01	123.97	3862.04
TW-17	11/01/05	3986.01	124.50	3861.51
TW-17	04/03/06	3986.01	125.40	3860.61
TW-17	10/03/06	3986.01	125.45	3860.56
TW-17	04/23/07	3986.01	125.43	3860.58
TW-17	10/02/07	3986.01	125.19	3860.82
TW-17	05/22/08	3986.01	125.20	3860.81
TW-17	10/09/08	3986.01	125.48	3860.53
TW-17	04/09/09	3986.01	126.00	3860.01
TW-17	09/28/09	3986.01	126.51	3859.50
TW-17	04/05/10	3986.01	126.79	3859.22
TW-17	10/04/10	3986.01	126.92	3859.09
TW-19	05/15/03	3985.70	121.80	3863.90
TW-19	11/19/03	3985.70	126.25	3859.45
TW-19	02/11/04	3985.70	125.31	3860.39
TW-19	05/27/04	3985.70	125.11	3860.59

TABLE I
CUMULATIVE SUMMARY OF FLUID LEVEL MEASUREMENTS
BUCKEYE VACUUM FIELD UNIT SITE
SECTION 1-T18S-R34E, LEA COUNTY, NM

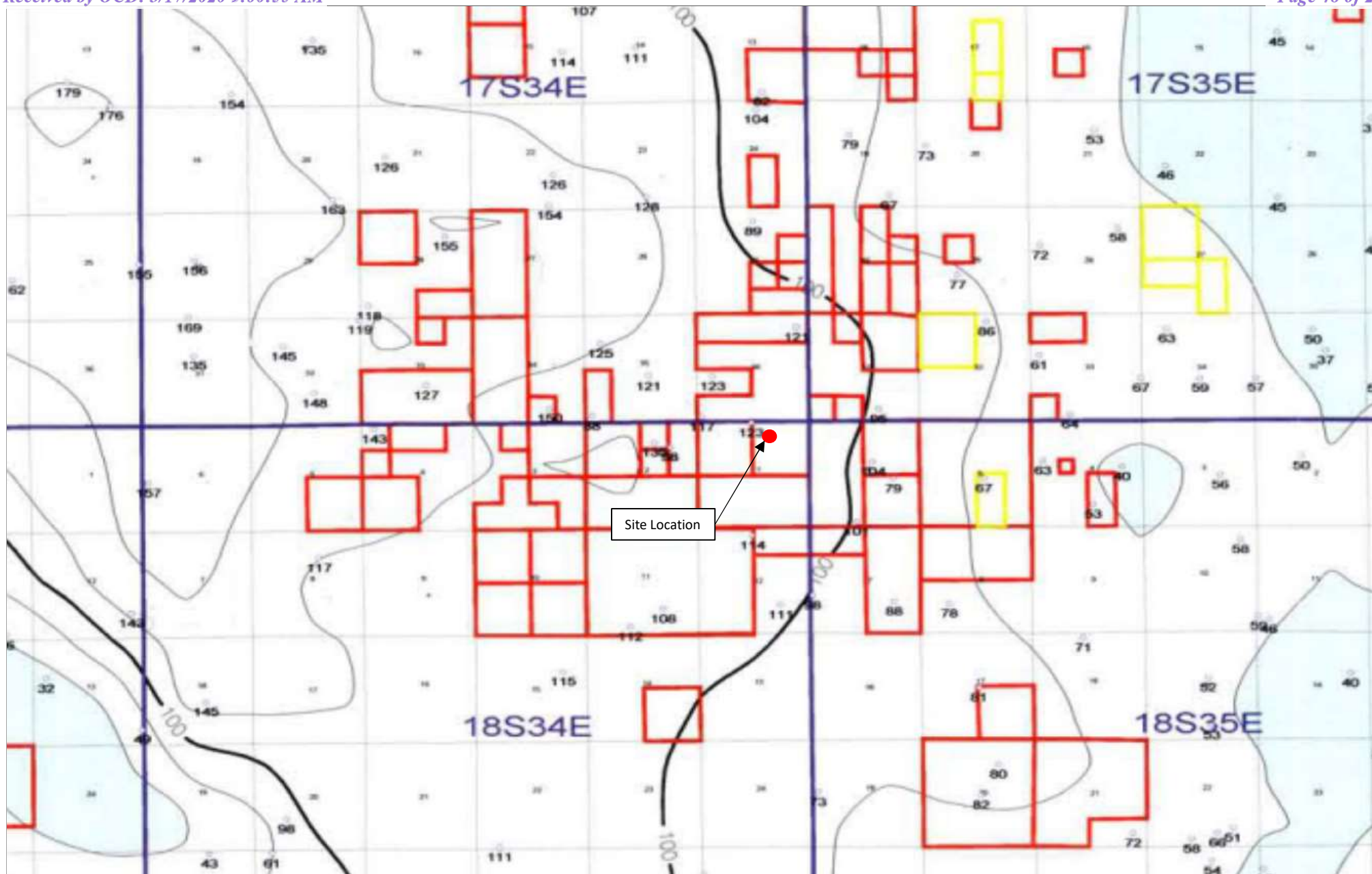
<i>Monitoring Well ID</i>	<i>Date Gauged</i>	<i>Elevation of TOC (famsl)</i>	<i>Depth To Water (fbtoc)</i>	<i>Elevation of Potentiometric Surface (famsl)</i>
TW-19	08/05/04	3985.70	125.14	3860.56
TW-19	03/03/05	3985.70	124.26	3861.44
TW-19	05/09/05	3985.70	124.02	3861.68
TW-19	11/01/05	3985.70	124.79	3860.91
TW-19	04/03/06	3985.70	125.66	3860.04
TW-19	10/02/06	3985.70	125.78	3859.92
TW-19	04/23/07	3985.70	126.25	3859.45
TW-19	10/02/07	3985.70	125.28	3860.42
TW-19	05/22/08	3985.70	125.34	3860.36
TW-19	10/09/08	3985.70	125.80	3859.90
TW-19	04/09/09	3985.70	126.24	3859.46
TW-19	09/28/09	3985.70	126.84	3858.86
TW-19	04/05/10	3985.70	127.09	3858.61
TW-19	10/04/10	3985.70	127.42	3858.28
TW-19	04/12/11	3985.70	127.90	3857.80
TW-20	05/15/03	3988.40	129.07	3859.33
TW-20	11/18/03	3988.40	128.93	3859.47
TW-20	02/11/04	3988.40	128.69	3859.71
TW-20	05/27/04	3988.40	128.69	3859.71
TW-20	08/06/04	3988.40	128.67	3859.73
TW-20	03/03/05	3988.40	127.79	3860.61
TW-20	05/09/05	3988.40	127.69	3860.71
TW-20	11/01/05	3988.40	128.74	3859.66
TW-20	04/03/06	3988.40	129.59	3858.81
TW-20	10/03/06	3988.40	129.20	3859.20
TW-20	04/23/07	3988.40	129.12	3859.28
TW-20	10/02/07	3988.40	128.84	3859.56
TW-20	05/21/08	3988.40	128.84	3859.56
TW-20	10/09/08	3988.40	128.98	3859.42
TW-20	04/09/09	3988.40	130.15	3858.25
TW-20	09/28/09	3988.40	130.97	3857.43
TW-20	04/05/10	3988.40	131.01	3857.39
TW-20	10/04/10	3988.40	131.66	3856.74
TW-20	04/12/11	3988.40	132.13	3856.27
TW-23	05/15/03	3984.58	124.42	3860.16
TW-23	11/19/03	3984.58	125.95	3858.63
TW-23	02/11/04	3984.58	124.16	3860.42
TW-23	05/27/04	3984.58	123.94	3860.64
TW-23	08/05/04	3984.58	124.03	3860.55

TABLE I
CUMULATIVE SUMMARY OF FLUID LEVEL MEASUREMENTS
BUCKEYE VACUUM FIELD UNIT SITE
SECTION 1-T18S-R34E, LEA COUNTY, NM

Monitoring Well ID	Date Gauged	Elevation of TOC (famsl)	Depth To Water (fbtoc)	Elevation of Potentiometric Surface (famsl)
TW-23	03/03/05	3984.58	123.10	3861.48
TW-23	05/09/05	3984.58	122.98	3861.60
TW-23	11/01/05	3984.58	123.71	3860.87
TW-23	01/12/06	3984.58	124.06	3860.52
TW-23	04/03/06	3984.58	124.52	3860.06
TW-23	09/06/06	3984.58	124.52	3860.06
TW-23	10/02/06	3984.58	124.81	3859.77
TW-23	01/31/07	3984.58	124.12	3860.46
TW-23	04/23/07	3984.58	126.02	3858.56
TW-23	08/06/07	3984.58	124.64	3859.94
TW-23	10/02/07	3984.58	124.20	3860.38
TW-23	02/20/08	3984.58	124.19	3860.39
TW-23	05/22/08	3984.58	124.25	3860.33
TW-23	08/14/08	3984.58	124.76	3859.82
TW-23	10/09/08	3984.58	124.85	3859.73
TW-23	01/19/09	3984.58	125.21	3859.37
TW-23	04/09/09	3984.58	125.09	3859.49
TW-23	07/06/09	3984.58	125.14	3859.44
TW-23	09/28/09	3984.58	125.67	3858.91
TW-23	04/05/10	3984.58	125.90	3858.68
TW-23	10/04/10	3984.58	126.14	3858.44
TW-23	04/12/11	3984.58	126.62	3857.96
RW-2	05/15/03	3987.04	Not gauged--pump in well	
RW-2	11/18/03	3987.04	Not gauged--pump in well	
RW-2	02/11/04	3987.04	Not gauged--pump in well	
RW-2	05/28/04	3987.04	126.82	3860.22
RW-2	08/06/04	3987.04	126.81	3860.23
RW-2	03/03/05	3987.04	126.90	3860.14
RW-2	05/09/05	3987.04	125.84	3861.20
RW-2	11/01/05	3987.04	NG	NG
RW-2	04/03/06	3987.04	127.61	3859.43
RW-2	10/03/06	3987.04	127.33	3859.71
RW-2	04/23/07	3987.04	127.40	3859.64
RW-2	10/02/07	3987.04	126.97	3860.07
RW-2	05/21/08	3987.04	127.02	3860.02
RW-2	10/09/08	3987.04	127.25	3859.79
RW-2	04/09/09	3987.04	128.25	3858.79
RW-2	09/28/09	3987.04	128.93	3858.11
RW-2	04/05/10	3987.04	129.06	3857.98
RW-2	10/04/10	3987.04	129.56	3857.48

TABLE I
CUMULATIVE SUMMARY OF FLUID LEVEL MEASUREMENTS
BUCKEYE VACUUM FIELD UNIT SITE
SECTION 1-T18S-R34E, LEA COUNTY, NM

<i>Monitoring Well ID</i>	<i>Date Gauged</i>	<i>Elevation of TOC (famsl)</i>	<i>Depth To Water (fbtoc)</i>	<i>Elevation of Potentiometric Surface (famsl)</i>
RW-3	05/15/03		Not gauged--pump in well	
RW-3	11/18/03		Not gauged--pump in well	
RW-3	02/11/04		Not gauged--pump in well	
RW-3	05/27/04	3984.18	123.50	3860.68
RW-3	08/06/04	3984.18	123.58	3860.60
RW-3	03/03/05	3984.18	122.67	3861.51
RW-3	05/09/05	3984.18	122.54	3861.64
RW-3	11/01/05	3984.18	126.72	3857.46
RW-3	04/03/06		Not gauged--pump in well	
RW-3	10/03/06		Not gauged--pump in well	
RW-3	05/22/08		Not gauged--pump in well	
RW-3	10/09/08		Not gauged--pump in well	
RW-3	04/09/08		Not gauged--pump in well	
RW-3	09/28/09		Not gauged--pump in well	
RW-3	04/05/10		Not gauged--pump in well	
RW-3	10/04/10		Not gauged--pump in well	
RW-3	04/12/11		Not gauged--pump in well	
RW-3	10/18/11		Not gauged--pump in well	
Notes: 1. TOC--top of casing 2. famsl--feet above mean sea level 3. fbtoc--feet below top of casing 4. NG--not gauged				



Legend:

● Site Location

Figure 4

Inferred Depth to Groundwater Trend Map
Chevron Environmental Management Company
VGWU SAT No. 4
GPS: 32.78244, -103.51009
Lea County



Drafted:

Checked: jwl

Date:

1/22/20



[USGS Home](#)
[Contact USGS](#)
[Search USGS](#)

National Water Information System: Web Interface

USGS Water Resources

Data Category:

Groundwater ▼

Geographic Area:

United States ▼

GO

Click to hide News Bulletins

- [Introducing The Next Generation of USGS Water Data for the Nation](#)
- [Full News](#) 

Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =

- 324630103293201

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

USGS 324630103293201 18S.35E.06.23321

Available data for this site

Groundwater: Field measurements ▼

GO

Lea County, New Mexico

Hydrologic Unit Code 13070007

Latitude 32°46'42", Longitude 103°29'43" NAD27

Land-surface elevation 3,974.00 feet above NGVD29

The depth of the well is 147 feet below land surface.

This well is completed in the Ogallala Formation (121OGLL) local aquifer.

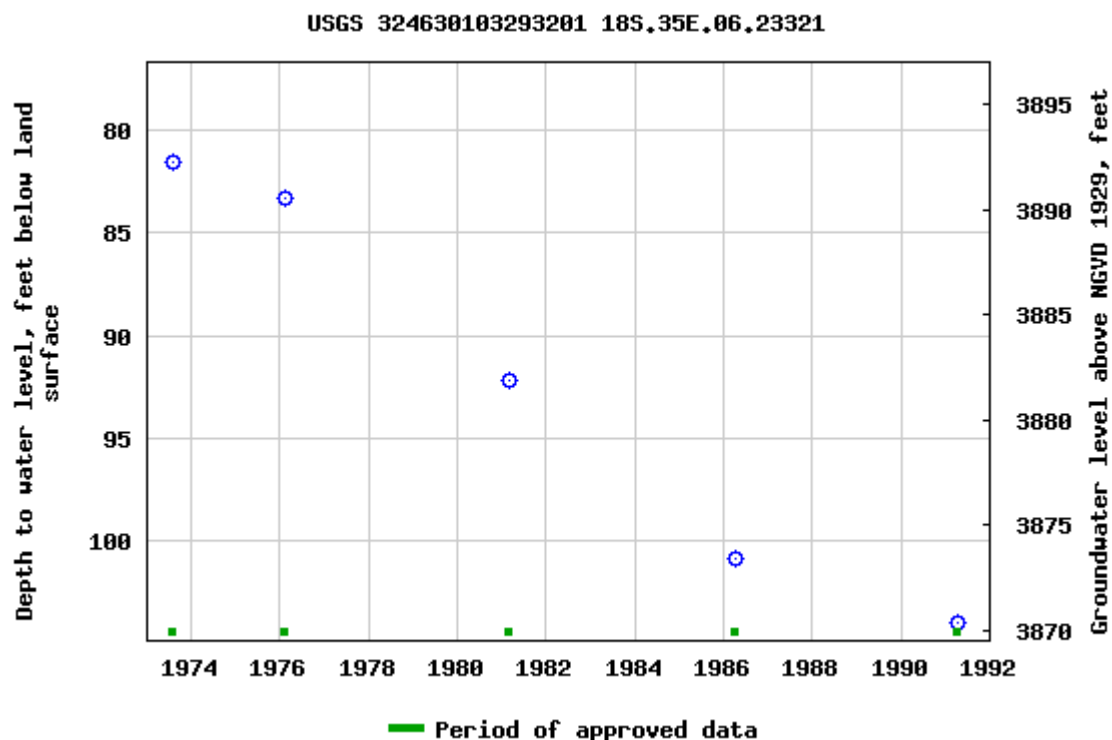
Output formats

[Table of data](#)

[Tab-separated data](#)

[Graph of data](#)

[Reselect period](#)



Breaks in the plot represent a gap of at least one year between field measurements.
[Download a presentation-quality graph](#)

[Questions about sites/data?](#)

[Feedback on this web site](#)

[Automated retrievals](#)

[Help](#)

[Data Tips](#)

[Explanation of terms](#)

[Subscribe for system changes](#)

[News](#)

[Accessibility](#)

[Plug-Ins](#)

[FOIA](#)

[Privacy](#)

[Policies and Notices](#)

[U.S. Department of the Interior](#) | [U.S. Geological Survey](#)

Title: Groundwater for USA: Water Levels

URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>

Page Contact Information: [USGS Water Data Support Team](#)

Page Last Modified: 2019-08-27 15:55:24 EDT

1.11 0.99 nadww02





[USGS Home](#)
[Contact USGS](#)
[Search USGS](#)

National Water Information System: Web Interface

USGS Water Resources

Data Category:

Groundwater ▼

Geographic Area:

United States ▼

GO

Click to hide News Bulletins

- [Introducing The Next Generation of USGS Water Data for the Nation](#)
- [Full News](#) 

Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =

- 324651103303901

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

USGS 324651103303901 18S.34E.01.12222

Available data for this site

Groundwater: Field measurements ▼

GO

Lea County, New Mexico

Hydrologic Unit Code 13070007

Latitude 32°47'02", Longitude 103°30'50" NAD27

Land-surface elevation 3,991.00 feet above NGVD29

This well is completed in the Ogallala Formation (121OGLL) local aquifer.

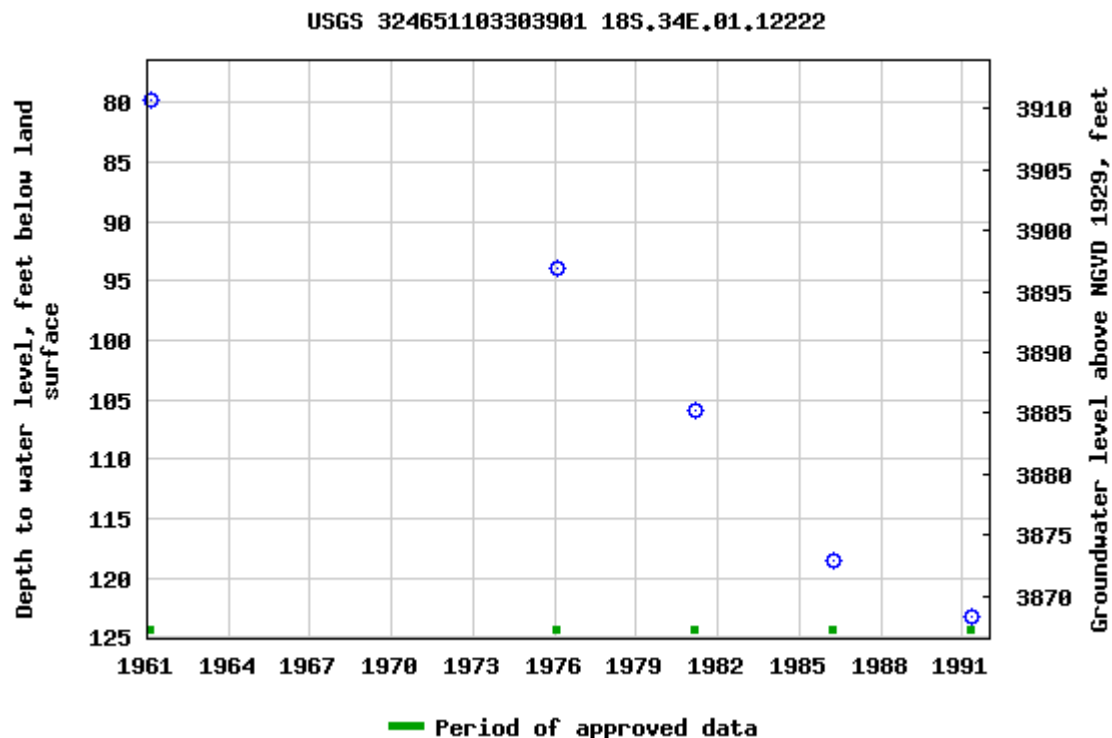
Output formats

[Table of data](#)

[Tab-separated data](#)

[Graph of data](#)

[Reselect period](#)



Breaks in the plot represent a gap of at least one year between field measurements.

[Download a presentation-quality graph](#)

[Questions about sites/data?](#)

[Feedback on this web site](#)

[Automated retrievals](#)

[Help](#)

[Data Tips](#)

[Explanation of terms](#)

[Subscribe for system changes](#)

[News](#)

[Accessibility](#)

[Plug-Ins](#)

[FOIA](#)

[Privacy](#)

[Policies and Notices](#)

[U.S. Department of the Interior](#) | [U.S. Geological Survey](#)

Title: Groundwater for USA: Water Levels

URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>



Page Contact Information: [USGS Water Data Support Team](#)

Page Last Modified: 2019-08-27 15:54:40 EDT

0.96 0.9 nadww02



[USGS Home](#)
[Contact USGS](#)
[Search USGS](#)

National Water Information System: Web Interface

USGS Water Resources

Data Category:

Groundwater ▼

Geographic Area:

United States ▼

GO

Click to hide News Bulletins

- [Introducing The Next Generation of USGS Water Data for the Nation](#)
- [Full News](#) 

Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =

- 324657103292801

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

USGS 324657103292801 17S.35E.31.43411

Available data for this site

Groundwater: Field measurements ▼

GO

Lea County, New Mexico

Hydrologic Unit Code 13070007

Latitude 32°47'08", Longitude 103°29'38" NAD27

Land-surface elevation 3,968.00 feet above NGVD29

The depth of the well is 146 feet below land surface.

This well is completed in the Ogallala Formation (121OGLL) local aquifer.

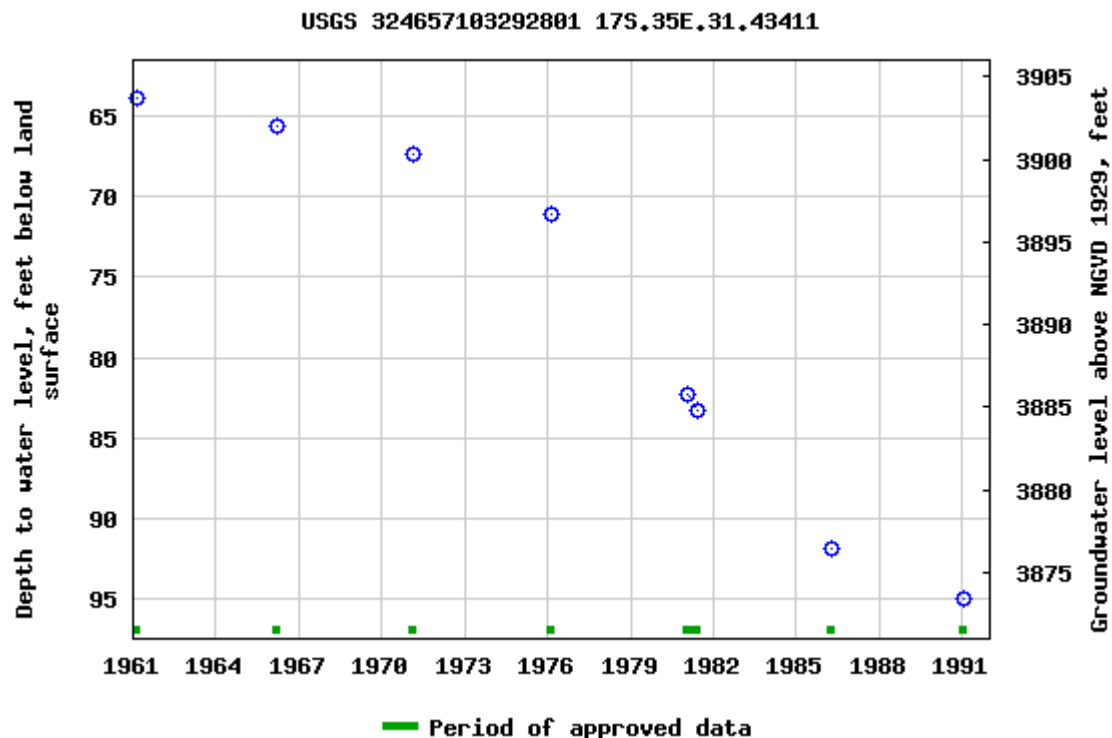
Output formats

[Table of data](#)

[Tab-separated data](#)

[Graph of data](#)

[Reselect period](#)



Breaks in the plot represent a gap of at least one year between field measurements.

[Download a presentation-quality graph](#)

[Questions about sites/data?](#)

[Feedback on this web site](#)

[Automated retrievals](#)

[Help](#)

[Data Tips](#)

[Explanation of terms](#)

[Subscribe for system changes](#)

[News](#)

[Accessibility](#)

[Plug-Ins](#)

[FOIA](#)

[Privacy](#)

[Policies and Notices](#)

[U.S. Department of the Interior](#) | [U.S. Geological Survey](#)

Title: Groundwater for USA: Water Levels

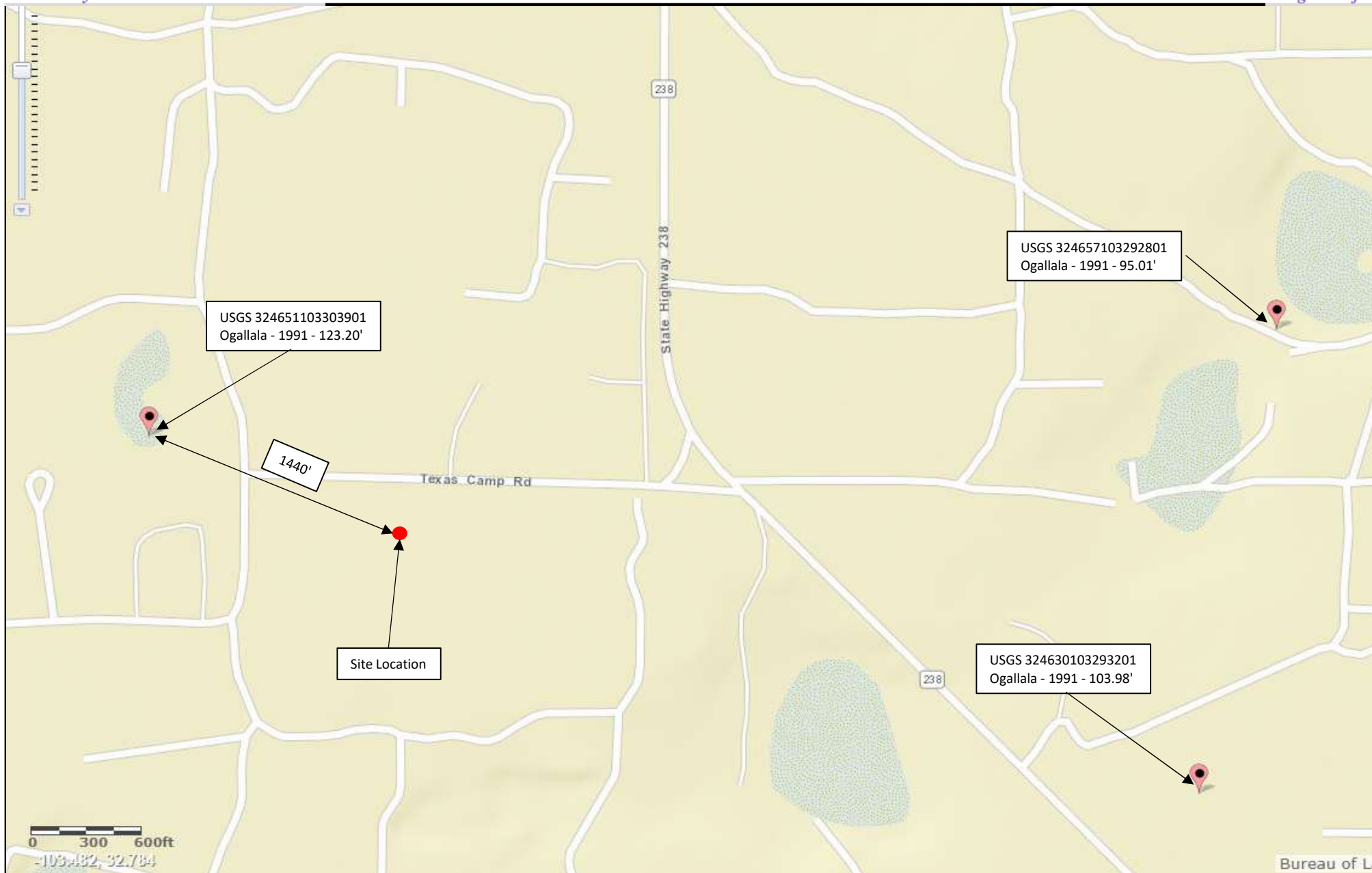
URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>

Page Contact Information: [USGS Water Data Support Team](#)

Page Last Modified: 2019-08-27 15:56:02 EDT

0.95 0.88 nadww02





Legend:

- Site Location
- USGS Water Well

Figure 5

USGS Well Proximity Map
 Chevron Environmental Management Company
 VGWU SAT No. 4
 GPS: 32.78244, -103.51009
 Lea County



Drafted:

Checked: jwl

Date:

1/22/20

Appendix B

Field Data and Soil Profile Logs



Sample Log

Date: 12.13.19

Project: VGWU SAT No. 4

Project Number: 11131

Latitude: 32.78244

Longitude: -103.51009

Sample ID	PID/Odor	Chloride Conc.	GPS
ETSW1	none	284	
ETSW2	none	304	
ETSW3	none	1384	
ETSW4	none	1820	
ETSW5	none	1384	
ETFloor 1	none	1288	
12.16.19			
ETSW6	none	1384	
ETSW7	none	1948	
ETSW8	none	388	
ETSW9	none	636	
ETSW10	none	696	
ETSW11	none	636	
ETSW12	none	756	
ETSW13	none	432	
ETSW14	none	1384	
ETSW15	none	204	
ETRoad stockpile	none	960	
ETFloor 2	none	1384	
ETFloor 3	none	960	
ETFloor 4	none	1036	
ETFloor 5	none	1036	
ETFloor 6	none	960	
ETSW16	none	388	
ETSW17	none	1820	
ETSW18	none	1200	
ETSW19	none	960	
12.18.19			
ETFloor 1b		888	
ETFloor 2b		1116	
ETFloor 7		2088	
ETFloor 8		1036	
ETSW9b			
ETSW10b			
ETSW15		204	
ETSW20		304	
ETSW30		388	

Sample Point = SP #1 @ ## etc

Floor = FL #1 etc

Sidewall = SW #1 etc

Test Trench = TT #1 @ ##

Refusal = SP #1 @ 4'-R

Soil Intended to be Deferred = SP #1 @ 4' In-Situ

Resamples = SP #1 @ 5b or SW #1b

Stockpile = Stockpile #1

GPS Sample Points, Center of Comp Areas



Sample Log

Date: 12.19.19Project: VGWU SAT No. 4Project Number: 11131Latitude: 32.78244Longitude: -103.51009

Sample ID	PID/Odor	Chloride Conc.	GPS
FTSW11b	none	388	
FTSW20		432	
21		236	
22		269	
23		268	
24		1490	
25		1289	
26			
27			
28			
29			
FTSW30			
FTSW14b	none	580	
18b		820	
19b		1384	
FTSW24b	none	388	
FTSW31	none	1036	
32	none	432	
18c	none	204	
19c	none	236	
14c	none	204	
FTSW31b	none	1036	
FTSW25b	none	148	
FTSW12b	none	236	
Floor 1			
↓			
Floor 2			

Sample Point = SP #1 @ ## etc

Floor = FL #1 etc

Sidewall = SW #1 etc

Test Trench = TT #1 @ ##

Refusal = SP #1 @ 4'-R

Soil Intended to be Deferred = SP #1 @ 4' In-Situ

Resamples = SP #1 @ 5b or SW #1b

Stockpile = Stockpile #1

GPS Sample Points, Center of Comp Areas



Sample Log

Date: 1-2-28

Project: VGWU SAT No. 4

Project Number: 11131

Latitude: 32.78244

Longitude: -103.51009

[illegible]

Sample Point = SP #1 @ ## etc

Floor = FL #1 etc

Sidewall = SW #1 etc

Test Trench = TT #1 @ ##

Refusal = SP #1 @ 4'-R

Soil Intended to be Deferred = SP #1 @ 4' In-Situ

Resamples= SP #1 @ 5b or SW #1b

Stockpile = Stockpile #1

GPS Sample Points, Center of Comp Areas



Sample Log

Date: 1-7-20

Project: VGWU SAT No. 4

Project Number: 11131

Latitude: 32.78244

Longitude: -103.51009

[illegible]

Sample Point = SP #1 @ ## etc

Floor = FL #1 etc

Sidewall = SW #1 etc

Test Trench = TT #1 @ ##

Refusal = SP #1 @ 4'-R

Soil Intended to be Deferred = SP #1 @ 4' In-Situ

Resamples= SP #1 @ 5b or SW #1b

Stockpile = Stockpile #1

GPS Sample Points, Center of Comp Areas



Soil Profile

Project: VGWU SAT No. 4

Date: 12-13-19

Project Number: 11131

Latitude: 32.78244

Longitude: -103.51009

Depth (ft. bgs)

Description

1	
2	Surface - topsoil
3	18" - 24" - Rocky hard pan
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	
36	
37	
38	
39	
40	

Appendix C

Laboratory Analytical Reports

Analytical Report 647478

for
Etech Environmental & Safety Solution, Inc

Project Manager: Daniel Dominguez

VGWU Sat 4

02-JAN-20

Collected By: Client



1211 W. Florida Ave
Midland TX 79701

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)



02-JAN-20

Project Manager: **Daniel Dominguez**
Etech Environmental & Safety Solution, Inc
P.O. Box 8469
Midland, TX 79708

Reference: XENCO Report No(s): **647478**
VGWU Sat 4
Project Address:

Daniel Dominguez:

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) 647478. 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. 647478 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,

A handwritten signature in black ink that reads 'Holly Taylor'.

Holly Taylor
Project Manager

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 647478

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Floor1	S	12-20-19 11:10	3	647478-001
Floor2	S	12-20-19 11:20	3	647478-002
Floor3	S	12-20-19 11:30	2	647478-003
Floor4	S	12-20-19 11:40	2	647478-004
Floor5	S	12-20-19 11:50	2	647478-005
Floor6	S	12-20-19 12:30	2	647478-006
Floor7	S	12-20-19 12:40	2	647478-007
Floor8	S	12-20-19 12:50	2	647478-008
Floor9	S	12-20-19 13:00	2	647478-009
Floor10	S	12-20-19 13:10	2	647478-010
Floor11	S	12-20-19 13:20	2	647478-011
Floor12	S	12-20-19 13:30	2	647478-012
Floor13	S	12-20-19 13:40	2	647478-013
Floor14	S	12-20-19 13:50	2	647478-014
Floor15	S	12-20-19 14:00	2	647478-015
Floor16	S	12-20-19 14:10	2	647478-016
Floor17	S	12-20-19 14:20	2	647478-017
Floor18	S	12-20-19 14:30	2	647478-018
Floor19	S	12-20-19 14:40	2	647478-019
Floor20	S	12-20-19 14:50	2	647478-020
Floor21	S	12-18-19 15:00	2	647478-021
SW1b	S	12-18-19 10:30	2	647478-022
SW2b	S	12-18-19 11:45	2	647478-023
SW8b	S	12-18-19 12:00	2	647478-024
SW9b	S	12-18-19 12:45	2	647478-025
SW10b	S	12-18-19 13:00	2	647478-026
SW11b	S	12-19-19 10:00	2	647478-027

**CASE NARRATIVE****Client Name: Etech Environmental & Safety Solution, Inc****Project Name: VGWU Sat 4**

Project ID:
Work Order Number(s): 647478

Report Date: 02-JAN-20
Date Received: 12/26/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3111818 Chloride by EPA 300

Lab Sample ID 647478-023 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 647478-021, -022, -023, -024, -025, -026, -027.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3111821 Chloride by EPA 300

Lab Sample ID 647478-005 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 647478-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3112182 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3112188 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Certificate of Analytical Results

647478



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **Floor1**

Matrix: Soil

Sample Depth: 3

Lab Sample Id: 647478-001

Date Collected: 12.20.19 11.10

Date Received: 12.26.19 08.52

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: SPC

% Moist:

Tech: SPC

Seq Number: 3111821

Date Prep: 12.26.19 14.00

Prep seq: 7693321

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1240	25.3	4.34	mg/kg	12.26.19 15:30		5

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3111796

Date Prep: 12.26.19 12.00

Prep seq: 7693311

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	15.0	mg/kg	12.26.19 14:45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	15.0	mg/kg	12.26.19 14:45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	15.0	mg/kg	12.26.19 14:45	U	1
Total TPH	PHC635	<49.9		15.0	mg/kg	12.26.19 14:45	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	103	70 - 135	%		
o-Terphenyl	108	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112188

Date Prep: 12.31.19 11.05

Prep seq: 7693557

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00202	0.00202	0.000389	mg/kg	01.01.20 13:07	U	1
Toluene	108-88-3	<0.00202	0.00202	0.000460	mg/kg	01.01.20 13:07	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	0.000570	mg/kg	01.01.20 13:07	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	0.00102	mg/kg	01.01.20 13:07	U	1
o-Xylene	95-47-6	<0.00202	0.00202	0.000348	mg/kg	01.01.20 13:07	U	1
Total Xylenes	1330-20-7	<0.00202		0.000348	mg/kg	01.01.20 13:07	U	
Total BTEX		<0.00202		0.000348	mg/kg	01.01.20 13:07	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	110	70 - 130	%		
4-Bromofluorobenzene	93	70 - 130	%		



Certificate of Analytical Results

647478



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: Floor2

Matrix: Soil

Sample Depth: 3

Lab Sample Id: 647478-002

Date Collected: 12.20.19 11.20

Date Received: 12.26.19 08.52

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: SPC

% Moist:

Tech: SPC

Seq Number: 3111821

Date Prep: 12.26.19 14.00

Prep seq: 7693321

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1400	25.0	4.28	mg/kg	12.26.19 15:37		5

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3111796

Date Prep: 12.26.19 12.00

Prep seq: 7693311

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	14.9	mg/kg	12.26.19 15:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	14.9	mg/kg	12.26.19 15:48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	14.9	mg/kg	12.26.19 15:48	U	1
Total TPH	PHC635	<49.8		14.9	mg/kg	12.26.19 15:48	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	108	70 - 135	%		
o-Terphenyl	110	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112188

Date Prep: 12.31.19 11.05

Prep seq: 7693557

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00199	0.00199	0.000383	mg/kg	01.01.20 13:28	U	1
Toluene	108-88-3	<0.00199	0.00199	0.000453	mg/kg	01.01.20 13:28	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	0.000561	mg/kg	01.01.20 13:28	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	0.00101	mg/kg	01.01.20 13:28	U	1
o-Xylene	95-47-6	<0.00199	0.00199	0.000342	mg/kg	01.01.20 13:28	U	1
Total Xylenes	1330-20-7	<0.00199		0.000342	mg/kg	01.01.20 13:28	U	
Total BTEX		<0.00199		0.000342	mg/kg	01.01.20 13:28	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	114	70 - 130	%		
4-Bromofluorobenzene	97	70 - 130	%		



Certificate of Analytical Results

647478



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **Floor3** Matrix: Soil Sample Depth: 2
 Lab Sample Id: 647478-003 Date Collected: 12.20.19 11.30 Date Received: 12.26.19 08.52
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: SPC % Moist: Tech: SPC
 Seq Number: 3111821 Date Prep: 12.26.19 14.00
 Prep seq: 7693321

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	508	5.02	0.862	mg/kg	12.26.19 15:11		1

Analytical Method: TPH By SW8015 Mod Prep Method: 8015
 Analyst: ARM % Moist: Tech: ARM
 Seq Number: 3111796 Date Prep: 12.26.19 12.00
 Prep seq: 7693311

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	14.9	mg/kg	12.26.19 16:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	14.9	mg/kg	12.26.19 16:09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	14.9	mg/kg	12.26.19 16:09	U	1
Total TPH	PHC635	<49.8		14.9	mg/kg	12.26.19 16:09	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	111	70 - 135	%		
o-Terphenyl	115	70 - 135	%		

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
 Analyst: KTL % Moist: Tech: KTL
 Seq Number: 3112188 Date Prep: 12.31.19 11.05
 Prep seq: 7693557

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00200	0.00200	0.000384	mg/kg	01.01.20 13:48	U	1
Toluene	108-88-3	<0.00200	0.00200	0.000455	mg/kg	01.01.20 13:48	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	0.000564	mg/kg	01.01.20 13:48	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	0.00101	mg/kg	01.01.20 13:48	U	1
o-Xylene	95-47-6	<0.00200	0.00200	0.000344	mg/kg	01.01.20 13:48	U	1
Total Xylenes	1330-20-7	<0.00200		0.000344	mg/kg	01.01.20 13:48	U	
Total BTEX		<0.00200		0.000344	mg/kg	01.01.20 13:48	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	116	70 - 130	%		
4-Bromofluorobenzene	98	70 - 130	%		



Certificate of Analytical Results

647478



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: Floor4

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647478-004

Date Collected: 12.20.19 11.40

Date Received: 12.26.19 08.52

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: SPC

% Moist:

Tech: SPC

Seq Number: 3111821

Date Prep: 12.26.19 14.00

Prep seq: 7693321

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1020	5.02	0.862	mg/kg	12.26.19 15:43		1

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3111796

Date Prep: 12.26.19 12.00

Prep seq: 7693311

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	15.0	mg/kg	12.26.19 16:30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	15.0	mg/kg	12.26.19 16:30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	15.0	mg/kg	12.26.19 16:30	U	1
Total TPH	PHC635	<49.9		15.0	mg/kg	12.26.19 16:30	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	109	70 - 135	%		
o-Terphenyl	114	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112188

Date Prep: 12.31.19 11.05

Prep seq: 7693557

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00198	0.00198	0.000382	mg/kg	01.01.20 14:09	U	1
Toluene	108-88-3	<0.00198	0.00198	0.000452	mg/kg	01.01.20 14:09	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	0.000560	mg/kg	01.01.20 14:09	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	0.00101	mg/kg	01.01.20 14:09	U	1
o-Xylene	95-47-6	<0.00198	0.00198	0.000342	mg/kg	01.01.20 14:09	U	1
Total Xylenes	1330-20-7	<0.00198		0.000342	mg/kg	01.01.20 14:09	U	
Total BTEX		<0.00198		0.000342	mg/kg	01.01.20 14:09	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	115	70 - 130	%		
4-Bromofluorobenzene	99	70 - 130	%		



Certificate of Analytical Results

647478



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: Floor5

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647478-005

Date Collected: 12.20.19 11.50

Date Received: 12.26.19 08.52

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: SPC

% Moist:

Tech: SPC

Seq Number: 3111821

Date Prep: 12.26.19 14.00

Prep seq: 7693321

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	92.8	5.04	0.865	mg/kg	12.26.19 16:42		1

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3111796

Date Prep: 12.26.19 12.00

Prep seq: 7693311

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	15.0	mg/kg	12.26.19 16:51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	15.0	mg/kg	12.26.19 16:51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	15.0	mg/kg	12.26.19 16:51	U	1
Total TPH	PHC635	<49.9		15.0	mg/kg	12.26.19 16:51	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	112	70 - 135	%		
o-Terphenyl	117	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112188

Date Prep: 12.31.19 11.05

Prep seq: 7693557

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00198	0.00198	0.000382	mg/kg	01.01.20 14:29	U	1
Toluene	108-88-3	<0.00198	0.00198	0.000452	mg/kg	01.01.20 14:29	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	0.000560	mg/kg	01.01.20 14:29	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	0.00101	mg/kg	01.01.20 14:29	U	1
o-Xylene	95-47-6	<0.00198	0.00198	0.000342	mg/kg	01.01.20 14:29	U	1
Total Xylenes	1330-20-7	<0.00198		0.000342	mg/kg	01.01.20 14:29	U	
Total BTEX		<0.00198		0.000342	mg/kg	01.01.20 14:29	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	116	70 - 130	%		
4-Bromofluorobenzene	100	70 - 130	%		



Certificate of Analytical Results

647478



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: Floor6

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647478-006

Date Collected: 12.20.19 12.30

Date Received: 12.26.19 08.52

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: SPC

% Moist:

Tech: SPC

Seq Number: 3111821

Date Prep: 12.26.19 14.00

Prep seq: 7693321

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	163	25.1	4.30	mg/kg	12.26.19 15:50		5

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3111796

Date Prep: 12.26.19 12.00

Prep seq: 7693311

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	15.0	mg/kg	12.26.19 17:12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	15.0	mg/kg	12.26.19 17:12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	15.0	mg/kg	12.26.19 17:12	U	1
Total TPH	PHC635	<50.0		15.0	mg/kg	12.26.19 17:12	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	108	70 - 135	%		
o-Terphenyl	113	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112188

Date Prep: 12.31.19 11.05

Prep seq: 7693557

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00199	0.00199	0.000383	mg/kg	01.01.20 14:50	U	1
Toluene	108-88-3	<0.00199	0.00199	0.000454	mg/kg	01.01.20 14:50	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	0.000563	mg/kg	01.01.20 14:50	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	0.00101	mg/kg	01.01.20 14:50	U	1
o-Xylene	95-47-6	<0.00199	0.00199	0.000343	mg/kg	01.01.20 14:50	U	1
Total Xylenes	1330-20-7	<0.00199		0.000343	mg/kg	01.01.20 14:50	U	
Total BTEX		<0.00199		0.000343	mg/kg	01.01.20 14:50	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	115	70 - 130	%		
4-Bromofluorobenzene	96	70 - 130	%		



Certificate of Analytical Results

647478



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: Floor7

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647478-007

Date Collected: 12.20.19 12.40

Date Received: 12.26.19 08.52

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: SPC

% Moist:

Tech: SPC

Seq Number: 3111821

Date Prep: 12.26.19 14.00

Prep seq: 7693321

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	969	25.2	4.33	mg/kg	12.26.19 16:09		5

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3111796

Date Prep: 12.26.19 12.00

Prep seq: 7693311

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	15.0	mg/kg	12.26.19 17:33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	15.0	mg/kg	12.26.19 17:33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	15.0	mg/kg	12.26.19 17:33	U	1
Total TPH	PHC635	<50.0		15.0	mg/kg	12.26.19 17:33	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	108	70 - 135	%		
o-Terphenyl	110	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112188

Date Prep: 12.31.19 11.05

Prep seq: 7693557

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00200	0.00200	0.000385	mg/kg	01.01.20 15:10	U	1
Toluene	108-88-3	<0.00200	0.00200	0.000456	mg/kg	01.01.20 15:10	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	0.000565	mg/kg	01.01.20 15:10	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	0.00101	mg/kg	01.01.20 15:10	U	1
o-Xylene	95-47-6	<0.00200	0.00200	0.000344	mg/kg	01.01.20 15:10	U	1
Total Xylenes	1330-20-7	<0.00200		0.000344	mg/kg	01.01.20 15:10	U	
Total BTEX		<0.00200		0.000344	mg/kg	01.01.20 15:10	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	114	70 - 130	%		
4-Bromofluorobenzene	100	70 - 130	%		



Certificate of Analytical Results

647478



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: Floor8

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647478-008

Date Collected: 12.20.19 12.50

Date Received: 12.26.19 08.52

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: SPC

% Moist:

Tech: SPC

Seq Number: 3111821

Date Prep: 12.26.19 14.00

Prep seq: 7693321

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1390	50.2	8.62	mg/kg	12.26.19 16:16		10

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3111796

Date Prep: 12.26.19 12.00

Prep seq: 7693311

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	15.0	mg/kg	12.26.19 17:54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	15.0	mg/kg	12.26.19 17:54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	15.0	mg/kg	12.26.19 17:54	U	1
Total TPH	PHC635	<49.9		15.0	mg/kg	12.26.19 17:54	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	108	70 - 135	%		
o-Terphenyl	112	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112188

Date Prep: 12.31.19 11.05

Prep seq: 7693557

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00201	0.00201	0.000386	mg/kg	01.01.20 15:31	U	1
Toluene	108-88-3	<0.00201	0.00201	0.000457	mg/kg	01.01.20 15:31	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	0.000567	mg/kg	01.01.20 15:31	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	0.00102	mg/kg	01.01.20 15:31	U	1
o-Xylene	95-47-6	<0.00201	0.00201	0.000346	mg/kg	01.01.20 15:31	U	1
Total Xylenes	1330-20-7	<0.00201		0.000346	mg/kg	01.01.20 15:31	U	
Total BTEX		<0.00201		0.000346	mg/kg	01.01.20 15:31	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	118	70 - 130	%		
4-Bromofluorobenzene	100	70 - 130	%		



Certificate of Analytical Results

647478



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: Floor9

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647478-009

Date Collected: 12.20.19 13.00

Date Received: 12.26.19 08.52

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: SPC

% Moist:

Tech: SPC

Seq Number: 3111821

Date Prep: 12.26.19 14.00

Prep seq: 7693321

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	230	24.8	4.26	mg/kg	12.26.19 16:23		5

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3111796

Date Prep: 12.26.19 12.00

Prep seq: 7693311

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	14.9	mg/kg	12.26.19 18:15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	14.9	mg/kg	12.26.19 18:15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	14.9	mg/kg	12.26.19 18:15	U	1
Total TPH	PHC635	<49.8		14.9	mg/kg	12.26.19 18:15	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	110	70 - 135	%		
o-Terphenyl	114	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112188

Date Prep: 12.31.19 11.05

Prep seq: 7693557

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00200	0.00200	0.000384	mg/kg	01.01.20 15:51	U	1
Toluene	108-88-3	<0.00200	0.00200	0.000455	mg/kg	01.01.20 15:51	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	0.000564	mg/kg	01.01.20 15:51	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	0.00101	mg/kg	01.01.20 15:51	U	1
o-Xylene	95-47-6	<0.00200	0.00200	0.000344	mg/kg	01.01.20 15:51	U	1
Total Xylenes	1330-20-7	<0.00200		0.000344	mg/kg	01.01.20 15:51	U	
Total BTEX		<0.00200		0.000344	mg/kg	01.01.20 15:51	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	115	70 - 130	%		
4-Bromofluorobenzene	97	70 - 130	%		



Certificate of Analytical Results

647478



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: Floor10

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647478-010

Date Collected: 12.20.19 13.10

Date Received: 12.26.19 08.52

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: SPC

% Moist:

Tech: SPC

Seq Number: 3111821

Date Prep: 12.26.19 14.00

Prep seq: 7693321

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	458	24.9	4.27	mg/kg	12.26.19 16:29		5

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3111796

Date Prep: 12.26.19 12.00

Prep seq: 7693311

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	15.0	mg/kg	12.26.19 18:36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	15.0	mg/kg	12.26.19 18:36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	15.0	mg/kg	12.26.19 18:36	U	1
Total TPH	PHC635	<50.0		15.0	mg/kg	12.26.19 18:36	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	111	70 - 135	%		
o-Terphenyl	114	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112188

Date Prep: 12.31.19 11.05

Prep seq: 7693557

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.200	0.200	0.0385	mg/kg	01.01.20 16:11	U	100
Toluene	108-88-3	<0.200	0.200	0.0456	mg/kg	01.01.20 16:11	U	100
Ethylbenzene	100-41-4	<0.200	0.200	0.0565	mg/kg	01.01.20 16:11	U	100
m,p-Xylenes	179601-23-1	<0.400	0.400	0.101	mg/kg	01.01.20 16:11	U	100
o-Xylene	95-47-6	<0.200	0.200	0.0344	mg/kg	01.01.20 16:11	U	100
Total Xylenes	1330-20-7	<0.200		0.0344	mg/kg	01.01.20 16:11	U	
Total BTEX		<0.200		0.0344	mg/kg	01.01.20 16:11	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	118	70 - 130	%		
4-Bromofluorobenzene	102	70 - 130	%		



Certificate of Analytical Results

647478



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: Floor11

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647478-011

Date Collected: 12.20.19 13.20

Date Received: 12.26.19 08.52

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: SPC

% Moist:

Tech: SPC

Seq Number: 3111821

Date Prep: 12.26.19 14.00

Prep seq: 7693321

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	510	49.7	8.53	mg/kg	12.26.19 16:36		10

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3111796

Date Prep: 12.26.19 12.00

Prep seq: 7693311

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	15.0	mg/kg	12.26.19 19:18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	15.0	mg/kg	12.26.19 19:18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	15.0	mg/kg	12.26.19 19:18	U	1
Total TPH	PHC635	<50.0		15.0	mg/kg	12.26.19 19:18	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	111	70 - 135	%		
o-Terphenyl	114	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112188

Date Prep: 12.31.19 11.05

Prep seq: 7693557

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00200	0.00200	0.000386	mg/kg	01.01.20 17:53	U	1
Toluene	108-88-3	<0.00200	0.00200	0.000457	mg/kg	01.01.20 17:53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	0.000566	mg/kg	01.01.20 17:53	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	0.00102	mg/kg	01.01.20 17:53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	0.000345	mg/kg	01.01.20 17:53	U	1
Total Xylenes	1330-20-7	<0.00200		0.000345	mg/kg	01.01.20 17:53	U	
Total BTEX		<0.00200		0.000345	mg/kg	01.01.20 17:53	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	111	70 - 130	%		
4-Bromofluorobenzene	93	70 - 130	%		



Certificate of Analytical Results

647478



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: Floor12

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647478-012

Date Collected: 12.20.19 13.30

Date Received: 12.26.19 08.52

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: SPC

% Moist:

Tech: SPC

Seq Number: 3111821

Date Prep: 12.26.19 14.00

Prep seq: 7693321

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1510	50.1	8.60	mg/kg	12.26.19 17:02		10

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3111796

Date Prep: 12.26.19 12.00

Prep seq: 7693311

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	15.0	mg/kg	12.26.19 19:39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	15.0	mg/kg	12.26.19 19:39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	15.0	mg/kg	12.26.19 19:39	U	1
Total TPH	PHC635	<49.9		15.0	mg/kg	12.26.19 19:39	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	111	70 - 135	%		
o-Terphenyl	114	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112188

Date Prep: 12.31.19 11.05

Prep seq: 7693557

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00201	0.00201	0.000386	mg/kg	01.01.20 18:13	U	1
Toluene	108-88-3	<0.00201	0.00201	0.000457	mg/kg	01.01.20 18:13	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	0.000567	mg/kg	01.01.20 18:13	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	0.00102	mg/kg	01.01.20 18:13	U	1
o-Xylene	95-47-6	<0.00201	0.00201	0.000346	mg/kg	01.01.20 18:13	U	1
Total Xylenes	1330-20-7	<0.00201		0.000346	mg/kg	01.01.20 18:13	U	
Total BTEX		<0.00201		0.000346	mg/kg	01.01.20 18:13	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	111	70 - 130	%		
4-Bromofluorobenzene	91	70 - 130	%		



Certificate of Analytical Results

647478



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **Floor13**

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647478-013

Date Collected: 12.20.19 13.40

Date Received: 12.26.19 08.52

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: SPC

% Moist:

Tech: SPC

Seq Number: 3111821

Date Prep: 12.26.19 14.00

Prep seq: 7693321

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1350	50.3	8.64	mg/kg	12.26.19 17:08		10

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3111796

Date Prep: 12.26.19 12.00

Prep seq: 7693311

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	15.0	mg/kg	12.26.19 20:00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	15.0	mg/kg	12.26.19 20:00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	15.0	mg/kg	12.26.19 20:00	U	1
Total TPH	PHC635	<50.0		15.0	mg/kg	12.26.19 20:00	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	110	70 - 135	%		
o-Terphenyl	114	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112188

Date Prep: 12.31.19 11.05

Prep seq: 7693557

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00200	0.00200	0.000385	mg/kg	01.01.20 18:34	U	1
Toluene	108-88-3	<0.00200	0.00200	0.000456	mg/kg	01.01.20 18:34	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	0.000565	mg/kg	01.01.20 18:34	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	0.00101	mg/kg	01.01.20 18:34	U	1
o-Xylene	95-47-6	<0.00200	0.00200	0.000344	mg/kg	01.01.20 18:34	U	1
Total Xylenes	1330-20-7	<0.00200		0.000344	mg/kg	01.01.20 18:34	U	
Total BTEX		<0.00200		0.000344	mg/kg	01.01.20 18:34	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	113	70 - 130	%		
4-Bromofluorobenzene	95	70 - 130	%		



Certificate of Analytical Results

647478



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: Floor14

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647478-014

Date Collected: 12.20.19 13.50

Date Received: 12.26.19 08.52

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: SPC

% Moist:

Tech: SPC

Seq Number: 3111821

Date Prep: 12.26.19 14.00

Prep seq: 7693321

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	135	25.0	4.28	mg/kg	12.26.19 17:28		5

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3111796

Date Prep: 12.26.19 12.00

Prep seq: 7693311

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	15.0	mg/kg	12.26.19 20:21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	15.0	mg/kg	12.26.19 20:21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	15.0	mg/kg	12.26.19 20:21	U	1
Total TPH	PHC635	<49.9		15.0	mg/kg	12.26.19 20:21	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	111	70 - 135	%		
o-Terphenyl	115	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112188

Date Prep: 12.31.19 11.05

Prep seq: 7693557

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00199	0.00199	0.000383	mg/kg	01.01.20 18:54	U	1
Toluene	108-88-3	<0.00199	0.00199	0.000454	mg/kg	01.01.20 18:54	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	0.000563	mg/kg	01.01.20 18:54	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	0.00101	mg/kg	01.01.20 18:54	U	1
o-Xylene	95-47-6	<0.00199	0.00199	0.000343	mg/kg	01.01.20 18:54	U	1
Total Xylenes	1330-20-7	<0.00199		0.000343	mg/kg	01.01.20 18:54	U	
Total BTEX		<0.00199		0.000343	mg/kg	01.01.20 18:54	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	114	70 - 130	%		
4-Bromofluorobenzene	99	70 - 130	%		



Certificate of Analytical Results

647478



Etech Environmental & Safety Solution, Inc, Midland, TX
VGWU Sat 4

Sample Id: **Floor15** Matrix: Soil Sample Depth: 2
Lab Sample Id: 647478-015 Date Collected: 12.20.19 14.00 Date Received: 12.26.19 08.52
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: SPC % Moist: Tech: SPC
Seq Number: 3111821 Date Prep: 12.26.19 14.00
Prep seq: 7693321

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	302	24.9	4.27	mg/kg	12.26.19 17:35		5

Analytical Method: TPH By SW8015 Mod Prep Method: 8015
Analyst: ARM % Moist: Tech: ARM
Seq Number: 3111796 Date Prep: 12.26.19 12.00
Prep seq: 7693311

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	15.0	mg/kg	12.26.19 20:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	15.0	mg/kg	12.26.19 20:42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	15.0	mg/kg	12.26.19 20:42	U	1
Total TPH	PHC635	<49.9		15.0	mg/kg	12.26.19 20:42	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	110	70 - 135	%		
o-Terphenyl	115	70 - 135	%		

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
Analyst: KTL % Moist: Tech: KTL
Seq Number: 3112188 Date Prep: 12.31.19 11.05
Prep seq: 7693557

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00202	0.00202	0.000388	mg/kg	01.01.20 19:15	U	1
Toluene	108-88-3	<0.00202	0.00202	0.000459	mg/kg	01.01.20 19:15	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	0.000569	mg/kg	01.01.20 19:15	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	0.00102	mg/kg	01.01.20 19:15	U	1
o-Xylene	95-47-6	<0.00202	0.00202	0.000347	mg/kg	01.01.20 19:15	U	1
Total Xylenes	1330-20-7	<0.00202		0.000347	mg/kg	01.01.20 19:15	U	
Total BTEX		<0.00202		0.000347	mg/kg	01.01.20 19:15	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	114	70 - 130	%		
4-Bromofluorobenzene	97	70 - 130	%		



Certificate of Analytical Results

647478



Etech Environmental & Safety Solution, Inc, Midland, TX
VGWU Sat 4

Sample Id: **Floor16** Matrix: Soil Sample Depth: 2
Lab Sample Id: 647478-016 Date Collected: 12.20.19 14.10 Date Received: 12.26.19 08.52
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: SPC % Moist: Tech: SPC
Seq Number: 3111821 Date Prep: 12.26.19 14.00
Prep seq: 7693321

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	2180	49.7	8.53	mg/kg	12.26.19 17:41		10

Analytical Method: TPH By SW8015 Mod Prep Method: 8015
Analyst: ARM % Moist: Tech: ARM
Seq Number: 3111796 Date Prep: 12.26.19 12.00
Prep seq: 7693311

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	15.0	mg/kg	12.26.19 19:18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	15.0	mg/kg	12.26.19 19:18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	15.0	mg/kg	12.26.19 19:18	U	1
Total TPH	PHC635	<50.0		15.0	mg/kg	12.26.19 19:18	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	105	70 - 135	%		
o-Terphenyl	106	70 - 135	%		

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
Analyst: KTL % Moist: Tech: KTL
Seq Number: 3112188 Date Prep: 12.31.19 11.05
Prep seq: 7693557

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00200	0.00200	0.000386	mg/kg	01.01.20 19:35	U	1
Toluene	108-88-3	<0.00200	0.00200	0.000457	mg/kg	01.01.20 19:35	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	0.000566	mg/kg	01.01.20 19:35	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	0.00102	mg/kg	01.01.20 19:35	U	1
o-Xylene	95-47-6	<0.00200	0.00200	0.000345	mg/kg	01.01.20 19:35	U	1
Total Xylenes	1330-20-7	<0.00200		0.000345	mg/kg	01.01.20 19:35	U	
Total BTEX		<0.00200		0.000345	mg/kg	01.01.20 19:35	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	115	70 - 130	%		
4-Bromofluorobenzene	102	70 - 130	%		



Certificate of Analytical Results

647478



Etech Environmental & Safety Solution, Inc, Midland, TX
VGWU Sat 4

Sample Id: **Floor17** Matrix: Soil Sample Depth: 2
Lab Sample Id: 647478-017 Date Collected: 12.20.19 14.20 Date Received: 12.26.19 08.52
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: SPC % Moist: Tech: SPC
Seq Number: 3111821 Date Prep: 12.26.19 14.00
Prep seq: 7693321

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1850	50.0	8.58	mg/kg	12.26.19 17:48		10

Analytical Method: TPH By SW8015 Mod Prep Method: 8015
Analyst: ARM % Moist: Tech: ARM
Seq Number: 3111796 Date Prep: 12.26.19 12.00
Prep seq: 7693311

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	15.0	mg/kg	12.26.19 19:39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	15.0	mg/kg	12.26.19 19:39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	15.0	mg/kg	12.26.19 19:39	U	1
Total TPH	PHC635	<49.9		15.0	mg/kg	12.26.19 19:39	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	102	70 - 135	%		
o-Terphenyl	102	70 - 135	%		

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
Analyst: KTL % Moist: Tech: KTL
Seq Number: 3112188 Date Prep: 12.31.19 11.05
Prep seq: 7693557

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00200	0.00200	0.000386	mg/kg	01.01.20 19:56	U	1
Toluene	108-88-3	<0.00200	0.00200	0.000457	mg/kg	01.01.20 19:56	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	0.000566	mg/kg	01.01.20 19:56	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	0.00102	mg/kg	01.01.20 19:56	U	1
o-Xylene	95-47-6	<0.00200	0.00200	0.000345	mg/kg	01.01.20 19:56	U	1
Total Xylenes	1330-20-7	<0.00200		0.000345	mg/kg	01.01.20 19:56	U	
Total BTEX		<0.00200		0.000345	mg/kg	01.01.20 19:56	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	115	70 - 130	%		
4-Bromofluorobenzene	101	70 - 130	%		



Certificate of Analytical Results

647478



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **Floor18**

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647478-018

Date Collected: 12.20.19 14.30

Date Received: 12.26.19 08.52

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: SPC

% Moist:

Tech: SPC

Seq Number: 3111821

Date Prep: 12.26.19 14.00

Prep seq: 7693321

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	348	25.0	4.29	mg/kg	12.26.19 17:54		5

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3111796

Date Prep: 12.26.19 12.00

Prep seq: 7693311

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	15.0	mg/kg	12.26.19 20:00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	15.0	mg/kg	12.26.19 20:00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	15.0	mg/kg	12.26.19 20:00	U	1
Total TPH	PHC635	<49.9		15.0	mg/kg	12.26.19 20:00	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	103	70 - 135	%		
o-Terphenyl	105	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112188

Date Prep: 12.31.19 11.05

Prep seq: 7693557

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00200	0.00200	0.000384	mg/kg	01.01.20 20:16	U	1
Toluene	108-88-3	<0.00200	0.00200	0.000455	mg/kg	01.01.20 20:16	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	0.000564	mg/kg	01.01.20 20:16	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	0.00101	mg/kg	01.01.20 20:16	U	1
o-Xylene	95-47-6	<0.00200	0.00200	0.000344	mg/kg	01.01.20 20:16	U	1
Total Xylenes	1330-20-7	<0.00200		0.000344	mg/kg	01.01.20 20:16	U	
Total BTEX		<0.00200		0.000344	mg/kg	01.01.20 20:16	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	115	70 - 130	%		
4-Bromofluorobenzene	100	70 - 130	%		



Certificate of Analytical Results

647478



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: Floor19

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647478-019

Date Collected: 12.20.19 14.40

Date Received: 12.26.19 08.52

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: SPC

% Moist:

Tech: SPC

Seq Number: 3111821

Date Prep: 12.26.19 14.00

Prep seq: 7693321

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	441	25.2	4.32	mg/kg	12.26.19 18:01		5

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3111796

Date Prep: 12.26.19 12.00

Prep seq: 7693311

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	15.0	mg/kg	12.26.19 20:21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	15.0	mg/kg	12.26.19 20:21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	15.0	mg/kg	12.26.19 20:21	U	1
Total TPH	PHC635	<49.9		15.0	mg/kg	12.26.19 20:21	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	99	70 - 135	%		
o-Terphenyl	97	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112188

Date Prep: 12.31.19 11.05

Prep seq: 7693557

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00198	0.00198	0.000382	mg/kg	01.01.20 20:36	U	1
Toluene	108-88-3	<0.00198	0.00198	0.000452	mg/kg	01.01.20 20:36	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	0.000560	mg/kg	01.01.20 20:36	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	0.00101	mg/kg	01.01.20 20:36	U	1
o-Xylene	95-47-6	<0.00198	0.00198	0.000342	mg/kg	01.01.20 20:36	U	1
Total Xylenes	1330-20-7	<0.00198		0.000342	mg/kg	01.01.20 20:36	U	
Total BTEX		<0.00198		0.000342	mg/kg	01.01.20 20:36	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	117	70 - 130	%		
4-Bromofluorobenzene	101	70 - 130	%		



Certificate of Analytical Results

647478



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: Floor20

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647478-020

Date Collected: 12.20.19 14.50

Date Received: 12.26.19 08.52

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: SPC

% Moist:

Tech: SPC

Seq Number: 3111821

Date Prep: 12.26.19 14.00

Prep seq: 7693321

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	910	5.03	0.864	mg/kg	12.27.19 09:30		1

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3111796

Date Prep: 12.26.19 12.00

Prep seq: 7693311

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	14.9	mg/kg	12.26.19 20:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	14.9	mg/kg	12.26.19 20:42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	14.9	mg/kg	12.26.19 20:42	U	1
Total TPH	PHC635	<49.8		14.9	mg/kg	12.26.19 20:42	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	103	70 - 135	%		
o-Terphenyl	104	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112188

Date Prep: 12.31.19 11.05

Prep seq: 7693557

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00199	0.00199	0.000383	mg/kg	01.01.20 20:57	U	1
Toluene	108-88-3	<0.00199	0.00199	0.000453	mg/kg	01.01.20 20:57	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	0.000561	mg/kg	01.01.20 20:57	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	0.00101	mg/kg	01.01.20 20:57	U	1
o-Xylene	95-47-6	<0.00199	0.00199	0.000342	mg/kg	01.01.20 20:57	U	1
Total Xylenes	1330-20-7	<0.00199		0.000342	mg/kg	01.01.20 20:57	U	
Total BTEX		<0.00199		0.000342	mg/kg	01.01.20 20:57	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	115	70 - 130	%		
4-Bromofluorobenzene	99	70 - 130	%		



Certificate of Analytical Results

647478



Etech Environmental & Safety Solution, Inc, Midland, TX
VGWU Sat 4

Sample Id: **Floor21** Matrix: Soil Sample Depth: 2
Lab Sample Id: 647478-021 Date Collected: 12.18.19 15.00 Date Received: 12.26.19 08.52
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: SPC % Moist: Tech: SPC
Seq Number: 3111818 Date Prep: 12.26.19 17.00
Prep seq: 7693334

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	950	49.5	8.50	mg/kg	12.26.19 19:26		10

Analytical Method: TPH By SW8015 Mod Prep Method: 8015
Analyst: ARM % Moist: Tech: ARM
Seq Number: 3111797 Date Prep: 12.26.19 12.00
Prep seq: 7693312

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	15.0	mg/kg	12.26.19 14:45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	15.0	mg/kg	12.26.19 14:45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	15.0	mg/kg	12.26.19 14:45	U	1
Total TPH	PHC635	<49.9		15.0	mg/kg	12.26.19 14:45	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	102	70 - 135	%		
o-Terphenyl	102	70 - 135	%		

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
Analyst: KTL % Moist: Tech: KTL
Seq Number: 3112182 Date Prep: 12.31.19 10.00
Prep seq: 7693545

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00198	0.00198	0.000382	mg/kg	12.31.19 18:53	U	1
Toluene	108-88-3	<0.00198	0.00198	0.000452	mg/kg	12.31.19 18:53	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	0.000560	mg/kg	12.31.19 18:53	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	0.00101	mg/kg	12.31.19 18:53	U	1
o-Xylene	95-47-6	<0.00198	0.00198	0.000342	mg/kg	12.31.19 18:53	U	1
Total Xylenes	1330-20-7	<0.00198		0.000342	mg/kg	12.31.19 18:53	U	
Total BTEX		<0.00198		0.000342	mg/kg	12.31.19 18:53	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	111	70 - 130	%		
4-Bromofluorobenzene	91	70 - 130	%		



Certificate of Analytical Results

647478



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: SW1b

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647478-022

Date Collected: 12.18.19 10.30

Date Received: 12.26.19 08.52

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: SPC

% Moist:

Tech: SPC

Seq Number: 3111818

Date Prep: 12.26.19 17.00

Prep seq: 7693334

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	67.6	5.00	0.858	mg/kg	12.27.19 09:43		1

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3111797

Date Prep: 12.26.19 12.00

Prep seq: 7693312

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	14.9	mg/kg	12.26.19 15:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	14.9	mg/kg	12.26.19 15:48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	14.9	mg/kg	12.26.19 15:48	U	1
Total TPH	PHC635	<49.8		14.9	mg/kg	12.26.19 15:48	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	101	70 - 135	%		
o-Terphenyl	102	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112182

Date Prep: 12.31.19 10.00

Prep seq: 7693545

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00200	0.00200	0.000384	mg/kg	12.31.19 19:13	U	1
Toluene	108-88-3	<0.00200	0.00200	0.000455	mg/kg	12.31.19 19:13	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	0.000564	mg/kg	12.31.19 19:13	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	0.00101	mg/kg	12.31.19 19:13	U	1
o-Xylene	95-47-6	<0.00200	0.00200	0.000344	mg/kg	12.31.19 19:13	U	1
Total Xylenes	1330-20-7	<0.00200		0.000344	mg/kg	12.31.19 19:13	U	
Total BTEX		<0.00200		0.000344	mg/kg	12.31.19 19:13	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	116	70 - 130	%		
4-Bromofluorobenzene	95	70 - 130	%		



Certificate of Analytical Results

647478



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: SW2b

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647478-023

Date Collected: 12.18.19 11.45

Date Received: 12.26.19 08.52

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: SPC

% Moist:

Tech: SPC

Seq Number: 3111818

Date Prep: 12.26.19 17.00

Prep seq: 7693334

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	352	4.97	0.853	mg/kg	12.26.19 19:00		1

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3111797

Date Prep: 12.26.19 12.00

Prep seq: 7693312

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	15.0	mg/kg	12.26.19 16:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	15.0	mg/kg	12.26.19 16:09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	15.0	mg/kg	12.26.19 16:09	U	1
Total TPH	PHC635	<49.9		15.0	mg/kg	12.26.19 16:09	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	102	70 - 135	%		
o-Terphenyl	103	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112182

Date Prep: 12.31.19 10.00

Prep seq: 7693545

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00198	0.00198	0.000382	mg/kg	12.31.19 19:34	U	1
Toluene	108-88-3	<0.00198	0.00198	0.000452	mg/kg	12.31.19 19:34	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	0.000560	mg/kg	12.31.19 19:34	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	0.00101	mg/kg	12.31.19 19:34	U	1
o-Xylene	95-47-6	<0.00198	0.00198	0.000342	mg/kg	12.31.19 19:34	U	1
Total Xylenes	1330-20-7	<0.00198		0.000342	mg/kg	12.31.19 19:34	U	
Total BTEX		<0.00198		0.000342	mg/kg	12.31.19 19:34	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	114	70 - 130	%		
4-Bromofluorobenzene	99	70 - 130	%		



Certificate of Analytical Results

647478



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: SW8b

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647478-024

Date Collected: 12.18.19 12.00

Date Received: 12.26.19 08.52

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: SPC

% Moist:

Tech: SPC

Seq Number: 3111818

Date Prep: 12.26.19 17.00

Prep seq: 7693334

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	421	50.1	8.60	mg/kg	12.26.19 19:32		10

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3111797

Date Prep: 12.26.19 12.00

Prep seq: 7693312

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	15.0	mg/kg	12.26.19 16:30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	15.0	mg/kg	12.26.19 16:30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	15.0	mg/kg	12.26.19 16:30	U	1
Total TPH	PHC635	<49.9		15.0	mg/kg	12.26.19 16:30	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	101	70 - 135	%		
o-Terphenyl	103	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112182

Date Prep: 12.31.19 10.00

Prep seq: 7693545

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00200	0.00200	0.000386	mg/kg	12.31.19 19:54	U	1
Toluene	108-88-3	<0.00200	0.00200	0.000457	mg/kg	12.31.19 19:54	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	0.000566	mg/kg	12.31.19 19:54	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	0.00102	mg/kg	12.31.19 19:54	U	1
o-Xylene	95-47-6	<0.00200	0.00200	0.000345	mg/kg	12.31.19 19:54	U	1
Total Xylenes	1330-20-7	<0.00200		0.000345	mg/kg	12.31.19 19:54	U	
Total BTEX		<0.00200		0.000345	mg/kg	12.31.19 19:54	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	114	70 - 130	%		
4-Bromofluorobenzene	96	70 - 130	%		



Certificate of Analytical Results

647478



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: SW9b

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647478-025

Date Collected: 12.18.19 12.45

Date Received: 12.26.19 08.52

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: SPC

% Moist:

Tech: SPC

Seq Number: 3111818

Date Prep: 12.26.19 17.00

Prep seq: 7693334

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	100	49.7	8.53	mg/kg	12.26.19 19:39		10

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3111797

Date Prep: 12.26.19 12.00

Prep seq: 7693312

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	15.0	mg/kg	12.26.19 16:51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	15.0	mg/kg	12.26.19 16:51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	15.0	mg/kg	12.26.19 16:51	U	1
Total TPH	PHC635	<49.9		15.0	mg/kg	12.26.19 16:51	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	102	70 - 135	%		
o-Terphenyl	104	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112182

Date Prep: 12.31.19 10.00

Prep seq: 7693545

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00201	0.00201	0.000387	mg/kg	12.31.19 20:15	U	1
Toluene	108-88-3	<0.00201	0.00201	0.000458	mg/kg	12.31.19 20:15	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	0.000568	mg/kg	12.31.19 20:15	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	0.00102	mg/kg	12.31.19 20:15	U	1
o-Xylene	95-47-6	<0.00201	0.00201	0.000346	mg/kg	12.31.19 20:15	U	1
Total Xylenes	1330-20-7	<0.00201		0.000346	mg/kg	12.31.19 20:15	U	
Total BTEX		<0.00201		0.000346	mg/kg	12.31.19 20:15	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	112	70 - 130	%		
4-Bromofluorobenzene	92	70 - 130	%		



Certificate of Analytical Results

647478



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: SW10b

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647478-026

Date Collected: 12.18.19 13.00

Date Received: 12.26.19 08.52

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: SPC

% Moist:

Tech: SPC

Seq Number: 3111818

Date Prep: 12.26.19 17.00

Prep seq: 7693334

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	20.1	4.95	0.850	mg/kg	12.27.19 09:37		1

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3111797

Date Prep: 12.26.19 12.00

Prep seq: 7693312

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	15.0	mg/kg	12.26.19 17:12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	15.0	mg/kg	12.26.19 17:12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	15.0	mg/kg	12.26.19 17:12	U	1
Total TPH	PHC635	<50.0		15.0	mg/kg	12.26.19 17:12	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	102	70 - 135	%		
o-Terphenyl	104	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112182

Date Prep: 12.31.19 10.00

Prep seq: 7693545

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00200	0.00200	0.000385	mg/kg	12.31.19 20:35	U	1
Toluene	108-88-3	<0.00200	0.00200	0.000456	mg/kg	12.31.19 20:35	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	0.000565	mg/kg	12.31.19 20:35	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	0.00101	mg/kg	12.31.19 20:35	U	1
o-Xylene	95-47-6	<0.00200	0.00200	0.000344	mg/kg	12.31.19 20:35	U	1
Total Xylenes	1330-20-7	<0.00200		0.000344	mg/kg	12.31.19 20:35	U	
Total BTEX		<0.00200		0.000344	mg/kg	12.31.19 20:35	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	113	70 - 130	%		
4-Bromofluorobenzene	100	70 - 130	%		



Certificate of Analytical Results

647478



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: SW11b

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647478-027

Date Collected: 12.19.19 10.00

Date Received: 12.26.19 08.52

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: SPC

% Moist:

Tech: SPC

Seq Number: 3111818

Date Prep: 12.26.19 17.00

Prep seq: 7693334

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	77.7	50.0	8.58	mg/kg	12.26.19 20:05		10

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3111797

Date Prep: 12.26.19 12.00

Prep seq: 7693312

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	15.0	mg/kg	12.26.19 17:33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	15.0	mg/kg	12.26.19 17:33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	15.0	mg/kg	12.26.19 17:33	U	1
Total TPH	PHC635	<50.0		15.0	mg/kg	12.26.19 17:33	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	101	70 - 135	%		
o-Terphenyl	104	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112182

Date Prep: 12.31.19 10.00

Prep seq: 7693545

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00200	0.00200	0.000384	mg/kg	12.31.19 20:55	U	1
Toluene	108-88-3	<0.00200	0.00200	0.000455	mg/kg	12.31.19 20:55	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	0.000564	mg/kg	12.31.19 20:55	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	0.00101	mg/kg	12.31.19 20:55	U	1
o-Xylene	95-47-6	<0.00200	0.00200	0.000344	mg/kg	12.31.19 20:55	U	1
Total Xylenes	1330-20-7	<0.00200		0.000344	mg/kg	12.31.19 20:55	U	
Total BTEX		<0.00200		0.000344	mg/kg	12.31.19 20:55	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	112	70 - 130	%		
4-Bromofluorobenzene	91	70 - 130	%		



Certificate of Analytical Results

647478



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: 7693311-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7693311-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3111796

Date Prep: 12.26.19 12.00

Prep seq: 7693311

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	15.0	mg/kg	12.26.19 13:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	15.0	mg/kg	12.26.19 13:42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	15.0	mg/kg	12.26.19 13:42	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	110	70 - 135	%		
o-Terphenyl	112	70 - 135	%		

Sample Id: 7693312-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7693312-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3111797

Date Prep: 12.26.19 12.00

Prep seq: 7693312

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	15.0	mg/kg	12.26.19 13:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	15.0	mg/kg	12.26.19 13:42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	15.0	mg/kg	12.26.19 13:42	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	101	70 - 135	%		
o-Terphenyl	102	70 - 135	%		

Sample Id: 7693321-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7693321-1-BLK

Date Collected:

Date Received:

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: SPC

% Moist:

Tech: SPC

Seq Number: 3111821

Date Prep: 12.26.19 14.00

Prep seq: 7693321

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<5.00	5.00	0.858	mg/kg	12.26.19 14:51	U	1



Certificate of Analytical Results

647478



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: 7693334-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7693334-1-BLK

Date Collected:

Date Received:

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: SPC

% Moist:

Tech: SPC

Seq Number: 3111818

Date Prep: 12.26.19 17.00

Prep seq: 7693334

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<5.00	5.00	0.858	mg/kg	12.26.19 18:40	U	1

Sample Id: 7693545-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7693545-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112182

Date Prep: 12.31.19 10.00

Prep seq: 7693545

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00200	0.00200	0.000385	mg/kg	12.31.19 12:49	U	1
Toluene	108-88-3	<0.00200	0.00200	0.000456	mg/kg	12.31.19 12:49	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	0.000565	mg/kg	12.31.19 12:49	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	0.00101	mg/kg	12.31.19 12:49	U	1
o-Xylene	95-47-6	<0.00200	0.00200	0.000344	mg/kg	12.31.19 12:49	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	112	70 - 130	%		
4-Bromofluorobenzene	93	70 - 130	%		



Certificate of Analytical Results

647478



Etech Environmental & Safety Solution, Inc, Midland, TX
VGWU Sat 4

Sample Id: **7693557-1-BLK**

Matrix: Solid

Sample Depth:

Lab Sample Id: 7693557-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112188

Date Prep: 12.31.19 11.05

Prep seq: 7693557

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00200	0.00200	0.000385	mg/kg	01.01.20 12:47	U	1
Toluene	108-88-3	<0.00200	0.00200	0.000456	mg/kg	01.01.20 12:47	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	0.000565	mg/kg	01.01.20 12:47	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	0.00101	mg/kg	01.01.20 12:47	U	1
o-Xylene	95-47-6	<0.00200	0.00200	0.000344	mg/kg	01.01.20 12:47	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	113	70 - 130	%		
4-Bromofluorobenzene	91	70 - 130	%		



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



Form 2 - Surrogate Recoveries

Project Name: VGWU Sat 4

Work Orders : 647478,

Project ID:

Lab Batch #: 3112182

Sample: 7693545-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/31/19 10:39

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0338	0.0300	113	70-130	
4-Bromofluorobenzene	0.0286	0.0300	95	70-130	

Lab Batch #: 3112182

Sample: 7693545-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/31/19 10:59

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0338	0.0300	113	70-130	
4-Bromofluorobenzene	0.0272	0.0300	91	70-130	

Lab Batch #: 3112182

Sample: 647393-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/31/19 11:20

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0342	0.0300	114	70-130	
4-Bromofluorobenzene	0.0294	0.0300	98	70-130	

Lab Batch #: 3112182

Sample: 647393-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/31/19 11:40

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0342	0.0300	114	70-130	
4-Bromofluorobenzene	0.0297	0.0300	99	70-130	

Lab Batch #: 3112182

Sample: 7693545-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/31/19 12:49

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0336	0.0300	112	70-130	
4-Bromofluorobenzene	0.0278	0.0300	93	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: VGWU Sat 4

Work Orders : 647478,

Project ID:

Lab Batch #: 3112188

Sample: 7693557-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/01/20 10:36

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0335	0.0300	112	70-130	
4-Bromofluorobenzene	0.0284	0.0300	95	70-130	

Lab Batch #: 3112188

Sample: 7693557-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/01/20 10:56

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0338	0.0300	113	70-130	
4-Bromofluorobenzene	0.0278	0.0300	93	70-130	

Lab Batch #: 3112188

Sample: 647478-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/01/20 11:17

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0349	0.0300	116	70-130	
4-Bromofluorobenzene	0.0308	0.0300	103	70-130	

Lab Batch #: 3112188

Sample: 647478-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/01/20 11:37

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0347	0.0300	116	70-130	
4-Bromofluorobenzene	0.0320	0.0300	107	70-130	

Lab Batch #: 3112188

Sample: 7693557-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/01/20 12:47

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0339	0.0300	113	70-130	
4-Bromofluorobenzene	0.0272	0.0300	91	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: VGWU Sat 4

Work Orders : 647478,

Project ID:

Lab Batch #: 3111796

Sample: 7693311-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/26/19 13:42

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	55.8	50.0	112	70-135	

Lab Batch #: 3111796

Sample: 7693311-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/26/19 14:03

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	100	100	100	70-135	
o-Terphenyl	49.9	50.0	100	70-135	

Lab Batch #: 3111796

Sample: 7693311-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/26/19 14:24

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.6	100	94	70-135	
o-Terphenyl	45.6	50.0	91	70-135	

Lab Batch #: 3111796

Sample: 647478-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/26/19 15:06

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	99.9	103	70-135	
o-Terphenyl	50.9	50.0	102	70-135	

Lab Batch #: 3111796

Sample: 647478-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/26/19 15:27

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	119	99.8	119	70-135	
o-Terphenyl	59.4	49.9	119	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: VGWU Sat 4

Work Orders : 647478,

Project ID:

Lab Batch #: 3111797

Sample: 7693312-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/26/19 13:42

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	51.2	50.0	102	70-135	

Lab Batch #: 3111797

Sample: 7693312-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/26/19 14:03

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.7	100	97	70-135	
o-Terphenyl	47.1	50.0	94	70-135	

Lab Batch #: 3111797

Sample: 7693312-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/26/19 14:24

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.8	100	94	70-135	
o-Terphenyl	45.0	50.0	90	70-135	

Lab Batch #: 3111797

Sample: 647478-021 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/26/19 15:06

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	99.9	109	70-135	
o-Terphenyl	51.4	50.0	103	70-135	

Lab Batch #: 3111797

Sample: 647478-021 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/26/19 15:27

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	99.7	109	70-135	
o-Terphenyl	51.9	49.9	104	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



BS / BSD Recoveries



Project Name: VGWU Sat 4

Work Order #: 647478

Project ID:

Analyst: KTL

Date Prepared: 12/31/2019

Date Analyzed: 12/31/2019

Lab Batch ID: 3112182

Sample: 7693545-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.00200	0.100	0.113	113	0.100	0.0987	99	14	70-130	35	
Toluene	<0.00200	0.100	0.104	104	0.100	0.0893	89	15	70-130	35	
Ethylbenzene	<0.00200	0.100	0.106	106	0.100	0.0909	91	15	70-130	35	
m,p-Xylenes	<0.00400	0.200	0.213	107	0.200	0.182	91	16	70-130	35	
o-Xylene	<0.00200	0.100	0.105	105	0.100	0.0902	90	15	70-130	35	

Analyst: KTL

Date Prepared: 12/31/2019

Date Analyzed: 01/01/2020

Lab Batch ID: 3112188

Sample: 7693557-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.00200	0.100	0.103	103	0.100	0.0960	96	7	70-130	35	
Toluene	<0.00200	0.100	0.0943	94	0.100	0.0860	86	9	70-130	35	
Ethylbenzene	<0.00200	0.100	0.0954	95	0.100	0.0857	86	11	70-130	35	
m,p-Xylenes	<0.00400	0.200	0.190	95	0.200	0.170	85	11	70-130	35	
o-Xylene	<0.00200	0.100	0.0967	97	0.100	0.0869	87	11	70-130	35	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$ Blank Spike Recovery [D] = $100 * (C)/[B]$ Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries



Project Name: VGWU Sat 4

Work Order #: 647478

Project ID:

Analyst: SPC

Date Prepared: 12/26/2019

Date Analyzed: 12/26/2019

Lab Batch ID: 3111821

Sample: 7693321-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<0.858	250	249	100	250	245	98	2	90-110	20	

Analyst: SPC

Date Prepared: 12/26/2019

Date Analyzed: 12/26/2019

Lab Batch ID: 3111818

Sample: 7693334-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<0.858	250	243	97	250	241	96	1	90-110	20	

Analyst: ARM

Date Prepared: 12/26/2019

Date Analyzed: 12/26/2019

Lab Batch ID: 3111796

Sample: 7693311-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	935	94	1000	894	89	4	70-135	20	
Diesel Range Organics (DRO)	<15.0	1000	961	96	1000	896	90	7	70-135	20	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$ Blank Spike Recovery [D] = $100 * (C)/[B]$ Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries



Project Name: VGWU Sat 4

Work Order #: 647478

Project ID:

Analyst: ARM

Date Prepared: 12/26/2019

Date Analyzed: 12/26/2019

Lab Batch ID: 3111797

Sample: 7693312-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	912	91	1000	899	90	1	70-135	20	
Diesel Range Organics (DRO)	<15.0	1000	940	94	1000	920	92	2	70-135	20	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$ Blank Spike Recovery [D] = $100 * (C)/[B]$ Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



Form 3 - MS / MSD Recoveries



Project Name: VGWU Sat 4

Work Order #: 647478

Project ID:

Lab Batch ID: 3112182

QC- Sample ID: 647393-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 12/31/2019

Date Prepared: 12/31/2019

Analyst: KTL

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00199	0.0996	0.0849	85	0.0996	0.0862	87	2	70-130	35	
Toluene	<0.00199	0.0996	0.0775	78	0.0996	0.0783	79	1	70-130	35	
Ethylbenzene	<0.00199	0.0996	0.0768	77	0.0996	0.0780	78	2	70-130	35	
m,p-Xylenes	<0.00398	0.199	0.155	78	0.199	0.156	78	1	70-130	35	
o-Xylene	<0.00199	0.0996	0.0778	78	0.0996	0.0790	79	2	70-130	35	

Lab Batch ID: 3112188

QC- Sample ID: 647478-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01/01/2020

Date Prepared: 12/31/2019

Analyst: KTL

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00200	0.0998	0.0852	85	0.0992	0.0870	88	2	70-130	35	
Toluene	<0.00200	0.0998	0.0772	77	0.0992	0.0793	80	3	70-130	35	
Ethylbenzene	<0.00200	0.0998	0.0765	77	0.0992	0.0783	79	2	70-130	35	
m,p-Xylenes	<0.00399	0.200	0.154	77	0.198	0.157	79	2	70-130	35	
o-Xylene	<0.00200	0.0998	0.0778	78	0.0992	0.0802	81	3	70-130	35	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$
 Relative Percent Difference RPD = $200 \times |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery [G] = $100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Form 3 - MS / MSD Recoveries



Project Name: VGWU Sat 4

Work Order # : 647478

Project ID:

Lab Batch ID: 3111818

QC- Sample ID: 647478-022 S

Batch #: 1 Matrix: Soil

Date Analyzed: 12/27/2019

Date Prepared: 12/26/2019

Analyst: SPC

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	67.6	250	340	109	250	339	109	0	90-110	20	

Lab Batch ID: 3111818

QC- Sample ID: 647478-023 S

Batch #: 1 Matrix: Soil

Date Analyzed: 12/26/2019

Date Prepared: 12/26/2019

Analyst: SPC

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	352	249	572	88	249	570	88	0	90-110	20	X

Lab Batch ID: 3111821

QC- Sample ID: 647478-003 S

Batch #: 1 Matrix: Soil

Date Analyzed: 12/26/2019

Date Prepared: 12/26/2019

Analyst: SPC

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	508	251	731	89	251	785	110	7	90-110	20	X

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
 Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Form 3 - MS / MSD Recoveries



Project Name: VGWU Sat 4

Work Order #: 647478

Project ID:

Lab Batch ID: 3111821

QC- Sample ID: 647478-005 S

Batch #: 1 Matrix: Soil

Date Analyzed: 12/26/2019

Date Prepared: 12/26/2019

Analyst: SPC

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	92.8	252	355	104	252	367	109	3	90-110	20	

Lab Batch ID: 3111796

QC- Sample ID: 647478-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 12/26/2019

Date Prepared: 12/26/2019

Analyst: ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	999	851	85	998	982	98	14	70-135	20	
Diesel Range Organics (DRO)	24.6	999	889	87	998	1020	100	14	70-135	20	

Lab Batch ID: 3111797

QC- Sample ID: 647478-021 S

Batch #: 1 Matrix: Soil

Date Analyzed: 12/26/2019

Date Prepared: 12/26/2019

Analyst: ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	999	899	90	997	903	91	0	70-135	20	
Diesel Range Organics (DRO)	<15.0	999	935	94	997	943	95	1	70-135	20	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
 Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Chain of Custody

Work Order No:

1047478

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-5440 EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
 Hobbs, NM (575) 392-7550 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000

www.xenco.com Page 1 of 3

Project Manager:	daniel.dominguez	Bill to: (if different)	Jason Michelson
Company Name:	Etech Environmental	Company Name:	Chevron Environmental Management
Address:	3100 Plains Hwy	Address:	1500 Louisiana St. Office 38116
City, State ZIP:	Lovington, NM 88260	City, State ZIP:	Houston, TX 77002
Phone:	832-854-5601	Email:	jimichelson@chevron.com, daniel@etechenv.com

ANALYSIS REQUEST

Work Order Notes

Program: ☐ UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐

State of Project: ☐ Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐

Reporting Level: ☐ Level II ☐ Level III ☐ Level IV ☐

Deliverables: EDD ☐ ADAPT ☐ Other: ☐

Project Name:	VGWU Sat 4	Turn Around	☐
Project Number:		Route	☐
P.O. Number:		Rush: no	
Sampler's Name:	Daniel Dominguez	Due Date:	

SAMPLE RECEIPT	Temp Blank:	Yes ☒ No ☐	Wet Ice:	Yes ☒ No ☐
Temperature (°C):	0.6	Thermometer ID:	12	
Received Intact:	Yes ☒ No ☐	Correction Factor:	0	
Cooler Custody Seals:	Yes ☒ No ☐ (N/A)	Total Containers:		
Sample Custody Seals:	Yes ☒ No ☐ (N/A)			

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers								Sample Comments						
					Chloride	BTEX	TPH												
Floor1	Soil	20-Dec-19	11:10	3	1	X	X	X											
Floor2	Soil	20-Dec-19	11:20	3	1	X	X	X											
Floor3	Soil	20-Dec-19	11:30	2	1	X	X	X											
Floor4	Soil	20-Dec-19	11:40	2	1	X	X	X											
Floor5	Soil	20-Dec-19	11:50	2	1	X	X	X											
Floor6	Soil	20-Dec-19	12:30	2	1	X	X	X											
Floor7	Soil	20-Dec-19	12:40	2	1	X	X	X											
Floor8	Soil	20-Dec-19	12:50	2	1	X	X	X											
Floor9	Soil	20-Dec-19	13:00	2	1	X	X	X											
Floor10	Soil	20-Dec-19	13:10	2	1	X	X	X											

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn
 TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U 1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. 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 Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>[Signature]</i>	1 <i>[Signature]</i>	12/31/19 1532	2 <i>[Signature]</i>	15762	12/30/19 1852
3			4		
5			6		



Chain of Custody

Work Order No: 1647478

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
 Hobbs, NM (575) 392-7550 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000

www.xenco.com Page 2 of 3

Project Manager:	daniel dominguez	Bill to: (if different)	Jason Michelson
Company Name:	Etech Environmental	Company Name:	Chevron Environmental Management
Address:	3100 Plains Hwy	Address:	1500 Louisiana St. Office 38116
City, State ZIP:	Lovington, NM 88260	City, State ZIP:	Houston, TX 77002
Phone:	832-854-5601	Email:	jimichelson@chevron.com; daniel@etechny.com

Program: ☐ UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐ State of Project:	
Reporting Level: ☐ Level II ☐ Level III ☐ PST/UST ☐ RRP ☐ Level IV ☐	Deliverables: ☐ EDD ☐ ADAPT ☐ Other:

Project Name:	VGWU Sat 4	Turn Around	ANALYSIS REQUEST										Work Order Notes
Project Number:		Routine ☐											TAT starts the day received by the lab, if received by 4:30pm
P.O. Number:		Rush: no											
Sampler's Name:	Daniel Dominguez	Due Date:											
SAMPLE RECEIPT			Temp Blank:	Yes ☒ No ☐	Well Ice:	Yes ☒ No ☐							
Temperature (°C):	58	Thermometer ID:	12										
Received Intact:	Yes ☒ No ☐	Correction Factor:	0										
Cooler Custody Seals:	Yes ☐ No ☒	Total Containers:	0										
Sample Custody Seals:	Yes ☐ No ☒												
Sample Identification			Matrix	Date Sampled	Time Sampled	Depth	Number of Containers						
							Chloride	BTEX	TPH				
Floor 11	Soil	20-Dec-19	13:20	2	1	X	X	X	X				
Floor 12	Soil	20-Dec-19	13:30	2	1	X	X	X	X				
Floor 13	Soil	20-Dec-19	13:40	2	1	X	X	X	X				
Floor 14	Soil	20-Dec-19	13:50	2	1	X	X	X	X				
Floor 15	Soil	20-Dec-19	14:00	2	1	X	X	X	X				
Floor 16	Soil	20-Dec-19	14:10	2	1	X	X	X	X				
Floor 17	Soil	20-Dec-19	14:20	2	1	X	X	X	X				
Floor 18	Soil	20-Dec-19	14:30	2	1	X	X	X	X				
Floor 19	Soil	20-Dec-19	14:40	2	1	X	X	X	X				
Floor 20	Soil	20-Dec-19	14:50	2	1	X	X	X	X				

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 SiO2 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 1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. 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 Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>[Signature]</i>	1 <i>[Signature]</i>	12/23/19 15:50	2 <i>[Signature]</i>	2 <i>[Signature]</i>	12/24/19
3			4		
5			6		



Chain of Custody

Work Order No:

10417478

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432-704-5440) EL Paso, TX (915)585-3443 Lubbock, TX (806)794-1296
 Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

www.xenco.com Page 3 of 3

Project Manager:	daniel dominguez	Bill to: (if different)	Jason Michelson
Company Name:	Etech Environmental	Company Name:	Chevron Environmental Management
Address:	3100 Plains Hwy	Address:	1500 Louisiana St. Office 38116
City, State ZIP:	Lovington, NM 88260	City, State ZIP:	Houston, TX 77002
Phone:	832-854-5601	Email:	jimichelson@chevron.com; daniel@etechev.com

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐ State of Project: Reporting Level II ☐ Level III ☐ PST/UST ☐ RRP ☐ Level IV ☐ Deliverables: EDD ☐ ADAPT ☐ Other:		Work Order Comments
--	--	----------------------------

Project Name:	VGWU Sat 4	Turn Around	ANALYSIS REQUEST										Work Order Notes
Project Number:		Routine ☐											
P.O. Number:		Rush: no											
Sampler's Name:	Daniel Dominguez	Due Date:											

SAMPLE RECEIPT		Temp Blank:	Yes ☒ No ☐	Wet Ice:	Yes ☐ No ☐										
Temperature (°C):	0.8	Thermometer ID: 70													
Received Intact:	Yes ☒ No ☐														
Cooler Custody Seals:	Yes ☒ No ☐	Correction Factor:	0												
Sample Custody Seals:	Yes ☒ No ☐	Total Containers:													

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers										Sample Comments		
					Chloride	BTEX	TPH										
Floor21	Soil	20-Dec-19	15:00	2	1	X	X	X									
SW1b	Soil	18-Dec-19	10:30	2	1	X	X	X									
SW2b	Soil	18-Dec-19	11:45	2	1	X	X	X									
SW6b	Soil	18-Dec-19	12:00	2	1	X	X	X									
SW9b	Soil	18-Dec-19	12:45	2	1	X	X	X									
SW10b	Soil	18-Dec-19	13:00	2	1	X	X	X									
SW11b	Soil	19-Dec-19	10:00	2	1	X	X	X									

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 SiO2 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 1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. 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 Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 [Signature]	1 [Signature]	12-23-19 15:50	2 [Signature]	2 [Signature]	12/24/2019
3			4		
5			6		



Client: Etech Environmental & Safety Solution, I

Date/ Time Received: 12/26/2019 08:52:00 AM

Work Order #: 647478

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	.6
#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:

Brianna Teel

Date: 12/26/2019

Checklist reviewed by:

Jessica Kramer

Date: 12/26/2019

Analytical Report 647938

for
Etech Environmental & Safety Solution, Inc

Project Manager: Daniel Dominguez

VGWU Sat 4

13-JAN-20

Collected By: Client



1211 W. Florida Ave
Midland TX 79701

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)



13-JAN-20

Project Manager: **Daniel Dominguez**
Etech Environmental & Safety Solution, Inc
P.O. Box 8469
Midland, TX 79708

Reference: XENCO Report No(s): **647938**
VGWU Sat 4
Project Address:

Daniel Dominguez:

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) 647938. 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. 647938 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,

A handwritten signature in black ink that reads 'Jessica Kramer'.

Jessica Kramer

Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

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



Sample Cross Reference 647938

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Floor22	S	01-02-20 11:10	2	647938-001
Floor23	S	01-02-20 11:20	2	647938-002
Floor24	S	01-02-20 11:30	2	647938-003
Floor25	S	01-02-20 11:40	2	647938-004
Floor26	S	01-02-20 11:50	2	647938-005
Floor27	S	01-02-20 12:30	2	647938-006
Floor28	S	01-02-20 12:40	2	647938-007
Floor29	S	01-02-20 12:50	2	647938-008
NEFloor1	S	01-02-20 13:00	1	647938-009
NWFloor2	S	01-02-20 13:10	1	647938-010
SW12	S	01-02-20 13:20	2	647938-011
SW13	S	01-02-20 13:30	2	647938-012
SW14	S	01-02-20 13:40	2	647938-013
SW15	S	01-02-20 13:50	2	647938-014
SW16	S	01-02-20 14:00	2	647938-015
SW17	S	01-02-20 14:10	2	647938-016
SW18	S	01-02-20 14:20	2	647938-017
SW19	S	01-02-20 14:30	2	647938-018
SW20	S	01-02-20 14:40	2	647938-019
SW21	S	01-02-20 14:50	2	647938-020
SW22	S	01-02-20 15:00	2	647938-021
NESW1	S	01-02-20 10:30	6 In	647938-022
NESW2b	S	01-02-20 12:40	6 In	647938-023
NESW3	S	01-02-20 10:50	6 In	647938-024
NESW4	S	01-02-20 11:00	6 In	647938-025

**CASE NARRATIVE****Client Name: Etech Environmental & Safety Solution, Inc****Project Name: VGWU Sat 4**Project ID:
Work Order Number(s): 647938Report Date: 13-JAN-20
Date Received: 01/06/2020

Sample receipt non conformances and comments:None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3112470 Chloride by EPA 300

Lab Sample ID 647938-025 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 647938-015, -016, -017, -018, -019, -020, -021, -022, -023, -024, -025.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3112541 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Lab Sample ID 647938-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). 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: 647938-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020.

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

**CASE NARRATIVE****Client Name: Etech Environmental & Safety Solution, Inc****Project Name: VGWU Sat 4**

Project ID:

Work Order Number(s): 647938

Report Date: 13-JAN-20

Date Received: 01/06/2020

Batch: LBA-3112818 TPH By SW8015 Mod

Lab Sample ID 647938-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Diesel Range Organics (DRO), Gasoline Range Hydrocarbons (GRO) Relative Percent Difference (RPD) between matrix spike and duplicate were above quality control limits.

Samples in the analytical batch are: 647938-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020

Diesel Range Organics (DRO), Gasoline Range Hydrocarbons (GRO) recovered below QC limits in the laboratory control sample indicating bias low results. Samples in the analytical batch are: 647938-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020.

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

Samples affected are: 647938-001 SD.

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

Samples affected are: 647938-008.

Outlier/s are due to possible matrix interference.

Diesel Range Organics (DRO), Gasoline Range Hydrocarbons (GRO) RPD was outside laboratory control limits.

Samples in the analytical batch are: 647938-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020

Batch: LBA-3112950 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Certificate of Analytical Results



647938

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: Floor22

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647938-001

Date Collected: 01.02.20 11.10

Date Received: 01.06.20 10.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112468

Date Prep: 01.06.20 12.50

Prep seq: 7693773

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1040	25.0	4.29	mg/kg	01.06.20 16:42		5

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3112818

Date Prep: 01.06.20 14.00

Prep seq: 7693788

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	15.0	mg/kg	01.07.20 13:35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	15.0	mg/kg	01.07.20 13:35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	15.0	mg/kg	01.07.20 13:35	U	1
Total TPH	PHC635	<50.0		15.0	mg/kg	01.07.20 13:35	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	118	70 - 135	%		
o-Terphenyl	115	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112541

Date Prep: 01.06.20 14.45

Prep seq: 7693774

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00202	0.00202	0.000389	mg/kg	01.07.20 06:22	U	1
Toluene	108-88-3	<0.00202	0.00202	0.000460	mg/kg	01.07.20 06:22	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	0.000570	mg/kg	01.07.20 06:22	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	0.00102	mg/kg	01.07.20 06:22	U	1
o-Xylene	95-47-6	<0.00202	0.00202	0.000348	mg/kg	01.07.20 06:22	U	1
Total Xylenes	1330-20-7	<0.00202		0.000348	mg/kg	01.07.20 06:22	U	
Total BTEX		<0.00202		0.000348	mg/kg	01.07.20 06:22	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	113	70 - 130	%		
4-Bromofluorobenzene	96	70 - 130	%		



Certificate of Analytical Results

647938



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: Floor23

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647938-002

Date Collected: 01.02.20 11.20

Date Received: 01.06.20 10.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112468

Date Prep: 01.06.20 12.50

Prep seq: 7693773

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	785	25.0	4.29	mg/kg	01.06.20 16:49		5

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3112818

Date Prep: 01.06.20 14.00

Prep seq: 7693788

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	15.0	mg/kg	01.07.20 14:39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	15.0	mg/kg	01.07.20 14:39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	15.0	mg/kg	01.07.20 14:39	U	1
Total TPH	PHC635	<50.0		15.0	mg/kg	01.07.20 14:39	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	120	70 - 135	%		
o-Terphenyl	118	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112541

Date Prep: 01.06.20 14.45

Prep seq: 7693774

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00199	0.00199	0.000383	mg/kg	01.07.20 06:42	U	1
Toluene	108-88-3	<0.00199	0.00199	0.000454	mg/kg	01.07.20 06:42	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	0.000563	mg/kg	01.07.20 06:42	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	0.00101	mg/kg	01.07.20 06:42	U	1
o-Xylene	95-47-6	<0.00199	0.00199	0.000343	mg/kg	01.07.20 06:42	U	1
Total Xylenes	1330-20-7	<0.00199		0.000343	mg/kg	01.07.20 06:42	U	
Total BTEX		<0.00199		0.000343	mg/kg	01.07.20 06:42	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	110	70 - 130	%		
4-Bromofluorobenzene	95	70 - 130	%		



Certificate of Analytical Results



647938

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: Floor24

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647938-003

Date Collected: 01.02.20 11.30

Date Received: 01.06.20 10.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112468

Date Prep: 01.06.20 12.50

Prep seq: 7693773

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	635	25.0	4.29	mg/kg	01.06.20 16:56		5

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3112818

Date Prep: 01.06.20 14.00

Prep seq: 7693788

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	14.9	mg/kg	01.07.20 15:00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	14.9	mg/kg	01.07.20 15:00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	14.9	mg/kg	01.07.20 15:00	U	1
Total TPH	PHC635	<49.8		14.9	mg/kg	01.07.20 15:00	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	120	70 - 135	%		
o-Terphenyl	121	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112541

Date Prep: 01.06.20 14.45

Prep seq: 7693774

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00200	0.00200	0.000384	mg/kg	01.07.20 07:02	U	1
Toluene	108-88-3	<0.00200	0.00200	0.000455	mg/kg	01.07.20 07:02	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	0.000564	mg/kg	01.07.20 07:02	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	0.00101	mg/kg	01.07.20 07:02	U	1
o-Xylene	95-47-6	<0.00200	0.00200	0.000344	mg/kg	01.07.20 07:02	U	1
Total Xylenes	1330-20-7	<0.00200		0.000344	mg/kg	01.07.20 07:02	U	
Total BTEX		<0.00200		0.000344	mg/kg	01.07.20 07:02	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	113	70 - 130	%		
4-Bromofluorobenzene	94	70 - 130	%		



Certificate of Analytical Results



647938

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: Floor25

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647938-004

Date Collected: 01.02.20 11.40

Date Received: 01.06.20 10.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112468

Date Prep: 01.06.20 12.50

Prep seq: 7693773

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	537	25.2	4.33	mg/kg	01.06.20 17:02		5

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3112818

Date Prep: 01.06.20 14.00

Prep seq: 7693788

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	15.0	mg/kg	01.07.20 15:21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	15.0	mg/kg	01.07.20 15:21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	15.0	mg/kg	01.07.20 15:21	U	1
Total TPH	PHC635	<49.9		15.0	mg/kg	01.07.20 15:21	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	117	70 - 135	%		
o-Terphenyl	118	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112541

Date Prep: 01.06.20 14.45

Prep seq: 7693774

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00199	0.00199	0.000383	mg/kg	01.07.20 07:23	U	1
Toluene	108-88-3	<0.00199	0.00199	0.000454	mg/kg	01.07.20 07:23	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	0.000563	mg/kg	01.07.20 07:23	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	0.00101	mg/kg	01.07.20 07:23	U	1
o-Xylene	95-47-6	<0.00199	0.00199	0.000343	mg/kg	01.07.20 07:23	U	1
Total Xylenes	1330-20-7	<0.00199		0.000343	mg/kg	01.07.20 07:23	U	
Total BTEX		<0.00199		0.000343	mg/kg	01.07.20 07:23	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	106	70 - 130	%		
4-Bromofluorobenzene	92	70 - 130	%		



Certificate of Analytical Results

647938



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: Floor26

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647938-005

Date Collected: 01.02.20 11.50

Date Received: 01.06.20 10.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112468

Date Prep: 01.06.20 12.50

Prep seq: 7693773

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	648	25.1	4.31	mg/kg	01.06.20 17:29		5

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3112818

Date Prep: 01.06.20 14.00

Prep seq: 7693788

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	15.0	mg/kg	01.07.20 15:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	15.0	mg/kg	01.07.20 15:42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	15.0	mg/kg	01.07.20 15:42	U	1
Total TPH	PHC635	<50.0		15.0	mg/kg	01.07.20 15:42	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	115	70 - 135	%		
o-Terphenyl	119	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112541

Date Prep: 01.06.20 14.45

Prep seq: 7693774

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00201	0.00201	0.000387	mg/kg	01.07.20 07:43	U	1
Toluene	108-88-3	<0.00201	0.00201	0.000458	mg/kg	01.07.20 07:43	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	0.000568	mg/kg	01.07.20 07:43	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	0.00102	mg/kg	01.07.20 07:43	U	1
o-Xylene	95-47-6	<0.00201	0.00201	0.000346	mg/kg	01.07.20 07:43	U	1
Total Xylenes	1330-20-7	<0.00201		0.000346	mg/kg	01.07.20 07:43	U	
Total BTEX		<0.00201		0.000346	mg/kg	01.07.20 07:43	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	110	70 - 130	%		
4-Bromofluorobenzene	93	70 - 130	%		



Certificate of Analytical Results



647938

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: Floor27

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647938-006

Date Collected: 01.02.20 12.30

Date Received: 01.06.20 10.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112468

Date Prep: 01.06.20 12.50

Prep seq: 7693773

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	487	25.3	4.34	mg/kg	01.06.20 17:35		5

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3112818

Date Prep: 01.06.20 14.00

Prep seq: 7693788

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	15.0	mg/kg	01.07.20 16:02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	15.0	mg/kg	01.07.20 16:02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	15.0	mg/kg	01.07.20 16:02	U	1
Total TPH	PHC635	<49.9		15.0	mg/kg	01.07.20 16:02	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	120	70 - 135	%		
o-Terphenyl	123	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112541

Date Prep: 01.06.20 14.45

Prep seq: 7693774

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00201	0.00201	0.000386	mg/kg	01.07.20 08:04	U	1
Toluene	108-88-3	<0.00201	0.00201	0.000457	mg/kg	01.07.20 08:04	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	0.000567	mg/kg	01.07.20 08:04	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	0.00102	mg/kg	01.07.20 08:04	U	1
o-Xylene	95-47-6	<0.00201	0.00201	0.000346	mg/kg	01.07.20 08:04	U	1
Total Xylenes	1330-20-7	<0.00201		0.000346	mg/kg	01.07.20 08:04	U	
Total BTEX		<0.00201		0.000346	mg/kg	01.07.20 08:04	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	111	70 - 130	%		
4-Bromofluorobenzene	97	70 - 130	%		



Certificate of Analytical Results

647938



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: Floor28

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647938-007

Date Collected: 01.02.20 12.40

Date Received: 01.06.20 10.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112468

Date Prep: 01.06.20 12.50

Prep seq: 7693773

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	964	24.9	4.27	mg/kg	01.07.20 08:06		5

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3112818

Date Prep: 01.06.20 14.00

Prep seq: 7693788

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	15.0	mg/kg	01.07.20 16:51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	15.0	mg/kg	01.07.20 16:51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	15.0	mg/kg	01.07.20 16:51	U	1
Total TPH	PHC635	<49.9		15.0	mg/kg	01.07.20 16:51	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	117	70 - 135	%		
o-Terphenyl	122	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112541

Date Prep: 01.06.20 14.45

Prep seq: 7693774

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00200	0.00200	0.000385	mg/kg	01.07.20 08:24	U	1
Toluene	108-88-3	<0.00200	0.00200	0.000456	mg/kg	01.07.20 08:24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	0.000565	mg/kg	01.07.20 08:24	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	0.00101	mg/kg	01.07.20 08:24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	0.000344	mg/kg	01.07.20 08:24	U	1
Total Xylenes	1330-20-7	<0.00200		0.000344	mg/kg	01.07.20 08:24	U	
Total BTEX		<0.00200		0.000344	mg/kg	01.07.20 08:24	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	113	70 - 130	%		
4-Bromofluorobenzene	95	70 - 130	%		



Certificate of Analytical Results

647938

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: Floor29

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647938-008

Date Collected: 01.02.20 12.50

Date Received: 01.06.20 10.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112468

Date Prep: 01.06.20 12.50

Prep seq: 7693773

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	18.7	4.95	0.850	mg/kg	01.06.20 17:09		1

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3112818

Date Prep: 01.06.20 14.00

Prep seq: 7693788

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	15.0	mg/kg	01.07.20 17:11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	15.0	mg/kg	01.07.20 17:11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	15.0	mg/kg	01.07.20 17:11	U	1
Total TPH	PHC635	<50.0		15.0	mg/kg	01.07.20 17:11	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	133	70 - 135	%		
o-Terphenyl	138	70 - 135	%		**

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112541

Date Prep: 01.06.20 14.45

Prep seq: 7693774

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	0.00383	0.00200	0.000384	mg/kg	01.07.20 08:45		1
Toluene	108-88-3	0.00329	0.00200	0.000455	mg/kg	01.07.20 08:45		1
Ethylbenzene	100-41-4	<0.00200	0.00200	0.000564	mg/kg	01.07.20 08:45	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	0.00101	mg/kg	01.07.20 08:45	U	1
o-Xylene	95-47-6	<0.00200	0.00200	0.000344	mg/kg	01.07.20 08:45	U	1
Total Xylenes	1330-20-7	<0.00200		0.000344	mg/kg	01.07.20 08:45	U	
Total BTEX		0.00712		0.000344	mg/kg	01.07.20 08:45		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	110	70 - 130	%		
4-Bromofluorobenzene	92	70 - 130	%		



Certificate of Analytical Results

647938



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: NEFloor1

Matrix: Soil

Sample Depth: 1

Lab Sample Id: 647938-009

Date Collected: 01.02.20 13.00

Date Received: 01.06.20 10.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112468

Date Prep: 01.06.20 12.50

Prep seq: 7693773

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1070	4.96	0.852	mg/kg	01.06.20 18:02		1

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3112818

Date Prep: 01.06.20 14.00

Prep seq: 7693788

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	15.0	mg/kg	01.07.20 17:32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	15.0	mg/kg	01.07.20 17:32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	15.0	mg/kg	01.07.20 17:32	U	1
Total TPH	PHC635	<50.0		15.0	mg/kg	01.07.20 17:32	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	115	70 - 135	%		
o-Terphenyl	118	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112541

Date Prep: 01.06.20 14.45

Prep seq: 7693774

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00198	0.00198	0.000382	mg/kg	01.07.20 09:05	U	1
Toluene	108-88-3	<0.00198	0.00198	0.000452	mg/kg	01.07.20 09:05	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	0.000560	mg/kg	01.07.20 09:05	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	0.00101	mg/kg	01.07.20 09:05	U	1
o-Xylene	95-47-6	<0.00198	0.00198	0.000342	mg/kg	01.07.20 09:05	U	1
Total Xylenes	1330-20-7	<0.00198		0.000342	mg/kg	01.07.20 09:05	U	
Total BTEX		<0.00198		0.000342	mg/kg	01.07.20 09:05	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	110	70 - 130	%		
4-Bromofluorobenzene	100	70 - 130	%		



Certificate of Analytical Results

647938

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: NWFloor2

Matrix: Soil

Sample Depth: 1

Lab Sample Id: 647938-010

Date Collected: 01.02.20 13.10

Date Received: 01.06.20 10.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112468

Date Prep: 01.06.20 12.50

Prep seq: 7693773

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	789	5.00	0.858	mg/kg	01.06.20 18:09		1

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3112818

Date Prep: 01.06.20 14.00

Prep seq: 7693788

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	15.0	mg/kg	01.07.20 17:53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	15.0	mg/kg	01.07.20 17:53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	15.0	mg/kg	01.07.20 17:53	U	1
Total TPH	PHC635	<50.0		15.0	mg/kg	01.07.20 17:53	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	117	70 - 135	%		
o-Terphenyl	120	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112541

Date Prep: 01.06.20 14.45

Prep seq: 7693774

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00200	0.00200	0.000386	mg/kg	01.07.20 09:26	U	1
Toluene	108-88-3	<0.00200	0.00200	0.000457	mg/kg	01.07.20 09:26	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	0.000566	mg/kg	01.07.20 09:26	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	0.00102	mg/kg	01.07.20 09:26	U	1
o-Xylene	95-47-6	<0.00200	0.00200	0.000345	mg/kg	01.07.20 09:26	U	1
Total Xylenes	1330-20-7	<0.00200		0.000345	mg/kg	01.07.20 09:26	U	
Total BTEX		<0.00200		0.000345	mg/kg	01.07.20 09:26	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	113	70 - 130	%		
4-Bromofluorobenzene	95	70 - 130	%		



Certificate of Analytical Results

647938



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: SW12

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647938-011

Date Collected: 01.02.20 13.20

Date Received: 01.06.20 10.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112468

Date Prep: 01.06.20 12.50

Prep seq: 7693773

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	496	25.0	4.29	mg/kg	01.06.20 18:15		5

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3112818

Date Prep: 01.06.20 14.00

Prep seq: 7693788

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	14.9	mg/kg	01.07.20 18:35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	14.9	mg/kg	01.07.20 18:35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	14.9	mg/kg	01.07.20 18:35	U	1
Total TPH	PHC635	<49.8		14.9	mg/kg	01.07.20 18:35	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	117	70 - 135	%		
o-Terphenyl	117	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112541

Date Prep: 01.06.20 14.45

Prep seq: 7693774

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00198	0.00198	0.000381	mg/kg	01.07.20 11:05	U	1
Toluene	108-88-3	<0.00198	0.00198	0.000451	mg/kg	01.07.20 11:05	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	0.000559	mg/kg	01.07.20 11:05	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	0.00100	mg/kg	01.07.20 11:05	U	1
o-Xylene	95-47-6	<0.00198	0.00198	0.000341	mg/kg	01.07.20 11:05	U	1
Total Xylenes	1330-20-7	<0.00198		0.000341	mg/kg	01.07.20 11:05	U	
Total BTEX		<0.00198		0.000341	mg/kg	01.07.20 11:05	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	109	70 - 130	%		
4-Bromofluorobenzene	91	70 - 130	%		



Certificate of Analytical Results

647938



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: SW13

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647938-012

Date Collected: 01.02.20 13.30

Date Received: 01.06.20 10.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112468

Date Prep: 01.06.20 12.50

Prep seq: 7693773

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1130	50.3	8.64	mg/kg	01.06.20 18:22		10

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3112818

Date Prep: 01.06.20 14.00

Prep seq: 7693788

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	15.0	mg/kg	01.07.20 18:56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	15.0	mg/kg	01.07.20 18:56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	15.0	mg/kg	01.07.20 18:56	U	1
Total TPH	PHC635	<50.0		15.0	mg/kg	01.07.20 18:56	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	118	70 - 135	%		
o-Terphenyl	115	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112541

Date Prep: 01.06.20 14.45

Prep seq: 7693774

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00200	0.00200	0.000385	mg/kg	01.07.20 11:25	U	1
Toluene	108-88-3	0.00204	0.00200	0.000456	mg/kg	01.07.20 11:25		1
Ethylbenzene	100-41-4	<0.00200	0.00200	0.000565	mg/kg	01.07.20 11:25	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	0.00101	mg/kg	01.07.20 11:25	U	1
o-Xylene	95-47-6	<0.00200	0.00200	0.000344	mg/kg	01.07.20 11:25	U	1
Total Xylenes	1330-20-7	<0.00200		0.000344	mg/kg	01.07.20 11:25	U	
Total BTEX		0.00204		0.000344	mg/kg	01.07.20 11:25		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	106	70 - 130	%		
4-Bromofluorobenzene	92	70 - 130	%		



Certificate of Analytical Results

647938

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: SW14

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647938-013

Date Collected: 01.02.20 13.40

Date Received: 01.06.20 10.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112468

Date Prep: 01.06.20 12.50

Prep seq: 7693773

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	9.05	5.05	0.867	mg/kg	01.06.20 18:29		1

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3112818

Date Prep: 01.06.20 14.00

Prep seq: 7693788

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	15.0	mg/kg	01.07.20 19:17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	15.0	mg/kg	01.07.20 19:17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	15.0	mg/kg	01.07.20 19:17	U	1
Total TPH	PHC635	<50.0		15.0	mg/kg	01.07.20 19:17	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	117	70 - 135	%		
o-Terphenyl	117	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112541

Date Prep: 01.06.20 14.45

Prep seq: 7693774

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	0.00298	0.00199	0.000383	mg/kg	01.07.20 11:46		1
Toluene	108-88-3	0.00284	0.00199	0.000454	mg/kg	01.07.20 11:46		1
Ethylbenzene	100-41-4	<0.00199	0.00199	0.000563	mg/kg	01.07.20 11:46	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	0.00101	mg/kg	01.07.20 11:46	U	1
o-Xylene	95-47-6	<0.00199	0.00199	0.000343	mg/kg	01.07.20 11:46	U	1
Total Xylenes	1330-20-7	<0.00199		0.000343	mg/kg	01.07.20 11:46	U	
Total BTEX		0.00582		0.000343	mg/kg	01.07.20 11:46		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	110	70 - 130	%		
4-Bromofluorobenzene	99	70 - 130	%		



Certificate of Analytical Results

647938

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: SW15

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647938-014

Date Collected: 01.02.20 13.50

Date Received: 01.06.20 10.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112468

Date Prep: 01.06.20 12.50

Prep seq: 7693773

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	4930	49.8	8.55	mg/kg	01.06.20 18:35		10

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3112818

Date Prep: 01.06.20 14.00

Prep seq: 7693788

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	15.0	mg/kg	01.07.20 19:39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	15.0	mg/kg	01.07.20 19:39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	15.0	mg/kg	01.07.20 19:39	U	1
Total TPH	PHC635	<50.0		15.0	mg/kg	01.07.20 19:39	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	119	70 - 135	%		
o-Terphenyl	115	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112541

Date Prep: 01.06.20 14.45

Prep seq: 7693774

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00199	0.00199	0.000383	mg/kg	01.07.20 12:06	U	1
Toluene	108-88-3	<0.00199	0.00199	0.000454	mg/kg	01.07.20 12:06	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	0.000563	mg/kg	01.07.20 12:06	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	0.00101	mg/kg	01.07.20 12:06	U	1
o-Xylene	95-47-6	<0.00199	0.00199	0.000343	mg/kg	01.07.20 12:06	U	1
Total Xylenes	1330-20-7	<0.00199		0.000343	mg/kg	01.07.20 12:06	U	
Total BTEX		<0.00199		0.000343	mg/kg	01.07.20 12:06	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	99	70 - 130	%		
4-Bromofluorobenzene	100	70 - 130	%		



Certificate of Analytical Results

647938

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: SW16

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647938-015

Date Collected: 01.02.20 14.00

Date Received: 01.06.20 10.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112470

Date Prep: 01.06.20 14.30

Prep seq: 7693775

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	2800	50.2	8.62	mg/kg	01.06.20 19:35		10

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3112818

Date Prep: 01.06.20 14.00

Prep seq: 7693788

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	15.0	mg/kg	01.07.20 20:00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	15.0	mg/kg	01.07.20 20:00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	15.0	mg/kg	01.07.20 20:00	U	1
Total TPH	PHC635	<49.9		15.0	mg/kg	01.07.20 20:00	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	118	70 - 135	%		
o-Terphenyl	114	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112541

Date Prep: 01.06.20 14.45

Prep seq: 7693774

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00200	0.00200	0.000384	mg/kg	01.07.20 12:26	U	1
Toluene	108-88-3	<0.00200	0.00200	0.000455	mg/kg	01.07.20 12:26	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	0.000564	mg/kg	01.07.20 12:26	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	0.00101	mg/kg	01.07.20 12:26	U	1
o-Xylene	95-47-6	<0.00200	0.00200	0.000344	mg/kg	01.07.20 12:26	U	1
Total Xylenes	1330-20-7	<0.00200		0.000344	mg/kg	01.07.20 12:26	U	
Total BTEX		<0.00200		0.000344	mg/kg	01.07.20 12:26	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	108	70 - 130	%		
4-Bromofluorobenzene	102	70 - 130	%		



Certificate of Analytical Results

647938



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: SW17

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647938-016

Date Collected: 01.02.20 14.10

Date Received: 01.06.20 10.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112470

Date Prep: 01.06.20 14.30

Prep seq: 7693775

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	445	24.9	4.27	mg/kg	01.06.20 19:42		5

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3112818

Date Prep: 01.06.20 14.00

Prep seq: 7693788

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	15.0	mg/kg	01.07.20 20:21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	15.0	mg/kg	01.07.20 20:21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	15.0	mg/kg	01.07.20 20:21	U	1
Total TPH	PHC635	<49.9		15.0	mg/kg	01.07.20 20:21	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	119	70 - 135	%		
o-Terphenyl	116	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112541

Date Prep: 01.06.20 14.45

Prep seq: 7693774

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00201	0.00201	0.000386	mg/kg	01.07.20 12:47	U	1
Toluene	108-88-3	<0.00201	0.00201	0.000457	mg/kg	01.07.20 12:47	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	0.000567	mg/kg	01.07.20 12:47	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	0.00102	mg/kg	01.07.20 12:47	U	1
o-Xylene	95-47-6	<0.00201	0.00201	0.000346	mg/kg	01.07.20 12:47	U	1
Total Xylenes	1330-20-7	<0.00201		0.000346	mg/kg	01.07.20 12:47	U	
Total BTEX		<0.00201		0.000346	mg/kg	01.07.20 12:47	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	104	70 - 130	%		
4-Bromofluorobenzene	96	70 - 130	%		



Certificate of Analytical Results

647938



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: SW18

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647938-017

Date Collected: 01.02.20 14.20

Date Received: 01.06.20 10.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112470

Date Prep: 01.06.20 14.30

Prep seq: 7693775

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	157	25.0	4.29	mg/kg	01.06.20 19:48		5

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3112818

Date Prep: 01.06.20 14.00

Prep seq: 7693788

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	14.9	mg/kg	01.07.20 20:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	14.9	mg/kg	01.07.20 20:42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	14.9	mg/kg	01.07.20 20:42	U	1
Total TPH	PHC635	<49.8		14.9	mg/kg	01.07.20 20:42	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	123	70 - 135	%		
o-Terphenyl	120	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112541

Date Prep: 01.06.20 14.45

Prep seq: 7693774

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00199	0.00199	0.000383	mg/kg	01.07.20 13:07	U	1
Toluene	108-88-3	<0.00199	0.00199	0.000453	mg/kg	01.07.20 13:07	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	0.000561	mg/kg	01.07.20 13:07	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	0.00101	mg/kg	01.07.20 13:07	U	1
o-Xylene	95-47-6	<0.00199	0.00199	0.000342	mg/kg	01.07.20 13:07	U	1
Total Xylenes	1330-20-7	<0.00199		0.000342	mg/kg	01.07.20 13:07	U	
Total BTEX		<0.00199		0.000342	mg/kg	01.07.20 13:07	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	111	70 - 130	%		
4-Bromofluorobenzene	100	70 - 130	%		



Certificate of Analytical Results



647938

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: SW19

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647938-018

Date Collected: 01.02.20 14.30

Date Received: 01.06.20 10.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112470

Date Prep: 01.06.20 14.30

Prep seq: 7693775

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	425	50.4	8.65	mg/kg	01.06.20 19:55		10

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3112818

Date Prep: 01.06.20 14.00

Prep seq: 7693788

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	15.0	mg/kg	01.07.20 21:03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	15.0	mg/kg	01.07.20 21:03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	15.0	mg/kg	01.07.20 21:03	U	1
Total TPH	PHC635	<50.0		15.0	mg/kg	01.07.20 21:03	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	122	70 - 135	%		
o-Terphenyl	118	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112541

Date Prep: 01.06.20 14.45

Prep seq: 7693774

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00199	0.00199	0.000383	mg/kg	01.07.20 13:28	U	1
Toluene	108-88-3	<0.00199	0.00199	0.000453	mg/kg	01.07.20 13:28	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	0.000561	mg/kg	01.07.20 13:28	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	0.00101	mg/kg	01.07.20 13:28	U	1
o-Xylene	95-47-6	<0.00199	0.00199	0.000342	mg/kg	01.07.20 13:28	U	1
Total Xylenes	1330-20-7	<0.00199		0.000342	mg/kg	01.07.20 13:28	U	
Total BTEX		<0.00199		0.000342	mg/kg	01.07.20 13:28	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	108	70 - 130	%		
4-Bromofluorobenzene	101	70 - 130	%		



Certificate of Analytical Results



647938

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: SW20

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647938-019

Date Collected: 01.02.20 14.40

Date Received: 01.06.20 10.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112470

Date Prep: 01.06.20 14.30

Prep seq: 7693775

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	198	24.9	4.27	mg/kg	01.06.20 20:15		5

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3112818

Date Prep: 01.06.20 14.00

Prep seq: 7693788

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	15.0	mg/kg	01.07.20 21:24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	15.0	mg/kg	01.07.20 21:24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	15.0	mg/kg	01.07.20 21:24	U	1
Total TPH	PHC635	<49.9		15.0	mg/kg	01.07.20 21:24	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	124	70 - 135	%		
o-Terphenyl	120	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112541

Date Prep: 01.06.20 14.45

Prep seq: 7693774

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00198	0.00198	0.000381	mg/kg	01.07.20 13:48	U	1
Toluene	108-88-3	<0.00198	0.00198	0.000451	mg/kg	01.07.20 13:48	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	0.000559	mg/kg	01.07.20 13:48	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	0.00100	mg/kg	01.07.20 13:48	U	1
o-Xylene	95-47-6	<0.00198	0.00198	0.000341	mg/kg	01.07.20 13:48	U	1
Total Xylenes	1330-20-7	<0.00198		0.000341	mg/kg	01.07.20 13:48	U	
Total BTEX		<0.00198		0.000341	mg/kg	01.07.20 13:48	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	109	70 - 130	%		
4-Bromofluorobenzene	93	70 - 130	%		



Certificate of Analytical Results

647938



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: SW21

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647938-020

Date Collected: 01.02.20 14.50

Date Received: 01.06.20 10.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112470

Date Prep: 01.06.20 14.30

Prep seq: 7693775

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	307	49.5	8.50	mg/kg	01.06.20 20:22		10

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3112818

Date Prep: 01.06.20 14.00

Prep seq: 7693788

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	15.0	mg/kg	01.07.20 21:45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	15.0	mg/kg	01.07.20 21:45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	15.0	mg/kg	01.07.20 21:45	U	1
Total TPH	PHC635	<49.9		15.0	mg/kg	01.07.20 21:45	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	122	70 - 135	%		
o-Terphenyl	118	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112541

Date Prep: 01.06.20 14.45

Prep seq: 7693774

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00198	0.00198	0.000382	mg/kg	01.07.20 14:09	U	1
Toluene	108-88-3	<0.00198	0.00198	0.000452	mg/kg	01.07.20 14:09	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	0.000560	mg/kg	01.07.20 14:09	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	0.00101	mg/kg	01.07.20 14:09	U	1
o-Xylene	95-47-6	<0.00198	0.00198	0.000342	mg/kg	01.07.20 14:09	U	1
Total Xylenes	1330-20-7	<0.00198		0.000342	mg/kg	01.07.20 14:09	U	
Total BTEX		<0.00198		0.000342	mg/kg	01.07.20 14:09	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	106	70 - 130	%		
4-Bromofluorobenzene	94	70 - 130	%		



Certificate of Analytical Results

647938



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: SW22

Matrix: Soil

Sample Depth: 2

Lab Sample Id: 647938-021

Date Collected: 01.02.20 15.00

Date Received: 01.06.20 10.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112470

Date Prep: 01.06.20 14.30

Prep seq: 7693775

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	397	50.2	8.62	mg/kg	01.06.20 20:28		10

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3112551

Date Prep: 01.06.20 14.00

Prep seq: 7693789

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	15.0	mg/kg	01.06.20 22:57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	15.0	mg/kg	01.06.20 22:57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	15.0	mg/kg	01.06.20 22:57	U	1
Total TPH	PHC635	<49.9		15.0	mg/kg	01.06.20 22:57	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	116	70 - 135	%		
o-Terphenyl	117	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112950

Date Prep: 01.10.20 10.15

Prep seq: 7694088

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00198	0.00198	0.000382	mg/kg	01.10.20 13:14	U	1
Toluene	108-88-3	<0.00198	0.00198	0.000452	mg/kg	01.10.20 13:14	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	0.000560	mg/kg	01.10.20 13:14	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	0.00101	mg/kg	01.10.20 13:14	U	1
o-Xylene	95-47-6	<0.00198	0.00198	0.000342	mg/kg	01.10.20 13:14	U	1
Total Xylenes	1330-20-7	<0.00198		0.000342	mg/kg	01.10.20 13:14	U	
Total BTEX		<0.00198		0.000342	mg/kg	01.10.20 13:14	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	108	70 - 130	%		
4-Bromofluorobenzene	85	70 - 130	%		



Certificate of Analytical Results

647938



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: NESW1

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 647938-022

Date Collected: 01.02.20 10.30

Date Received: 01.06.20 10.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112470

Date Prep: 01.06.20 14.30

Prep seq: 7693775

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	848	5.05	0.867	mg/kg	01.06.20 19:15		1

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3112551

Date Prep: 01.06.20 14.00

Prep seq: 7693789

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	15.0	mg/kg	01.06.20 23:19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	15.0	mg/kg	01.06.20 23:19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	15.0	mg/kg	01.06.20 23:19	U	1
Total TPH	PHC635	<50.0		15.0	mg/kg	01.06.20 23:19	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	114	70 - 135	%		
o-Terphenyl	115	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112950

Date Prep: 01.10.20 10.15

Prep seq: 7694088

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00200	0.00200	0.000384	mg/kg	01.10.20 13:34	U	1
Toluene	108-88-3	<0.00200	0.00200	0.000455	mg/kg	01.10.20 13:34	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	0.000564	mg/kg	01.10.20 13:34	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	0.00101	mg/kg	01.10.20 13:34	U	1
o-Xylene	95-47-6	<0.00200	0.00200	0.000344	mg/kg	01.10.20 13:34	U	1
Total Xylenes	1330-20-7	<0.00200		0.000344	mg/kg	01.10.20 13:34	U	
Total BTEX		<0.00200		0.000344	mg/kg	01.10.20 13:34	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	105	70 - 130	%		
4-Bromofluorobenzene	76	70 - 130	%		



Certificate of Analytical Results



647938

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: NESW2b

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 647938-023

Date Collected: 01.02.20 12.40

Date Received: 01.06.20 10.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112470

Date Prep: 01.06.20 14.30

Prep seq: 7693775

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	230	5.05	0.867	mg/kg	01.06.20 20:35		1

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3112551

Date Prep: 01.06.20 14.00

Prep seq: 7693789

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	15.0	mg/kg	01.06.20 23:40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	15.0	mg/kg	01.06.20 23:40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	15.0	mg/kg	01.06.20 23:40	U	1
Total TPH	PHC635	<49.9		15.0	mg/kg	01.06.20 23:40	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	113	70 - 135	%		
o-Terphenyl	113	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112950

Date Prep: 01.10.20 10.15

Prep seq: 7694088

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00200	0.00200	0.000384	mg/kg	01.10.20 13:55	U	1
Toluene	108-88-3	<0.00200	0.00200	0.000455	mg/kg	01.10.20 13:55	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	0.000564	mg/kg	01.10.20 13:55	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	0.00101	mg/kg	01.10.20 13:55	U	1
o-Xylene	95-47-6	<0.00200	0.00200	0.000344	mg/kg	01.10.20 13:55	U	1
Total Xylenes	1330-20-7	<0.00200		0.000344	mg/kg	01.10.20 13:55	U	
Total BTEX		<0.00200		0.000344	mg/kg	01.10.20 13:55	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	105	70 - 130	%		
4-Bromofluorobenzene	82	70 - 130	%		



Certificate of Analytical Results

647938

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: NESW3

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 647938-024

Date Collected: 01.02.20 10.50

Date Received: 01.06.20 10.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112470

Date Prep: 01.06.20 14.30

Prep seq: 7693775

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	125	4.98	0.855	mg/kg	01.06.20 20:42		1

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3112551

Date Prep: 01.06.20 14.00

Prep seq: 7693789

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	15.0	mg/kg	01.07.20 00:01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	15.0	mg/kg	01.07.20 00:01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	15.0	mg/kg	01.07.20 00:01	U	1
Total TPH	PHC635	<50.0		15.0	mg/kg	01.07.20 00:01	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	113	70 - 135	%		
o-Terphenyl	113	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112950

Date Prep: 01.10.20 10.15

Prep seq: 7694088

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00200	0.00200	0.000385	mg/kg	01.10.20 14:15	U	1
Toluene	108-88-3	<0.00200	0.00200	0.000456	mg/kg	01.10.20 14:15	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	0.000565	mg/kg	01.10.20 14:15	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	0.00101	mg/kg	01.10.20 14:15	U	1
o-Xylene	95-47-6	<0.00200	0.00200	0.000344	mg/kg	01.10.20 14:15	U	1
Total Xylenes	1330-20-7	<0.00200		0.000344	mg/kg	01.10.20 14:15	U	
Total BTEX		<0.00200		0.000344	mg/kg	01.10.20 14:15	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	106	70 - 130	%		
4-Bromofluorobenzene	85	70 - 130	%		



Certificate of Analytical Results

647938

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: NESW4

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 647938-025

Date Collected: 01.02.20 11.00

Date Received: 01.06.20 10.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112470

Date Prep: 01.06.20 14.30

Prep seq: 7693775

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	590	5.00	0.858	mg/kg	01.06.20 20:48		1

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3112551

Date Prep: 01.06.20 14.00

Prep seq: 7693789

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	15.0	mg/kg	01.07.20 00:22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	15.0	mg/kg	01.07.20 00:22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	15.0	mg/kg	01.07.20 00:22	U	1
Total TPH	PHC635	<49.9		15.0	mg/kg	01.07.20 00:22	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	114	70 - 135	%		
o-Terphenyl	114	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112950

Date Prep: 01.10.20 10.15

Prep seq: 7694088

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00199	0.00199	0.000383	mg/kg	01.10.20 14:35	U	1
Toluene	108-88-3	<0.00199	0.00199	0.000453	mg/kg	01.10.20 14:35	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	0.000561	mg/kg	01.10.20 14:35	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	0.00101	mg/kg	01.10.20 14:35	U	1
o-Xylene	95-47-6	<0.00199	0.00199	0.000342	mg/kg	01.10.20 14:35	U	1
Total Xylenes	1330-20-7	<0.00199		0.000342	mg/kg	01.10.20 14:35	U	
Total BTEX		<0.00199		0.000342	mg/kg	01.10.20 14:35	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	105	70 - 130	%		
4-Bromofluorobenzene	92	70 - 130	%		



Certificate of Analytical Results

647938



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: 7693773-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7693773-1-BLK

Date Collected:

Date Received:

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112468

Date Prep: 01.06.20 12.50

Prep seq: 7693773

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<5.00	5.00	0.858	mg/kg	01.06.20 15:16	U	1

Sample Id: 7693774-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7693774-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112541

Date Prep: 01.06.20 14.45

Prep seq: 7693774

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00200	0.00200	0.000385	mg/kg	01.07.20 06:01	U	1
Toluene	108-88-3	<0.00200	0.00200	0.000456	mg/kg	01.07.20 06:01	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	0.000565	mg/kg	01.07.20 06:01	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	0.00101	mg/kg	01.07.20 06:01	U	1
o-Xylene	95-47-6	<0.00200	0.00200	0.000344	mg/kg	01.07.20 06:01	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	109	70 - 130	%		
4-Bromofluorobenzene	93	70 - 130	%		

Sample Id: 7693775-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7693775-1-BLK

Date Collected:

Date Received:

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112470

Date Prep: 01.06.20 14.30

Prep seq: 7693775

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<5.00	5.00	0.858	mg/kg	01.06.20 18:55	U	1



Certificate of Analytical Results

647938



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: 7693788-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7693788-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3112818

Date Prep: 01.06.20 14.00

Prep seq: 7693788

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	15.0	mg/kg	01.07.20 12:32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	15.0	mg/kg	01.07.20 12:32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	15.0	mg/kg	01.07.20 12:32	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	104	70 - 135	%		
o-Terphenyl	104	70 - 135	%		

Sample Id: 7693789-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7693789-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3112551

Date Prep: 01.06.20 14.00

Prep seq: 7693789

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	15.0	mg/kg	01.06.20 15:57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	15.0	mg/kg	01.06.20 15:57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	15.0	mg/kg	01.06.20 15:57	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	98	70 - 135	%		
o-Terphenyl	98	70 - 135	%		



Certificate of Analytical Results

647938

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: 7694088-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7694088-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112950

Date Prep: 01.10.20 10.15

Prep seq: 7694088

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00200	0.00200	0.000385	mg/kg	01.10.20 12:34	U	1
Toluene	108-88-3	<0.00200	0.00200	0.000456	mg/kg	01.10.20 12:34	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	0.000565	mg/kg	01.10.20 12:34	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	0.00101	mg/kg	01.10.20 12:34	U	1
o-Xylene	95-47-6	<0.00200	0.00200	0.000344	mg/kg	01.10.20 12:34	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	98	70 - 130	%		
4-Bromofluorobenzene	82	70 - 130	%		



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



Form 2 - Surrogate Recoveries

Project Name: VGWU Sat 4

Work Orders 647938,

Project ID:

Lab Batch #: 3112541

Sample: 7693774-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/07/20 03:51

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0338	0.0300	113	70-130	
4-Bromofluorobenzene	0.0290	0.0300	97	70-130	

Lab Batch #: 3112541

Sample: 7693774-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/07/20 04:11

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0344	0.0300	115	70-130	
4-Bromofluorobenzene	0.0317	0.0300	106	70-130	

Lab Batch #: 3112541

Sample: 647938-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/07/20 04:32

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0345	0.0300	115	70-130	
4-Bromofluorobenzene	0.0305	0.0300	102	70-130	

Lab Batch #: 3112541

Sample: 647938-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/07/20 04:52

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0333	0.0300	111	70-130	
4-Bromofluorobenzene	0.0302	0.0300	101	70-130	

Lab Batch #: 3112541

Sample: 7693774-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/07/20 06:01

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0327	0.0300	109	70-130	
4-Bromofluorobenzene	0.0280	0.0300	93	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: VGWU Sat 4

Work Orders 647938,

Project ID:

Lab Batch #: 3112950

Sample: 7694088-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/10/20 10:35

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0314	0.0300	105	70-130	
4-Bromofluorobenzene	0.0272	0.0300	91	70-130	

Lab Batch #: 3112950

Sample: 7694088-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/10/20 10:55

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0309	0.0300	103	70-130	
4-Bromofluorobenzene	0.0283	0.0300	94	70-130	

Lab Batch #: 3112950

Sample: 648064-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/10/20 11:15

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0322	0.0300	107	70-130	
4-Bromofluorobenzene	0.0308	0.0300	103	70-130	

Lab Batch #: 3112950

Sample: 648064-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/10/20 11:35

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0320	0.0300	107	70-130	
4-Bromofluorobenzene	0.0302	0.0300	101	70-130	

Lab Batch #: 3112950

Sample: 7694088-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/10/20 12:34

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0294	0.0300	98	70-130	
4-Bromofluorobenzene	0.0247	0.0300	82	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: VGWU Sat 4

Work Orders 647938,

Project ID:

Lab Batch #: 3112551

Sample: 7693789-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/06/20 15:57

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.6	100	98	70-135	
o-Terphenyl	48.9	50.0	98	70-135	

Lab Batch #: 3112551

Sample: 7693789-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/06/20 16:18

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	125	100	125	70-135	
o-Terphenyl	53.4	50.0	107	70-135	

Lab Batch #: 3112551

Sample: 7693789-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/06/20 16:39

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	115	100	115	70-135	
o-Terphenyl	53.2	50.0	106	70-135	

Lab Batch #: 3112551

Sample: 647939-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/06/20 17:21

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	123	99.7	123	70-135	
o-Terphenyl	59.2	49.9	119	70-135	

Lab Batch #: 3112551

Sample: 647939-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/06/20 17:42

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	124	99.9	124	70-135	
o-Terphenyl	59.6	50.0	119	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: VGWU Sat 4

Work Orders 647938,

Project ID:

Lab Batch #: 3112818

Sample: 7693788-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/07/20 12:32

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	
o-Terphenyl	51.9	50.0	104	70-135	

Lab Batch #: 3112818

Sample: 7693788-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/07/20 12:53

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	
o-Terphenyl	52.6	50.0	105	70-135	

Lab Batch #: 3112818

Sample: 7693788-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/07/20 13:14

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	130	100	130	70-135	
o-Terphenyl	56.8	50.0	114	70-135	

Lab Batch #: 3112818

Sample: 647938-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/07/20 13:56

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	99.7	110	70-135	
o-Terphenyl	47.5	49.9	95	70-135	

Lab Batch #: 3112818

Sample: 647938-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/07/20 14:17

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	137	99.6	138	70-135	**
o-Terphenyl	64.3	49.8	129	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



BS / BSD Recoveries



Project Name: VGWU Sat 4

Work Order #: 647938

Analyst: KTL

Date Prepared: 01/06/2020

Project ID:

Date Analyzed: 01/07/2020

Lab Batch ID: 3112541

Sample: 7693774-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.00200	0.100	0.130	130	0.100	0.121	121	7	70-130	35	
Toluene	<0.00200	0.100	0.115	115	0.100	0.109	109	5	70-130	35	
Ethylbenzene	<0.00200	0.100	0.112	112	0.100	0.107	107	5	70-130	35	
m,p-Xylenes	<0.00400	0.200	0.228	114	0.200	0.219	110	4	70-130	35	
o-Xylene	<0.00200	0.100	0.113	113	0.100	0.111	111	2	70-130	35	

Analyst: KTL

Date Prepared: 01/10/2020

Date Analyzed: 01/10/2020

Lab Batch ID: 3112950

Sample: 7694088-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000385	0.100	0.120	120	0.100	0.117	117	3	70-130	35	
Toluene	<0.000456	0.100	0.109	109	0.100	0.107	107	2	70-130	35	
Ethylbenzene	<0.000565	0.100	0.102	102	0.100	0.102	102	0	70-130	35	
m,p-Xylenes	<0.00101	0.200	0.200	100	0.200	0.198	99	1	70-130	35	
o-Xylene	<0.000344	0.100	0.0988	99	0.100	0.0982	98	1	70-130	35	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$ Blank Spike Recovery [D] = $100 * (C)/[B]$ Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries



Project Name: VGWU Sat 4

Work Order #: 647938

Analyst: CHE

Date Prepared: 01/06/2020

Project ID:

Date Analyzed: 01/06/2020

Lab Batch ID: 3112468

Sample: 7693773-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<5.00	250	261	104	250	261	104	0	90-110	20	

Analyst: CHE

Date Prepared: 01/06/2020

Date Analyzed: 01/06/2020

Lab Batch ID: 3112470

Sample: 7693775-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<0.858	250	256	102	250	258	103	1	90-110	20	

Analyst: DVM

Date Prepared: 01/06/2020

Date Analyzed: 01/07/2020

Lab Batch ID: 3112818

Sample: 7693788-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	15.0	2	1000	926	93	194	70-135	20	LF
Diesel Range Organics (DRO)	<15.0	1000	38.0	4	1000	936	94	184	70-135	20	LF

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$ Blank Spike Recovery [D] = $100 * (C)/[B]$ Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries



Project Name: VGWU Sat 4

Work Order #: 647938

Project ID:

Analyst: DVM

Date Prepared: 01/06/2020

Date Analyzed: 01/06/2020

Lab Batch ID: 3112551

Sample: 7693789-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	885	89	1000	896	90	1	70-135	20	
Diesel Range Organics (DRO)	<15.0	1000	903	90	1000	891	89	1	70-135	20	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$ Blank Spike Recovery [D] = $100 * (C)/[B]$ Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



Form 3 - MS / MSD Recoveries



Project Name: VGWU Sat 4

Work Order #: 647938

Project ID:

Lab Batch ID: 3112541

QC- Sample ID: 647938-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01/07/2020

Date Prepared: 01/06/2020

Analyst: KTL

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00198	0.0992	0.0901	91	0.0996	0.0725	73	22	70-130	35	
Toluene	<0.00198	0.0992	0.0790	80	0.0996	0.0663	67	17	70-130	35	X
Ethylbenzene	<0.00198	0.0992	0.0750	76	0.0996	0.0636	64	16	70-130	35	X
m,p-Xylenes	<0.00397	0.198	0.150	76	0.199	0.128	64	16	70-130	35	X
o-Xylene	<0.00198	0.0992	0.0748	75	0.0996	0.0648	65	14	70-130	35	X

Lab Batch ID: 3112950

QC- Sample ID: 648064-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01/10/2020

Date Prepared: 01/10/2020

Analyst: KTL

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000383	0.0996	0.105	105	0.0992	0.105	106	0	70-130	35	
Toluene	0.000618	0.0996	0.0999	100	0.0992	0.102	102	2	70-130	35	
Ethylbenzene	<0.000563	0.0996	0.0945	95	0.0992	0.0972	98	3	70-130	35	
m,p-Xylenes	<0.00101	0.199	0.187	94	0.198	0.192	97	3	70-130	35	
o-Xylene	0.000369	0.0996	0.0941	94	0.0992	0.0958	96	2	70-130	35	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
 Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
 N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Form 3 - MS / MSD Recoveries



Project Name: VGWU Sat 4

Work Order #: 647938

Project ID:

Lab Batch ID: 3112468

QC- Sample ID: 647929-079 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01/06/2020

Date Prepared: 01/06/2020

Analyst: CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	2.78	250	270	107	250	268	106	1	90-110	20	

Lab Batch ID: 3112468

QC- Sample ID: 647938-008 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01/06/2020

Date Prepared: 01/06/2020

Analyst: CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	18.7	248	278	105	248	277	104	0	90-110	20	

Lab Batch ID: 3112470

QC- Sample ID: 647938-022 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01/06/2020

Date Prepared: 01/06/2020

Analyst: CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	848	253	1090	96	253	1170	127	7	90-110	20	X

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
 Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
 N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Form 3 - MS / MSD Recoveries



Project Name: VGWU Sat 4

Work Order #: 647938

Project ID:

Lab Batch ID: 3112470

QC- Sample ID: 647938-025 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01/06/2020

Date Prepared: 01/06/2020

Analyst: CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	590	250	813	89	250	815	90	0	90-110	20	X

Lab Batch ID: 3112551

QC- Sample ID: 647939-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01/06/2020

Date Prepared: 01/06/2020

Analyst: DVM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	997	904	91	999	917	92	1	70-135	20	
Diesel Range Organics (DRO)	<15.0	997	914	92	999	922	92	1	70-135	20	

Lab Batch ID: 3112818

QC- Sample ID: 647938-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01/07/2020

Date Prepared: 01/06/2020

Analyst: DVM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	19.5	997	737	72	996	988	97	29	70-135	20	F
Diesel Range Organics (DRO)	<15.0	997	762	76	996	1050	105	32	70-135	20	F

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
 Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
 N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Chain of Custody

Work Order No: 7

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3333
Midland, TX (432-704-5440) El Paso, TX (915) 565-3443 Lubbock, TX (806) 794-1296
Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813)
Hobbs, NM (575-392-7550)

Page 1 of 3
www.xenco.com

Project Manager:	daniel dominguez	Bill to: (if different)	Jason Michelson
Company Name:	Etech Environmental	Company Name:	Chevron Environmental Management
Address:	3100 Plains Hwy	Address:	1500 Louisiana St. Office 38116
City, State ZIP:	Livingston, NM 88260	City, State ZIP:	Houston, TX 77002
Phone:	832-854-5601	Email:	imichelson@chevron.com; daniel@etechnv.com

Work Order Comments	
Program: UST/ST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐	
State of Project:	
Reporting Level II ☐ Level III ☐ PST/UST ☐ RRP ☐ Level IV ☐	
Deliverables: EDD ☐ ADAPT ☐ Other:	

Project Name:		VGWU Sat 4		Turn Around		ANALYSIS REQUEST														Work Order Notes																					
Project Number:				Routine ☐																																					
P.O. Number:				Rush: no																																					
Sampler's Name:		Daniel Dominguez		Due Date:																																					
SAMPLE RECEIPT				Temp Blank: Yes ☒ No ☒		Wet Ice: Yes ☒ No ☒																																			
Temperature (°C):		D.C.		Thermometer: D																																					
Received Intact:		Yes ☒ No ☒																																							
Cooler Custody Seals:		Yes ☒ No ☒		Correction Factor: 0																																					
Sample Custody Seals:		Yes ☒ No ☒		Total Containers:																																					
Sample Identification				Matrix		Date Sampled		Time Sampled		Depth		Number of Containers										Sample Comments																			
												Chloride										TAT starts the day received by the lab, if received by 4:30pm																			
												BTEX																													
												TPH																													
Floor22				Soil		2-Jan-20		11:10		2		1																													
Floor23				Soil		2-Jan-20		11:20		2		1																													
Floor24				Soil		2-Jan-20		11:30		2		1																													
Floor25				Soil		2-Jan-20		11:40		2		1																													
Floor26				Soil		2-Jan-20		11:50		2		1																													
Floor27				Soil		2-Jan-20		12:30		2		1																													
Floor28				Soil		2-Jan-20		12:40		2		1																													
Floor29				Soil		2-Jan-20		12:50		2		1																													
NEFloor1				Soil		2-Jan-20		13:00		1		1																													
NEFloor2				Soil		2-Jan-20		13:10		1		1																													
Total 200.7 / 6010 200.8 / 6020:																																									
Circle Method(s) and Metal(s) to be analyzed																																									
				8RCRA		13PPM		Texas 11				Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn																													
												TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U										1631 / 245.1 / 7470 / 7471 : Hg																			
Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. 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 Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.																																									
																		Relinquished by: (Signature)				Received by: (Signature)				Date/Time				Relinquished by: (Signature)				Received by: (Signature)				Date/Time			
																		1 <i>[Signature]</i>				Nicolas Rivera				3/28/30				3/28/30				Nicolas Rivera				3/28/30			
																		3								4															
																		5								6															



Chain of Custody

Work Order No:

10417938

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
Midland, TX (432-704-5440) EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296

Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

www.xenco.com Page 2 of 3

Project Manager:	daniel dominquez	Bill to: (if different)	Jason Michelson
Company Name:	Etech Environmental	Company Name:	Chevron Environmental Management
Address:	3100 Plains Hwy	Address:	1500 Louisiana St. Office 38116
City, State ZIP:	Lovington, NM 88260	City, State ZIP:	Houston, TX 77002
Phone:	832-854-5601	Email:	imichelson@chevron.com, daniel@etechenv.com

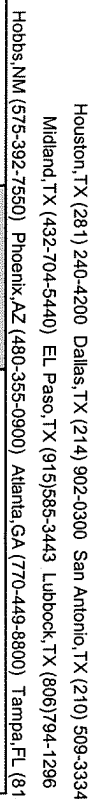
Work Order Comments Program: ☐ UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐ State of Project:	
Reporting Level II ☐	Level III ☐
PST/UST ☐	RRP ☐
Level IV ☐	
Deliverables: EDD ☐	ADAPT ☐
Other:	

Project Name:	VGWU Sat 4	Turn Around	ANALYSIS REQUEST																Work Order Notes				
Project Number:		Routine ☐																					
P.O. Number:		Rush: no																					
Sampler's Name:	Daniel Dominguez	Due Date:																					
SAMPLE RECEIPT			Temp Blank:	Yes ☐ No ☒	Well Ice:	Yes ☐ No ☒																	
Temperature (°C):	0.4	Thermometer ID:																					
Received In tact:	Yes ☒ No ☐	Correction Factor:																					
Cooler Custody Seals:	Yes ☐ No ☒	Total Containers:																					
Sample Custody Seals:	Yes ☐ No ☒																						
Sample Identification			Matrix	Date Sampled	Time Sampled	Depth	Number of Containers																TAT starts the day received by the lab, if received by 4:30pm
							Chloride	BTEX	TPH														
SW12	Soil	2-Jan-20	13:20	2	1	X	X	X	X														
SW13	Soil	2-Jan-20	13:30	2	1	X	X	X	X														
SW14	Soil	2-Jan-20	13:40	2	1	X	X	X	X														
SW15	Soil	2-Jan-20	13:50	2	1	X	X	X	X														
SW16	Soil	2-Jan-20	14:00	2	1	X	X	X	X														
SW17	Soil	2-Jan-20	14:10	2	1	X	X	X	X														
SW18	Soil	2-Jan-20	14:20	2	1	X	X	X	X														
SW19	Soil	2-Jan-20	14:30	2	1	X	X	X	X														
SW20	Soil	2-Jan-20	14:40	2	1	X	X	X	X														
SW21	Soil	2-Jan-20	14:50	2	1	X	X	X	X														

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 SiO2 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 1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. 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 Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1					
2					
3					
4					
5					



Chain of Custody

Work Order No:

047938

www.xenco.com Page 3 of 3

Project Manager:		daniel.dominguez	Bill to: (if different)	Jason Michelson
Company Name:		Etech Environmental	Company Name:	Chevron Environmental Management
Address:		3100 Plains Hwy	Address:	1500 Louisiana St. Office 38116
City, State ZIP:		Livingston, NM 88260	City, State ZIP:	Houston, TX 77002
Phone:		832-854-5601	Email:	imichelson@chevron.com; daniel@etechenv.com

Work Order Comments Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐ State of Project: Reporting Level II ☐ Level III ☐ PST/UST ☐ RRP ☐ Level IV ☐ Deliverables: EDD ☐ ADAPT ☐ Other:	
--	--

[illegible]

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	SiO2	Na	Sr	Ti	Sn	U	V	Zn
<i>Circle Method(s) and Metal(s) to be analyzed</i>		TCLP / SPLP	6010:	8RCRA	Sb	As	Ba	Be	B	Cd	Cr	Co	Cu	Pb	Mn	Mo	Ni	Se	Ag	Ti	U												

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. 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 Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

1631 / 245.1 / 7470 / 7471 : Hg

Revised Date 051418 Rev. 2018.1

Form # 100140-404 RITE EXP 0720



41 MAFB

TX-US LBB

MAFA

HLD

PRIORITY OVERNIGHT

SATURDAY HOLD

TRK# 4705 2522 5666

0201



551C2/1800/104C

51811886501uv

REF: (432) 563-1800

DEPT:

MIDLAND TX 79711

3600 COUNTY ROAD 1276 SOUTH

FEDEx EXPRESS SHIP CENTER

FEDEx EXPRESS SHIP CENTER

XENCO LABORATORIES HOLD FOR PICK UP

TO

UNITED STATES US

HOBBS, NM 88240

MAIL SERVICES ETC, LLC

4008 N GRIMES

ORIGIN ID: HOBBS (5/5) 392-7550

SHIP DATE: 03JAN20

ACTWGT: 11.00 LB MAN

CAD: 0909328/CAFE3211

DIMS: 13x11x11 IN

BILL RECIPIENT



Client: Etech Environmental & Safety Solution, I

Date/ Time Received: 01/06/2020 10:15:00 AM

Work Order #: 647938

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	.6
#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
#18 Water VOC samples have zero headspace?	Yes

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Brianna Teel

Date: 01/06/2020

Checklist reviewed by:

Jessica Kramer

Date: 01/09/2020

Analytical Report 648462

for
Etech Environmental & Safety Solution, Inc

Project Manager: Daniel Dominguez

VGWU Sat 4

14-JAN-20

Collected By: Client



1211 W. Florida Ave
Midland TX 79701

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-JAN-20

Project Manager: **Daniel Dominguez**
Etech Environmental & Safety Solution, Inc
P.O. Box 8469
Midland, TX 79708

Reference: XENCO Report No(s): **648462**
VGWU Sat 4
Project Address:

Daniel Dominguez:

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) 648462. 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. 648462 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,

A handwritten signature in black ink that reads 'Jessica Kramer'.

Jessica Kramer

Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

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



Sample Cross Reference 648462

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Pad1	S	01-07-20 08:00	2 In	648462-001
Pad2	S	01-07-20 08:05	2 In	648462-002
Pad3	S	01-07-20 08:10	2 In	648462-003
Pad4	S	01-07-20 08:15	2 In	648462-004
Pad5	S	01-07-20 08:20	2 In	648462-005
Pad6	S	01-07-20 08:25	2 In	648462-006
Pad7	S	01-07-20 08:30	2 In	648462-007
Pad8	S	01-07-20 08:35	2 In	648462-008
Pad9	S	01-07-20 08:40	2 In	648462-009
Pad10	S	01-07-20 08:45	2 In	648462-010
Pad11	S	01-07-20 08:50	2 In	648462-011
Pad12	S	01-07-20 08:55	2 In	648462-012
Pad13	S	01-07-20 09:00	2 In	648462-013
Pad14	S	01-07-20 09:05	2 In	648462-014
Pad15	S	01-07-20 09:10	2 In	648462-015
Pad16	S	01-07-20 09:15	2 In	648462-016
Pad17	S	01-07-20 09:20	2 In	648462-017
Pad18	S	01-07-20 09:25	2 In	648462-018
Pad19	S	01-07-20 09:30	2 In	648462-019
Pad20	S	01-07-20 09:35	2 In	648462-020
Pad21	S	01-07-20 09:40	2 In	648462-021
Pad22	S	01-07-20 09:45	2 In	648462-022
Pad23	S	01-07-20 09:50	2 In	648462-023
Pad24	S	01-07-20 10:00	2 In	648462-024
Pad25	S	01-07-20 10:05	2 In	648462-025
Pad26	S	01-07-20 10:10	2 In	648462-026
Pad27	S	01-07-20 10:15	2 In	648462-027
Pad28	S	01-07-20 10:20	2 In	648462-028
Pad29	S	01-07-20 10:25	2 In	648462-029
Pad30	S	01-07-20 10:30	2 In	648462-030
Pad31	S	01-07-20 10:35	2 In	648462-031
Pad32	S	01-07-20 10:40	2 In	648462-032
Pad33	S	01-07-20 10:45	2 In	648462-033
Pad34	S	01-07-20 10:50	2 In	648462-034
Pad35	S	01-07-20 10:55	2 In	648462-035
Pad36	S	01-07-20 11:00	2 In	648462-036
Pad37	S	01-07-20 11:05	2 In	648462-037
Pad38	S	01-07-20 11:10	2 In	648462-038
Pad39	S	01-07-20 11:15	2 In	648462-039
Pad40	S	01-07-20 11:20	2 In	648462-040
Pad41	S	01-07-20 11:25	2 In	648462-041
Pad42	S	01-07-20 11:30	2 In	648462-042
Pad43	S	01-07-20 11:35	2 In	648462-043



Sample Cross Reference 648462

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Pad44	S	01-07-20 11:40	2 In	648462-044
Pad45	S	01-07-20 11:45	2 In	648462-045
Pad46	S	01-07-20 11:50	2 In	648462-046
Pad47	S	01-07-20 11:55	2 In	648462-047
Pad48	S	01-07-20 12:05	2 In	648462-048
Pad49	S	01-07-20 12:10	2 In	648462-049
Pad50	S	01-07-20 12:15	2 In	648462-050
Pad51	S	01-07-20 12:20	2 In	648462-051
Pad52	S	01-07-20 12:25	2 In	648462-052
Pad53	S	01-07-20 12:30	2 In	648462-053
Pad54	S	01-07-20 12:35	2 In	648462-054
Pad55	S	01-07-20 12:40	2 In	648462-055
Pad56	S	01-07-20 12:45	2 In	648462-056
Pad57	S	01-07-20 12:55	2 In	648462-057
Pad58	S	01-07-20 13:05	2 In	648462-058
Pad59	S	01-07-20 13:00	2 In	648462-059
Pad60	S	01-07-20 13:05	2 In	648462-060
Pad61	S	01-07-20 13:10	2 In	648462-061
Pad62	S	01-07-20 13:15	2 In	648462-062
Pad63	S	01-07-20 13:20	2 In	648462-063
Pad64	S	01-07-20 13:25	2 In	648462-064
Pad65	S	01-07-20 13:30	2 In	648462-065
Pad66	S	01-07-20 13:35	2 In	648462-066
Pad67	S	01-07-20 13:40	2 In	648462-067
Pad68	S	01-07-20 13:45	2 In	648462-068
Pad69	S	01-07-20 13:50	2 In	648462-069
Pad70	S	01-07-20 13:55	2 In	648462-070
Pad71	S	01-07-20 14:00	2 In	648462-071
Pad72	S	01-07-20 14:05	2 In	648462-072
Pad73	S	01-07-20 14:10	2 In	648462-073
Pad74	S	01-07-20 14:15	2 In	648462-074
Pad75	S	01-07-20 14:20	2 In	648462-075
Pad76	S	01-07-20 14:25	2 In	648462-076
Pad77	S	01-07-20 14:30	2 In	648462-077
Pad78	S	01-07-20 14:35	2 In	648462-078
Pad79	S	01-07-20 14:40	2 In	648462-079
Pad80	S	01-07-20 14:45	2 In	648462-080
Pad81	S	01-07-20 14:50	2 In	648462-081
Pad82	S	01-07-20 14:55	2 In	648462-082
Pad83	S	01-07-20 15:00	2 In	648462-083
Pad84	S	01-07-20 15:05	2 In	648462-084
Pad85	S	01-07-20 15:10	2 In	648462-085
Pad86	S	01-07-20 15:15	2 In	648462-086
Pad87	S	01-07-20 15:20	2 In	648462-087



Sample Cross Reference 648462

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Pad88

S

01-07-20 15:25

2 In

648462-088



CASE NARRATIVE

Client Name: Etech Environmental & Safety Solution, Inc

Project Name: VGWU Sat 4

Project ID:
Work Order Number(s): 648462

Report Date: 14-JAN-20
Date Received: 01/09/2020

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3112949 Chloride by EPA 300

Lab Sample ID 648462-026 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: 648462-011, -012, -013, -014, -015, -016, -017, -018, -019, -020, -021, -022, -023, -024, -025, -026, -027, -028, -029, -030.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3112999 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Certificate of Analytical Results

648462



Etech Environmental & Safety Solution, Inc, Midland, TX
VGWU Sat 4

Sample Id: **Pad1** Matrix: Soil Sample Depth: 2 In
Lab Sample Id: 648462-001 Date Collected: 01.07.20 08.00 Date Received: 01.09.20 11.34
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3112923 Date Prep: 01.09.20 16.30
Prep seq: 7694046

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	12600	99.2	17.0	mg/kg	01.10.20 11:22		20

Sample Id: **Pad2** Matrix: Soil Sample Depth: 2 In
Lab Sample Id: 648462-002 Date Collected: 01.07.20 08.05 Date Received: 01.09.20 11.34
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3112923 Date Prep: 01.09.20 16.30
Prep seq: 7694046

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1830	25.0	4.28	mg/kg	01.10.20 11:42		5

Sample Id: **Pad3** Matrix: Soil Sample Depth: 2 In
Lab Sample Id: 648462-003 Date Collected: 01.07.20 08.10 Date Received: 01.09.20 11.34
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3112923 Date Prep: 01.09.20 16.30
Prep seq: 7694046

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	8840	49.7	8.53	mg/kg	01.10.20 11:49		10

Sample Id: **Pad4** Matrix: Soil Sample Depth: 2 In
Lab Sample Id: 648462-004 Date Collected: 01.07.20 08.15 Date Received: 01.09.20 11.34
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3112923 Date Prep: 01.09.20 16.30
Prep seq: 7694046

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	99.8	5.02	0.862	mg/kg	01.10.20 00:02		1



Certificate of Analytical Results

648462

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **Pad5** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-005 Date Collected: 01.07.20 08.20 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112923 Date Prep: 01.09.20 16.30
 Prep seq: 7694046

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	7960	50.2	8.62	mg/kg	01.10.20 11:55		10

Analytical Method: TPH By SW8015 Mod Prep Method: 8015
 Analyst: DVM % Moist: Tech: DVM
 Seq Number: 3113152 Date Prep: 01.10.20 14.00
 Prep seq: 7694130

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	15.0	mg/kg	01.11.20 03:28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	15.0	mg/kg	01.11.20 03:28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	15.0	mg/kg	01.11.20 03:28	U	1
Total TPH	PHC635	<50.0		15.0	mg/kg	01.11.20 03:28	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	100	70 - 135	%		
o-Terphenyl	98	70 - 135	%		

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
 Analyst: KTL % Moist: Tech: KTL
 Seq Number: 3112999 Date Prep: 01.11.20 13.00
 Prep seq: 7694159

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00199	0.00199	0.000383	mg/kg	01.11.20 19:21	U	1
Toluene	108-88-3	<0.00199	0.00199	0.000454	mg/kg	01.11.20 19:21	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	0.000563	mg/kg	01.11.20 19:21	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	0.00101	mg/kg	01.11.20 19:21	U	1
o-Xylene	95-47-6	<0.00199	0.00199	0.000343	mg/kg	01.11.20 19:21	U	1
Total Xylenes	1330-20-7	<0.00199		0.000343	mg/kg	01.11.20 19:21	U	
Total BTEX		<0.00199		0.000343	mg/kg	01.11.20 19:21	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	111	70 - 130	%		
4-Bromofluorobenzene	115	70 - 130	%		



Certificate of Analytical Results

648462

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **Pad6** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-006 Date Collected: 01.07.20 08.25 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112923 Date Prep: 01.09.20 16.30
 Prep seq: 7694046

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1560	24.8	4.26	mg/kg	01.10.20 12:02		5

Sample Id: **Pad7** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-007 Date Collected: 01.07.20 08.30 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112923 Date Prep: 01.09.20 16.30
 Prep seq: 7694046

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	11400	49.9	8.57	mg/kg	01.10.20 12:09		10

Sample Id: **Pad8** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-008 Date Collected: 01.07.20 08.35 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112923 Date Prep: 01.09.20 16.30
 Prep seq: 7694046

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	20600	250	42.9	mg/kg	01.10.20 12:16		50

Sample Id: **Pad9** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-009 Date Collected: 01.07.20 08.40 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112923 Date Prep: 01.09.20 16.30
 Prep seq: 7694046

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1240	4.98	0.855	mg/kg	01.10.20 10:55		1



Certificate of Analytical Results

648462



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **Pad10** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-010 Date Collected: 01.07.20 08.45 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112923 Date Prep: 01.09.20 16.30
 Prep seq: 7694046

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	10800	50.3	8.64	mg/kg	01.10.20 12:22		10

Sample Id: **Pad11** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-011 Date Collected: 01.07.20 08.50 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112949 Date Prep: 01.09.20 16.40
 Prep seq: 7694048

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	14100	250	42.8	mg/kg	01.10.20 14:54		50

Sample Id: **Pad12** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-012 Date Collected: 01.07.20 08.55 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112949 Date Prep: 01.09.20 16.40
 Prep seq: 7694048

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	12900	99.2	17.0	mg/kg	01.10.20 15:01		20

Sample Id: **Pad13** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-013 Date Collected: 01.07.20 09.00 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112949 Date Prep: 01.09.20 16.40
 Prep seq: 7694048

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	11700	49.8	8.55	mg/kg	01.10.20 15:08		10



Certificate of Analytical Results

648462



Etech Environmental & Safety Solution, Inc, Midland, TX
VGWU Sat 4

Sample Id: **Pad14** Matrix: Soil Sample Depth: 2 In
Lab Sample Id: 648462-014 Date Collected: 01.07.20 09.05 Date Received: 01.09.20 11.34
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3112949 Date Prep: 01.09.20 16.40
Prep seq: 7694048

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	5130	24.8	4.25	mg/kg	01.10.20 15:14		5

Sample Id: **Pad15** Matrix: Soil Sample Depth: 2 In
Lab Sample Id: 648462-015 Date Collected: 01.07.20 09.10 Date Received: 01.09.20 11.34
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3112949 Date Prep: 01.09.20 16.40
Prep seq: 7694048

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	3390	25.0	4.29	mg/kg	01.10.20 15:34		5

Sample Id: **Pad16** Matrix: Soil Sample Depth: 2 In
Lab Sample Id: 648462-016 Date Collected: 01.07.20 09.15 Date Received: 01.09.20 11.34
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3112949 Date Prep: 01.09.20 16.40
Prep seq: 7694048

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	3010	25.2	4.32	mg/kg	01.10.20 15:41		5

Sample Id: **Pad17** Matrix: Soil Sample Depth: 2 In
Lab Sample Id: 648462-017 Date Collected: 01.07.20 09.20 Date Received: 01.09.20 11.34
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3112949 Date Prep: 01.09.20 16.40
Prep seq: 7694048

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	941	4.96	0.852	mg/kg	01.10.20 14:34		1



Certificate of Analytical Results

648462

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **Pad18** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-018 Date Collected: 01.07.20 09.25 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112949 Date Prep: 01.09.20 16.40
 Prep seq: 7694048

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1250	5.05	0.867	mg/kg	01.10.20 15:48		1

Sample Id: **Pad19** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-019 Date Collected: 01.07.20 09.30 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112949 Date Prep: 01.09.20 16.40
 Prep seq: 7694048

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	12000	99.8	17.1	mg/kg	01.10.20 15:54		20

Sample Id: **Pad20** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-020 Date Collected: 01.07.20 09.35 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112949 Date Prep: 01.09.20 16.40
 Prep seq: 7694048

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	10500	99.0	17.0	mg/kg	01.10.20 16:01		20

Sample Id: **Pad21** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-021 Date Collected: 01.07.20 09.40 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112949 Date Prep: 01.09.20 16.40
 Prep seq: 7694048

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	10000	49.8	8.55	mg/kg	01.10.20 16:28		10



Certificate of Analytical Results



648462

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: Pad22

Matrix: Soil

Sample Depth: 2 In

Lab Sample Id: 648462-022

Date Collected: 01.07.20 09.45

Date Received: 01.09.20 11.34

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112949

Date Prep: 01.09.20 16.40

Prep seq: 7694048

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	2830	25.0	4.29	mg/kg	01.10.20 16:34		5

Sample Id: Pad23

Matrix: Soil

Sample Depth: 2 In

Lab Sample Id: 648462-023

Date Collected: 01.07.20 09.50

Date Received: 01.09.20 11.34

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112949

Date Prep: 01.09.20 16.40

Prep seq: 7694048

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	14300	101	17.3	mg/kg	01.10.20 16:54		20

Sample Id: Pad24

Matrix: Soil

Sample Depth: 2 In

Lab Sample Id: 648462-024

Date Collected: 01.07.20 10.00

Date Received: 01.09.20 11.34

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112949

Date Prep: 01.09.20 16.40

Prep seq: 7694048

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	3850	24.8	4.26	mg/kg	01.10.20 17:01		5

Sample Id: Pad25

Matrix: Soil

Sample Depth: 2 In

Lab Sample Id: 648462-025

Date Collected: 01.07.20 10.05

Date Received: 01.09.20 11.34

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112949

Date Prep: 01.09.20 16.40

Prep seq: 7694048

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1160	4.95	0.850	mg/kg	01.10.20 17:08		1



Certificate of Analytical Results

648462



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **Pad26** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-026 Date Collected: 01.07.20 10.10 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112949 Date Prep: 01.09.20 16.40
 Prep seq: 7694048

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	695	5.03	0.864	mg/kg	01.10.20 16:08		1

Sample Id: **Pad27** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-027 Date Collected: 01.07.20 10.15 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112949 Date Prep: 01.09.20 16.40
 Prep seq: 7694048

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	15000	99.0	17.0	mg/kg	01.10.20 17:14		20

Sample Id: **Pad28** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-028 Date Collected: 01.07.20 10.20 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112949 Date Prep: 01.09.20 16.40
 Prep seq: 7694048

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	4920	50.4	8.65	mg/kg	01.10.20 17:21		10

Sample Id: **Pad29** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-029 Date Collected: 01.07.20 10.25 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112949 Date Prep: 01.09.20 16.40
 Prep seq: 7694048

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	4730	24.9	4.27	mg/kg	01.10.20 17:28		5



Certificate of Analytical Results

648462



Etech Environmental & Safety Solution, Inc, Midland, TX
VGWU Sat 4

Sample Id: **Pad30** Matrix: Soil Sample Depth: 2 In
Lab Sample Id: 648462-030 Date Collected: 01.07.20 10.30 Date Received: 01.09.20 11.34
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3112949 Date Prep: 01.09.20 16.40
Prep seq: 7694048

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	3840	24.9	4.27	mg/kg	01.10.20 17:34		5

Sample Id: **Pad31** Matrix: Soil Sample Depth: 2 In
Lab Sample Id: 648462-031 Date Collected: 01.07.20 10.35 Date Received: 01.09.20 11.34
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3112924 Date Prep: 01.09.20 18.50
Prep seq: 7694051

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	18300	252	43.3	mg/kg	01.10.20 10:32		50

Sample Id: **Pad32** Matrix: Soil Sample Depth: 2 In
Lab Sample Id: 648462-032 Date Collected: 01.07.20 10.40 Date Received: 01.09.20 11.34
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3112924 Date Prep: 01.09.20 18.50
Prep seq: 7694051

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	3770	25.0	4.28	mg/kg	01.10.20 10:38		5



Certificate of Analytical Results

648462



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **Pad33** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-033 Date Collected: 01.07.20 10.45 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112924 Date Prep: 01.09.20 18.50
 Prep seq: 7694051

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	4970	50.2	8.62	mg/kg	01.10.20 10:45		10

Analytical Method: TPH By SW8015 Mod Prep Method: 8015
 Analyst: DVM % Moist: Tech: DVM
 Seq Number: 3113152 Date Prep: 01.10.20 14.00
 Prep seq: 7694130

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	15.0	mg/kg	01.11.20 03:49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	15.0	mg/kg	01.11.20 03:49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	15.0	mg/kg	01.11.20 03:49	U	1
Total TPH	PHC635	<49.9		15.0	mg/kg	01.11.20 03:49	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	101	70 - 135	%		
o-Terphenyl	100	70 - 135	%		

Sample Id: **Pad34** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-034 Date Collected: 01.07.20 10.50 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112924 Date Prep: 01.09.20 18.50
 Prep seq: 7694051

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	6060	50.3	8.64	mg/kg	01.10.20 11:11		10



Certificate of Analytical Results

648462



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **Pad35** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-035 Date Collected: 01.07.20 10.55 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112924 Date Prep: 01.09.20 18.50
 Prep seq: 7694051

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	3010	25.0	4.28	mg/kg	01.10.20 11:18		5

Sample Id: **Pad36** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-036 Date Collected: 01.07.20 11.00 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112924 Date Prep: 01.09.20 18.50
 Prep seq: 7694051

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	3300	24.8	4.26	mg/kg	01.10.20 11:38		5

Sample Id: **Pad37** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-037 Date Collected: 01.07.20 11.05 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112924 Date Prep: 01.09.20 18.50
 Prep seq: 7694051

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	4460	50.1	8.60	mg/kg	01.10.20 11:45		10

Sample Id: **Pad38** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-038 Date Collected: 01.07.20 11.10 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112924 Date Prep: 01.09.20 18.50
 Prep seq: 7694051

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	3610	49.8	8.55	mg/kg	01.10.20 11:51		10



Certificate of Analytical Results

648462



Etech Environmental & Safety Solution, Inc, Midland, TX
VGWU Sat 4

Sample Id: **Pad39** Matrix: Soil Sample Depth: 2 In
Lab Sample Id: 648462-039 Date Collected: 01.07.20 11.15 Date Received: 01.09.20 11.34
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3112924 Date Prep: 01.09.20 18.50
Prep seq: 7694051

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	10900	99.2	17.0	mg/kg	01.10.20 11:58		20

Sample Id: **Pad40** Matrix: Soil Sample Depth: 2 In
Lab Sample Id: 648462-040 Date Collected: 01.07.20 11.20 Date Received: 01.09.20 11.34
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3112924 Date Prep: 01.09.20 18.50
Prep seq: 7694051

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	10100	101	17.3	mg/kg	01.10.20 12:05		20



Certificate of Analytical Results

648462



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: Pad41

Matrix: Soil

Sample Depth: 2 In

Lab Sample Id: 648462-041

Date Collected: 01.07.20 11.25

Date Received: 01.09.20 11.34

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112924

Date Prep: 01.09.20 18.50

Prep seq: 7694051

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	11300	100	17.2	mg/kg	01.10.20 12:11		20

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3113152

Date Prep: 01.10.20 14.00

Prep seq: 7694130

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	15.0	mg/kg	01.11.20 04:11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	15.0	mg/kg	01.11.20 04:11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	15.0	mg/kg	01.11.20 04:11	U	1
Total TPH	PHC635	<49.9		15.0	mg/kg	01.11.20 04:11	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	101	70 - 135	%		
o-Terphenyl	99	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112999

Date Prep: 01.11.20 13.00

Prep seq: 7694159

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00201	0.00201	0.000387	mg/kg	01.11.20 19:42	U	1
Toluene	108-88-3	<0.00201	0.00201	0.000458	mg/kg	01.11.20 19:42	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	0.000568	mg/kg	01.11.20 19:42	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	0.00102	mg/kg	01.11.20 19:42	U	1
o-Xylene	95-47-6	<0.00201	0.00201	0.000346	mg/kg	01.11.20 19:42	U	1
Total Xylenes	1330-20-7	<0.00201		0.000346	mg/kg	01.11.20 19:42	U	
Total BTEX		<0.00201		0.000346	mg/kg	01.11.20 19:42	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	110	70 - 130	%		
4-Bromofluorobenzene	97	70 - 130	%		



Certificate of Analytical Results

648462



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **Pad42** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-042 Date Collected: 01.07.20 11.30 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112924 Date Prep: 01.09.20 18.50
 Prep seq: 7694051

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	5140	50.2	8.62	mg/kg	01.10.20 12:18		10

Sample Id: **Pad43** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-043 Date Collected: 01.07.20 11.35 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112942 Date Prep: 01.10.20 12.40
 Prep seq: 7694150

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	11200	100	17.2	mg/kg	01.10.20 14:03		20

Sample Id: **Pad44** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-044 Date Collected: 01.07.20 11.40 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112942 Date Prep: 01.10.20 12.40
 Prep seq: 7694150

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	10800	50.1	8.60	mg/kg	01.10.20 14:09		10



Certificate of Analytical Results

648462



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **Pad45** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-045 Date Collected: 01.07.20 11.45 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112942 Date Prep: 01.10.20 12.40
 Prep seq: 7694150

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	21300	251	43.1	mg/kg	01.10.20 14:16		50

Analytical Method: TPH By SW8015 Mod Prep Method: 8015
 Analyst: DVM % Moist: Tech: DVM
 Seq Number: 3113152 Date Prep: 01.10.20 14.00
 Prep seq: 7694130

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	15.0	mg/kg	01.11.20 04:32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	15.0	mg/kg	01.11.20 04:32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	15.0	mg/kg	01.11.20 04:32	U	1
Total TPH	PHC635	<50.0		15.0	mg/kg	01.11.20 04:32	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	102	70 - 135	%		
o-Terphenyl	106	70 - 135	%		

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
 Analyst: KTL % Moist: Tech: KTL
 Seq Number: 3112999 Date Prep: 01.11.20 13.00
 Prep seq: 7694159

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00201	0.00201	0.000387	mg/kg	01.11.20 20:02	U	1
Toluene	108-88-3	<0.00201	0.00201	0.000458	mg/kg	01.11.20 20:02	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	0.000568	mg/kg	01.11.20 20:02	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	0.00102	mg/kg	01.11.20 20:02	U	1
o-Xylene	95-47-6	<0.00201	0.00201	0.000346	mg/kg	01.11.20 20:02	U	1
Total Xylenes	1330-20-7	<0.00201		0.000346	mg/kg	01.11.20 20:02	U	
Total BTEX		<0.00201		0.000346	mg/kg	01.11.20 20:02	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	106	70 - 130	%		
4-Bromofluorobenzene	87	70 - 130	%		



Certificate of Analytical Results

648462



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **Pad46** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-046 Date Collected: 01.07.20 11.50 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112942 Date Prep: 01.10.20 12.40
 Prep seq: 7694150

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	12700	100	17.2	mg/kg	01.10.20 14:23		20

Sample Id: **Pad47** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-047 Date Collected: 01.07.20 11.55 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112942 Date Prep: 01.10.20 12.40
 Prep seq: 7694150

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	9730	50.4	8.65	mg/kg	01.10.20 14:43		10

Sample Id: **Pad48** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-048 Date Collected: 01.07.20 12.05 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112942 Date Prep: 01.10.20 12.40
 Prep seq: 7694150

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	15200	100	17.2	mg/kg	01.10.20 14:49		20

Sample Id: **Pad49** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-049 Date Collected: 01.07.20 12.10 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112942 Date Prep: 01.10.20 12.40
 Prep seq: 7694150

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	10800	49.8	8.55	mg/kg	01.10.20 14:56		10



Certificate of Analytical Results

648462



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **Pad50** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-050 Date Collected: 01.07.20 12.15 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112942 Date Prep: 01.10.20 12.40
 Prep seq: 7694150

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1730	25.0	4.28	mg/kg	01.10.20 15:02		5

Sample Id: **Pad51** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-051 Date Collected: 01.07.20 12.20 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112942 Date Prep: 01.10.20 12.40
 Prep seq: 7694150

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	6420	50.1	8.60	mg/kg	01.10.20 15:09		10

Sample Id: **Pad52** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-052 Date Collected: 01.07.20 12.25 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112942 Date Prep: 01.10.20 12.40
 Prep seq: 7694150

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	278	4.98	0.855	mg/kg	01.10.20 13:43		1



Certificate of Analytical Results

648462



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **Pad53** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-053 Date Collected: 01.07.20 12.30 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112942 Date Prep: 01.10.20 12.40
 Prep seq: 7694150

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	7270	50.0	8.58	mg/kg	01.10.20 15:36		10

Analytical Method: TPH By SW8015 Mod Prep Method: 8015
 Analyst: DVM % Moist: Tech: DVM
 Seq Number: 3113152 Date Prep: 01.10.20 14.00
 Prep seq: 7694130

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	15.0	mg/kg	01.11.20 04:53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	15.0	mg/kg	01.11.20 04:53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	15.0	mg/kg	01.11.20 04:53	U	1
Total TPH	PHC635	<49.9		15.0	mg/kg	01.11.20 04:53	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	101	70 - 135	%		
o-Terphenyl	101	70 - 135	%		

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
 Analyst: KTL % Moist: Tech: KTL
 Seq Number: 3112999 Date Prep: 01.11.20 13.00
 Prep seq: 7694159

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00200	0.00200	0.000385	mg/kg	01.11.20 20:22	U	1
Toluene	108-88-3	<0.00200	0.00200	0.000456	mg/kg	01.11.20 20:22	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	0.000565	mg/kg	01.11.20 20:22	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	0.00101	mg/kg	01.11.20 20:22	U	1
o-Xylene	95-47-6	<0.00200	0.00200	0.000344	mg/kg	01.11.20 20:22	U	1
Total Xylenes	1330-20-7	<0.00200		0.000344	mg/kg	01.11.20 20:22	U	
Total BTEX		<0.00200		0.000344	mg/kg	01.11.20 20:22	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	108	70 - 130	%		
4-Bromofluorobenzene	94	70 - 130	%		



Certificate of Analytical Results

648462



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **Pad54** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-054 Date Collected: 01.07.20 12.35 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112942 Date Prep: 01.10.20 12.40
 Prep seq: 7694150

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	3800	24.9	4.27	mg/kg	01.10.20 15:42		5

Sample Id: **Pad55** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-055 Date Collected: 01.07.20 12.40 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112942 Date Prep: 01.10.20 12.40
 Prep seq: 7694150

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	3130	25.0	4.29	mg/kg	01.10.20 16:02		5

Sample Id: **Pad56** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-056 Date Collected: 01.07.20 12.45 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112942 Date Prep: 01.10.20 12.40
 Prep seq: 7694150

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	57.8	5.04	0.865	mg/kg	01.10.20 15:16		1

Sample Id: **Pad57** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-057 Date Collected: 01.07.20 12.55 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112942 Date Prep: 01.10.20 12.40
 Prep seq: 7694150

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	5310	50.5	8.67	mg/kg	01.10.20 16:09		10



Certificate of Analytical Results

648462



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **Pad58** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-058 Date Collected: 01.07.20 13.05 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112942 Date Prep: 01.10.20 12.40
 Prep seq: 7694150

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	14200	99.8	17.1	mg/kg	01.10.20 16:16		20

Sample Id: **Pad59** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-059 Date Collected: 01.07.20 13.00 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112942 Date Prep: 01.10.20 12.40
 Prep seq: 7694150

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	610	4.97	0.853	mg/kg	01.10.20 16:22		1

Sample Id: **Pad60** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-060 Date Collected: 01.07.20 13.05 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112942 Date Prep: 01.10.20 12.40
 Prep seq: 7694150

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1320	25.2	4.33	mg/kg	01.10.20 16:29		5

Sample Id: **Pad61** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-061 Date Collected: 01.07.20 13.10 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112942 Date Prep: 01.10.20 12.40
 Prep seq: 7694150

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	3110	25.2	4.32	mg/kg	01.10.20 16:35		5



Certificate of Analytical Results

648462



Etech Environmental & Safety Solution, Inc, Midland, TX
VGWU Sat 4

Sample Id: **Pad62** Matrix: Soil Sample Depth: 2 In
Lab Sample Id: 648462-062 Date Collected: 01.07.20 13.15 Date Received: 01.09.20 11.34
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3112942 Date Prep: 01.10.20 12.40
Prep seq: 7694150

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	94.5	5.00	0.858	mg/kg	01.10.20 16:42		1

Sample Id: **Pad63** Matrix: Soil Sample Depth: 2 In
Lab Sample Id: 648462-063 Date Collected: 01.07.20 13.20 Date Received: 01.09.20 11.34
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3112943 Date Prep: 01.10.20 13.50
Prep seq: 7694151

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	5600	50.3	8.64	mg/kg	01.10.20 17:42		10

Sample Id: **Pad64** Matrix: Soil Sample Depth: 2 In
Lab Sample Id: 648462-064 Date Collected: 01.07.20 13.25 Date Received: 01.09.20 11.34
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3112943 Date Prep: 01.10.20 13.50
Prep seq: 7694151

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	616	25.2	4.33	mg/kg	01.10.20 17:49		5

Sample Id: **Pad65** Matrix: Soil Sample Depth: 2 In
Lab Sample Id: 648462-065 Date Collected: 01.07.20 13.30 Date Received: 01.09.20 11.34
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3112943 Date Prep: 01.10.20 13.50
Prep seq: 7694151

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	3540	49.6	8.52	mg/kg	01.10.20 17:55		10



Certificate of Analytical Results

648462



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **Pad66** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-066 Date Collected: 01.07.20 13.35 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112943 Date Prep: 01.10.20 13.50
 Prep seq: 7694151

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	4410	49.9	8.57	mg/kg	01.10.20 18:02		10

Sample Id: **Pad67** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-067 Date Collected: 01.07.20 13.40 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112943 Date Prep: 01.10.20 13.50
 Prep seq: 7694151

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1010	25.1	4.31	mg/kg	01.10.20 18:22		5

Sample Id: **Pad68** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-068 Date Collected: 01.07.20 13.45 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112943 Date Prep: 01.10.20 13.50
 Prep seq: 7694151

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1740	25.2	4.33	mg/kg	01.10.20 18:28		5

Sample Id: **Pad69** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-069 Date Collected: 01.07.20 13.50 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112943 Date Prep: 01.10.20 13.50
 Prep seq: 7694151

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	2910	25.0	4.29	mg/kg	01.10.20 18:35		5



Certificate of Analytical Results



648462

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: Pad70

Matrix: Soil

Sample Depth: 2 In

Lab Sample Id: 648462-070

Date Collected: 01.07.20 13.55

Date Received: 01.09.20 11.34

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112943

Date Prep: 01.10.20 13.50

Prep seq: 7694151

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	31.8	4.96	0.852	mg/kg	01.10.20 17:22		1

Sample Id: Pad71

Matrix: Soil

Sample Depth: 2 In

Lab Sample Id: 648462-071

Date Collected: 01.07.20 14.00

Date Received: 01.09.20 11.34

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112943

Date Prep: 01.10.20 13.50

Prep seq: 7694151

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<4.97	4.97	0.853	mg/kg	01.10.20 18:42	U	1

Sample Id: Pad72

Matrix: Soil

Sample Depth: 2 In

Lab Sample Id: 648462-072

Date Collected: 01.07.20 14.05

Date Received: 01.09.20 11.34

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112943

Date Prep: 01.10.20 13.50

Prep seq: 7694151

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	240	5.03	0.864	mg/kg	01.10.20 18:48		1

Sample Id: Pad73

Matrix: Soil

Sample Depth: 2 In

Lab Sample Id: 648462-073

Date Collected: 01.07.20 14.10

Date Received: 01.09.20 11.34

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112943

Date Prep: 01.10.20 13.50

Prep seq: 7694151

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	559	4.97	0.853	mg/kg	01.10.20 18:55		1



Certificate of Analytical Results

648462



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **Pad74** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-074 Date Collected: 01.07.20 14.15 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112943 Date Prep: 01.10.20 13.50
 Prep seq: 7694151

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	78.3	5.01	0.860	mg/kg	01.10.20 19:15		1

Sample Id: **Pad75** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-075 Date Collected: 01.07.20 14.20 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112943 Date Prep: 01.10.20 13.50
 Prep seq: 7694151

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1060	25.1	4.30	mg/kg	01.10.20 19:21		5

Sample Id: **Pad76** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-076 Date Collected: 01.07.20 14.25 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112943 Date Prep: 01.10.20 13.50
 Prep seq: 7694151

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	642	25.2	4.32	mg/kg	01.10.20 19:41		5

Sample Id: **Pad77** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-077 Date Collected: 01.07.20 14.30 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112943 Date Prep: 01.10.20 13.50
 Prep seq: 7694151

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	336	5.01	0.860	mg/kg	01.10.20 19:48		1



Certificate of Analytical Results

648462



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **Pad78** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-078 Date Collected: 01.07.20 14.35 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112943 Date Prep: 01.10.20 13.50
 Prep seq: 7694151

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1210	25.0	4.28	mg/kg	01.10.20 19:55		5

Sample Id: **Pad79** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-079 Date Collected: 01.07.20 14.40 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112943 Date Prep: 01.10.20 13.50
 Prep seq: 7694151

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	446	5.00	0.858	mg/kg	01.10.20 20:01		1

Sample Id: **Pad80** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-080 Date Collected: 01.07.20 14.45 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112943 Date Prep: 01.10.20 13.50
 Prep seq: 7694151

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	780	25.2	4.32	mg/kg	01.10.20 20:08		5

Sample Id: **Pad81** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-081 Date Collected: 01.07.20 14.50 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112943 Date Prep: 01.10.20 13.50
 Prep seq: 7694151

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1560	25.1	4.31	mg/kg	01.10.20 20:15		5



Certificate of Analytical Results



648462

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **Pad82** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-082 Date Collected: 01.07.20 14.55 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112943 Date Prep: 01.10.20 13.50
 Prep seq: 7694151

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1510	25.0	4.29	mg/kg	01.10.20 20:21		5

Sample Id: **Pad83** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-083 Date Collected: 01.07.20 15.00 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112945 Date Prep: 01.10.20 14.00
 Prep seq: 7694152

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	385	25.0	4.28	mg/kg	01.10.20 18:40		5

Sample Id: **Pad84** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-084 Date Collected: 01.07.20 15.05 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112945 Date Prep: 01.10.20 14.00
 Prep seq: 7694152

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	880	24.8	4.26	mg/kg	01.10.20 18:47		5

Sample Id: **Pad85** Matrix: Soil Sample Depth: 2 In
 Lab Sample Id: 648462-085 Date Collected: 01.07.20 15.10 Date Received: 01.09.20 11.34
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Analyst: CHE % Moist: Tech: CHE
 Seq Number: 3112945 Date Prep: 01.10.20 14.00
 Prep seq: 7694152

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1320	25.0	4.29	mg/kg	01.10.20 18:54		5



Certificate of Analytical Results

648462



Etech Environmental & Safety Solution, Inc, Midland, TX
VGWU Sat 4

Sample Id: **Pad86** Matrix: Soil Sample Depth: 2 In
Lab Sample Id: 648462-086 Date Collected: 01.07.20 15.15 Date Received: 01.09.20 11.34
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3112945 Date Prep: 01.10.20 14.00
Prep seq: 7694152

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	848	25.1	4.30	mg/kg	01.10.20 19:05		5



Certificate of Analytical Results

648462



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: Pad87

Matrix: Soil

Sample Depth: 2 In

Lab Sample Id: 648462-087

Date Collected: 01.07.20 15.20

Date Received: 01.09.20 11.34

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112945

Date Prep: 01.10.20 14.00

Prep seq: 7694152

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1220	25.3	4.34	mg/kg	01.10.20 19:25		5

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3113152

Date Prep: 01.10.20 14.00

Prep seq: 7694130

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	15.0	mg/kg	01.11.20 05:14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	15.0	mg/kg	01.11.20 05:14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	15.0	mg/kg	01.11.20 05:14	U	1
Total TPH	PHC635	<49.9		15.0	mg/kg	01.11.20 05:14	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	102	70 - 135	%		
o-Terphenyl	102	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3112999

Date Prep: 01.11.20 13.00

Prep seq: 7694159

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00201	0.00201	0.000386	mg/kg	01.11.20 20:42	U	1
Toluene	108-88-3	<0.00201	0.00201	0.000457	mg/kg	01.11.20 20:42	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	0.000567	mg/kg	01.11.20 20:42	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	0.00102	mg/kg	01.11.20 20:42	U	1
o-Xylene	95-47-6	<0.00201	0.00201	0.000346	mg/kg	01.11.20 20:42	U	1
Total Xylenes	1330-20-7	<0.00201		0.000346	mg/kg	01.11.20 20:42	U	
Total BTEX		<0.00201		0.000346	mg/kg	01.11.20 20:42	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	107	70 - 130	%		
4-Bromofluorobenzene	87	70 - 130	%		



Certificate of Analytical Results

648462



Etech Environmental & Safety Solution, Inc, Midland, TX
VGWU Sat 4

Sample Id: **Pad88** Matrix: Soil Sample Depth: 2 In
Lab Sample Id: 648462-088 Date Collected: 01.07.20 15.25 Date Received: 01.09.20 11.34
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3112945 Date Prep: 01.10.20 14.00
Prep seq: 7694152

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	932	24.8	4.26	mg/kg	01.10.20 19:32		5



Certificate of Analytical Results

648462



Etech Environmental & Safety Solution, Inc, Midland, TX
VGWU Sat 4

Sample Id: **7694046-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 7694046-1-BLK Date Collected: Date Received:
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3112923 Date Prep: 01.09.20 16.30
Prep seq: 7694046

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<5.00	5.00	0.858	mg/kg	01.09.20 23:41	U	1

Sample Id: **7694048-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 7694048-1-BLK Date Collected: Date Received:
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3112949 Date Prep: 01.09.20 16.40
Prep seq: 7694048

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<5.00	5.00	0.858	mg/kg	01.10.20 14:14	U	1

Sample Id: **7694051-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 7694051-1-BLK Date Collected: Date Received:
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3112924 Date Prep: 01.09.20 18.50
Prep seq: 7694051

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<5.00	5.00	0.858	mg/kg	01.10.20 08:19	U	1



Certificate of Analytical Results

648462



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: 7694130-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7694130-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3113152

Date Prep: 01.10.20 14.00

Prep seq: 7694130

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	15.0	mg/kg	01.10.20 21:11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	15.0	mg/kg	01.10.20 21:11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	15.0	mg/kg	01.10.20 21:11	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	102	70 - 135	%		
o-Terphenyl	106	70 - 135	%		

Sample Id: 7694150-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7694150-1-BLK

Date Collected:

Date Received:

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112942

Date Prep: 01.10.20 12.40

Prep seq: 7694150

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<5.00	5.00	0.858	mg/kg	01.10.20 13:23	U	1

Sample Id: 7694151-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7694151-1-BLK

Date Collected:

Date Received:

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3112943

Date Prep: 01.10.20 13.50

Prep seq: 7694151

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<5.00	5.00	0.858	mg/kg	01.10.20 17:02	U	1



Certificate of Analytical Results

648462



Etech Environmental & Safety Solution, Inc, Midland, TX
VGWU Sat 4

Sample Id: **7694152-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 7694152-1-BLK Date Collected: Date Received:
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3112945 Date Prep: 01.10.20 14.00
Prep seq: 7694152

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<5.00	5.00	0.858	mg/kg	01.10.20 18:00	U	1

Sample Id: **7694159-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 7694159-1-BLK Date Collected: Date Received:
Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
Analyst: KTL % Moist: Tech: KTL
Seq Number: 3112999 Date Prep: 01.11.20 13.00
Prep seq: 7694159

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00200	0.00200	0.000385	mg/kg	01.11.20 18:21	U	1
Toluene	108-88-3	<0.00200	0.00200	0.000456	mg/kg	01.11.20 18:21	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	0.000565	mg/kg	01.11.20 18:21	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	0.00101	mg/kg	01.11.20 18:21	U	1
o-Xylene	95-47-6	<0.00200	0.00200	0.000344	mg/kg	01.11.20 18:21	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	98	70 - 130	%		
4-Bromofluorobenzene	78	70 - 130	%		



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

Form 2 - Surrogate Recoveries

Project Name: VGWU Sat 4

Work Orders : 648462,

Project ID:

Lab Batch #: 3112999

Sample: 7694159-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/11/20 16:22

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0309	0.0300	103	70-130	
4-Bromofluorobenzene	0.0295	0.0300	98	70-130	

Lab Batch #: 3112999

Sample: 7694159-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/11/20 16:42

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0311	0.0300	104	70-130	
4-Bromofluorobenzene	0.0287	0.0300	96	70-130	

Lab Batch #: 3112999

Sample: 648722-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/11/20 17:02

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0323	0.0300	108	70-130	
4-Bromofluorobenzene	0.0325	0.0300	108	70-130	

Lab Batch #: 3112999

Sample: 648722-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/11/20 17:22

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0320	0.0300	107	70-130	
4-Bromofluorobenzene	0.0284	0.0300	95	70-130	

Lab Batch #: 3112999

Sample: 7694159-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/11/20 18:21

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	70-130	
4-Bromofluorobenzene	0.0234	0.0300	78	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: VGWU Sat 4

Work Orders : 648462,

Project ID:

Lab Batch #: 3113152

Sample: 7694130-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/10/20 21:11

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	100	102	70-135	
o-Terphenyl	53.0	50.0	106	70-135	

Lab Batch #: 3113152

Sample: 7694130-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/10/20 21:32

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	100	129	70-135	
o-Terphenyl	62.0	50.0	124	70-135	

Lab Batch #: 3113152

Sample: 7694130-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/10/20 21:53

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	60.5	50.0	121	70-135	

Lab Batch #: 3113152

Sample: 648287-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/10/20 22:36

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	120	99.7	120	70-135	
o-Terphenyl	56.8	49.9	114	70-135	

Lab Batch #: 3113152

Sample: 648287-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/10/20 22:56

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	115	99.9	115	70-135	
o-Terphenyl	55.6	50.0	111	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



BS / BSD Recoveries



Project Name: VGWU Sat 4

Work Order #: 648462

Project ID:

Analyst: KTL

Date Prepared: 01/11/2020

Date Analyzed: 01/11/2020

Lab Batch ID: 3112999

Sample: 7694159-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000385	0.100	0.115	115	0.100	0.115	115	0	70-130	35	
Toluene	<0.000456	0.100	0.108	108	0.100	0.107	107	1	70-130	35	
Ethylbenzene	<0.000565	0.100	0.104	104	0.100	0.102	102	2	70-130	35	
m,p-Xylenes	<0.00101	0.200	0.206	103	0.200	0.203	102	1	70-130	35	
o-Xylene	<0.000344	0.100	0.102	102	0.100	0.101	101	1	70-130	35	

Analyst: CHE

Date Prepared: 01/09/2020

Date Analyzed: 01/09/2020

Lab Batch ID: 3112923

Sample: 7694046-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<5.00	250	267	107	250	267	107	0	90-110	20	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$ Blank Spike Recovery [D] = $100 * (C)/[B]$ Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries



Project Name: VGWU Sat 4

Work Order #: 648462

Project ID:

Analyst: CHE

Date Prepared: 01/09/2020

Date Analyzed: 01/10/2020

Lab Batch ID: 3112949

Sample: 7694048-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<5.00	250	250	100	250	249	100	0	90-110	20	

Analyst: CHE

Date Prepared: 01/09/2020

Date Analyzed: 01/10/2020

Lab Batch ID: 3112942

Sample: 7694051-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<0.858	250	251	100	250	249	100	1	90-110	20	

Analyst: CHE

Date Prepared: 01/10/2020

Date Analyzed: 01/10/2020

Lab Batch ID: 3112942

Sample: 7694150-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<0.858	250	245	98	250	243	97	1	90-110	20	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$ Blank Spike Recovery [D] = $100 * (C)/[B]$ Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries



Project Name: VGWU Sat 4

Work Order #: 648462

Project ID:

Analyst: CHE

Date Prepared: 01/10/2020

Date Analyzed: 01/10/2020

Lab Batch ID: 3112943

Sample: 7694151-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<0.858	250	244	98	250	244	98	0	90-110	20	

Analyst: CHE

Date Prepared: 01/10/2020

Date Analyzed: 01/10/2020

Lab Batch ID: 3112945

Sample: 7694152-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<5.00	250	248	99	250	244	98	2	90-110	20	

Analyst: DVM

Date Prepared: 01/10/2020

Date Analyzed: 01/10/2020

Lab Batch ID: 3113152

Sample: 7694130-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Gasoline Range Hydrocarbons (GRO)	33.3	1000	1020	102	1000	992	99	3	70-135	20	
Diesel Range Organics (DRO)	22.5	1000	1020	102	1000	1000	100	2	70-135	20	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$ Blank Spike Recovery [D] = $100 * (C)/[B]$ Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



Form 3 - MS / MSD Recoveries



Project Name: VGWU Sat 4

Work Order #: 648462

Project ID:

Lab Batch ID: 3112999

QC- Sample ID: 648722-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01/11/2020

Date Prepared: 01/11/2020

Analyst: KTL

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000382	0.0992	0.104	105	0.0998	0.102	102	2	70-130	35	
Toluene	<0.000452	0.0992	0.102	103	0.0998	0.0929	93	9	70-130	35	
Ethylbenzene	<0.000560	0.0992	0.0955	96	0.0998	0.0851	85	12	70-130	35	
m,p-Xylenes	<0.00101	0.198	0.188	95	0.200	0.166	83	12	70-130	35	
o-Xylene	<0.000342	0.0992	0.0945	95	0.0998	0.0832	83	13	70-130	35	

Lab Batch ID: 3112923

QC- Sample ID: 648462-004 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01/10/2020

Date Prepared: 01/09/2020

Analyst: CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	99.8	251	376	110	251	375	110	0	90-110	20	

Lab Batch ID: 3112923

QC- Sample ID: 648462-009 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01/10/2020

Date Prepared: 01/09/2020

Analyst: CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	1240	199	1450	106	199	1450	106	0	90-110	20	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
 Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Form 3 - MS / MSD Recoveries



Project Name: VGWU Sat 4

Work Order # : 648462

Project ID:

Lab Batch ID: 3112924

QC- Sample ID: 648574-019 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01/10/2020

Date Prepared: 01/09/2020

Analyst: CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	955	201	1170	107	201	1170	107	0	90-110	20	

Lab Batch ID: 3112924

QC- Sample ID: 648574-026 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01/10/2020

Date Prepared: 01/09/2020

Analyst: CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	5.93	248	264	104	248	256	101	3	90-110	20	

Lab Batch ID: 3112942

QC- Sample ID: 648462-052 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01/10/2020

Date Prepared: 01/10/2020

Analyst: CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	278	249	538	104	249	535	103	1	90-110	20	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
 Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
 N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Form 3 - MS / MSD Recoveries



Project Name: VGWU Sat 4

Work Order # : 648462

Project ID:

Lab Batch ID: 3112942

QC- Sample ID: 648462-056 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01/10/2020

Date Prepared: 01/10/2020

Analyst: CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	57.8	252	318	103	252	317	103	0	90-110	20	

Lab Batch ID: 3112943

QC- Sample ID: 648462-070 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01/10/2020

Date Prepared: 01/10/2020

Analyst: CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	31.8	248	301	109	248	300	108	0	90-110	20	

Lab Batch ID: 3112943

QC- Sample ID: 648462-073 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01/10/2020

Date Prepared: 01/10/2020

Analyst: CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	559	249	793	94	249	796	95	0	90-110	20	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
 Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Form 3 - MS / MSD Recoveries



Project Name: VGWU Sat 4

Work Order # : 648462

Project ID:

Lab Batch ID: 3112945

QC- Sample ID: 648467-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01/10/2020

Date Prepared: 01/10/2020

Analyst: CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	3.06	248	265	106	248	262	104	1	90-110	20	

Lab Batch ID: 3112945

QC- Sample ID: 648467-005 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01/10/2020

Date Prepared: 01/10/2020

Analyst: CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	6.85	252	277	107	252	277	107	0	90-110	20	

Lab Batch ID: 3112949

QC- Sample ID: 648462-017 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01/10/2020

Date Prepared: 01/09/2020

Analyst: CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	941	248	1210	108	248	1210	108	0	90-110	20	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
 Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Form 3 - MS / MSD Recoveries



Project Name: VGWU Sat 4

Work Order # : 648462

Project ID:

Lab Batch ID: 3112949

QC- Sample ID: 648462-026 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01/10/2020

Date Prepared: 01/09/2020

Analyst: CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	695	252	984	115	252	985	115	0	90-110	20	X

Lab Batch ID: 3113152

QC- Sample ID: 648287-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01/10/2020

Date Prepared: 01/10/2020

Analyst: DVM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	31.3	997	1060	103	999	1020	99	4	70-135	20	
Diesel Range Organics (DRO)	17.1	997	1090	108	999	1050	103	4	70-135	20	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$
 Relative Percent Difference RPD = $200 \times |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery [G] = $100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Chain of Custody

Work Order No:

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432-704-5440) EL Paso, TX (915)585-3443 Lubbock, TX (806)794-1296
 Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

www.xenco.com Page 1 of 9

Project Manager:	daniel dominguez	Bill to: (if different)	Jason Michelson
Company Name:	Etech Environmental	Company Name:	Chevron Environmental Management
Address:	3100 Plains Hwy	Address:	1500 Louisiana St. Office 38116
City, State ZIP:	Lovington, NM 88260	City, State ZIP:	Houston, TX 77002
Phone:	832-854-5601	Email:	jnicholson@chevron.com; daniel@etechenv.com

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐ State of Project: Reporting Level II ☐ Level III ☐ PST/UST ☐ RRP ☐ Level IV ☐ Deliverables: EDD ☐ ADAPT ☐ Other:		Work Order Comments
--	--	----------------------------

Project Name:	VGWU Sat 4	Turn Around	ANALYSIS REQUEST										Work Order Notes
Project Number:		Routine ☐											TAT starts the day received by the lab, if received by 4:30pm Sample Comments
P.O. Number:		Rush: no											
Sampler's Name:	Daniel Dominguez	Due Date:											
SAMPLE RECEIPT		Temp Blank: ☒ Yes ☐ No	Wet Ice: ☒ Yes ☐ No										
Temperature (°C):	54	Thermometer ID											
Received Intact:	Yes ☒ No ☐	Correction Factor:											
Cooler Custody Seals:	Yes ☒ No ☐	Total Containers:											
Sample Custody Seals:	Yes ☒ No ☐												
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Chloride	BTEX	TPH					
Pad1	Soil	7-Jan-20	800	2"	1	X							
Pad2	Soil	7-Jan-20	805	2"	1	X							
Pad3	Soil	7-Jan-20	810	2"	1	X							
Pad4	Soil	7-Jan-20	815	2"	1	X							
Pad5	Soil	7-Jan-20	820	2"	1	X	X						
Pad6	Soil	7-Jan-20	825	2"	1	X							
Pad7	Soil	7-Jan-20	830	2"	1	X							
Pad8	Soil	7-Jan-20	835	2"	1	X							
Pad9	Soil	7-Jan-20	840	2"	1	X							
Pad10	Soil	7-Jan-20	845	2"	1	X							

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 SiO2 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 1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. 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 Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		1/7/20			1/9/20



Chain of Custody

Work Order No: 10284102

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432-704-5440) EL Paso, TX (915)585-3443 Lubbock, TX (806) 794-1296
 Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

www.xenco.com Page 2 of 9

Project Manager:	daniel dominguez	Bill to: (if different)	Jason Michelson
Company Name:	Etech Environmental	Company Name:	Chevron Environmental Management
Address:	3100 Plains Hwy	Address:	1500 Louisiana St. Office 38116
City, State ZIP:	Lovington, NM 88260	City, State ZIP:	Houston, TX 77002
Phone:	832-854-5601	Email:	jimichelson@chevron.com; daniel@etechenv.com

Work Order Comments Program: UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐ State of Project: Reporting: Level II ☐ Level III ☐ PST/UST ☐ FRP ☐ Level IV ☐ Deliverables: EDD ☐ ADAPT ☐ Other:	
--	--

Project Name:		VGWU Sat 4		Turn Around		ANALYSIS REQUEST										Work Order Notes			
Project Number:				Routine ☐												TAT starts the day received by the lab, if received by 4:30pm Sample Comments			
P.O. Number:				Rush: no															
Sampler's Name:		Daniel Dominguez		Due Date:															
Temp Blank:		Yes No		Wet Ice:		Yes No													
Temperature (°C):		Yes No		Thermometer ID															
Received In tact:		Yes No		Correction Factor:															
Cooler Custody Seals:		Yes No N/A		Total Containers:															
Sample Custody Seals:		Yes No N/A																	
SAMPLE RECEIPT		Temp Blank:		Yes No		Wet Ice:		Yes No											
Temperature (°C):		Yes No		Thermometer ID															
Received In tact:		Yes No		Correction Factor:															
Cooler Custody Seals:		Yes No N/A		Total Containers:															
Sample Custody Seals:		Yes No N/A																	
Sample Identification		Matrix		Date Sampled		Time Sampled		Depth		Number of Containers									
										Chloride		BTEX		TPH					
Pad11		Soil		7-Jan-20		850		2"		1		X							
Pad12		Soil		7-Jan-20		855		2"		1		X							
Pad13		Soil		7-Jan-20		900		2"		1		X							
Pad14		Soil		7-Jan-20		905		2"		1		X							
Pad15		Soil		7-Jan-20		910		2"		1		X							
Pad16		Soil		7-Jan-20		915		2"		1		X							
Pad17		Soil		7-Jan-20		920		2"		1		X							
Pad18		Soil		7-Jan-20		925		2"		1		X							
Pad19		Soil		7-Jan-20		930		2"		1		X							
Pad20		Soil		7-Jan-20		935		2"		1		X							

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 SiO2 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 1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. 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 Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>[Signature]</i>	2 <i>[Signature]</i>	1/17/20	3 <i>[Signature]</i>	4 <i>[Signature]</i>	1/28/20
5			6		



Chain of Custody

Work Order No: 1048440

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432-704-5440) EL Paso, TX (915)585-3443 Lubbock, TX (806)794-1296

www.xenco.com Page 3 of 9

Project Manager:	daniel dominguez	Bill to: (if different)	Jason Michelson
Company Name:	Etech Environmental	Company Name:	Chevron Environmental Management
Address:	3100 Plains Hwy	Address:	1500 Louisiana St. Office 38116
City, State ZIP:	Lovington, NM 88260	City, State ZIP:	Houston, TX 77002
Phone:	832-854-5601	Email:	jimichelson@chevron.com; daniel@etechenvy.com

Work Order Comments	
Program: UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐	
State of Project:	
Reporting Level: I ☐ Level II ☐ Level III ☐ PST/UST ☐ RRP ☐ Level IV ☐	
Deliverables: EDD ☐ ADAPT ☐ Other:	

Project Name:	VGWU Sat 4	Turn Around	☐										ANALYSIS REQUEST	Work Order Notes			
Project Number:		Routine	☐														
P.O. Number:		Rush: no															
Sampler's Name:	Daniel Dominguez	Due Date:															
SAMPLE RECEIPT		Temp Blank:	Yes	No	Wet Ice:	Yes	No										
Temperature (°C):		Thermometer ID															
Received Intact:	Yes	No															
Cooler Custody Seals:	Yes	No	N/A	Correction Factor:													
Sample Custody Seals:	Yes	No	N/A	Total Containers:													
Sample Identification		Matrix	Date Sampled	Time Sampled	Depth	Number of Containers										TAT starts the day received by the lab, if received by 4:30pm	
						Chloride	BTEX	TPH									
	Pad21	Soil	7-Jan-20	940	2"	1	X										
	Pad22	Soil	7-Jan-20	945	2"	1	X										
	Pad23	Soil	7-Jan-20	950	2"	1	X										
	Pad24	Soil	7-Jan-20	1000	2"	1	X										
	Pad25	Soil	7-Jan-20	1005	2"	1	X										
	Pad26	Soil	7-Jan-20	1010	2"	1	X										
	Pad27	Soil	7-Jan-20	1015	2"	1	X										
	Pad28	Soil	7-Jan-20	1020	2"	1	X										
	Pad29	Soil	7-Jan-20	1025	2"	1	X										
	Pad30	Soil	7-Jan-20	1030	2"	1	X										

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 SiO2 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 1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. 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 Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>[Signature]</i>	2 <i>[Signature]</i>	1/2/20	3 <i>[Signature]</i>	4 <i>[Signature]</i>	6



Chain of Custody

Work Order No:

108448

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
Midland, TX (432-704-5440) EL Paso, TX (915)585-3443 Lubbock, TX (806)794-1296
Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

www.xenco.com Page 4 of 9

Project Manager:	daniel dominguez	Bill to: (if different)	Jason Michelson
Company Name:	Etech Environmental	Company Name:	Chevron Environmental Management
Address:	3100 Plains Hwy	Address:	1500 Louisiana St. Office 38116
City, State ZIP:	Lovington, NM 88260	City, State ZIP:	Houston, TX 77002
Phone:	832-854-5601	Email:	jimichelson@chevron.com; daniel@etechenv.com

Work Order Comments Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐ State of Project: Reporting Level II ☐ Level III ☐ PST/UST ☐ RRP ☐ Level IV ☐ Deliverables: EDD ☐ ADAPT ☐ Other:	
--	--

Project Name:	VGWU Sat 4	Turn Around	ANALYSIS REQUEST																Work Order Notes			
Project Number:		Routine ☐																	TAT starts the day received by the lab, if received by 4:30pm			
P.O. Number:		Rush: no																				
Sampler's Name:	Daniel Dominguez	Due Date:																				
SAMPLE RECEIPT			Temp Blank:	Yes	No	Wet Ice:	Yes	No														
Temperature (°C):		Thermometer ID																				
Received Intact:	Yes	No																				
Cooler Custody Seals:	Yes	No	N/A	Correction Factor:																		
Sample Custody Seals:	Yes	No	N/A	Total Containers:																		
Sample Identification			Matrix	Date Sampled	Time Sampled	Depth	Number of Containers															
	Pad31	Soil	7-Jan-20	1035	2"	1	X	Chloride	BTEX	TPH											Sample Comments	
	Pad32	Soil	7-Jan-20	1040	2"	1	X															
	Pad33	Soil	7-Jan-20	1045	2"	1	X															
	Pad34	Soil	7-Jan-20	1050	2"	1	X															
	Pad35	Soil	7-Jan-20	1055	2"	1	X															
	Pad36	Soil	7-Jan-20	1100	2"	1	X															
	Pad37	Soil	7-Jan-20	1105	2"	1	X															
	Pad38	Soil	7-Jan-20	1110	2"	1	X															
	Pad39	Soil	7-Jan-20	1115	2"	1	X															
	Pad40	Soil	7-Jan-20	1120	2"	1	X															

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 SiO2 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 1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. 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 Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>[Signature]</i>	<i>[Signature]</i>	1/2/20	2 <i>[Signature]</i>	<i>[Signature]</i>	
3			4		
5			6		



Chain of Custody

Work Order No:

104542

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
Midland, TX (432-704-5440) EL Paso, TX (915)585-3443 Lubbock, TX (806)794-1296
Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

www.xenco.com Page 5 of 9

Project Manager:	daniel dominguez	Bill to: (if different)	Jason Michelson
Company Name:	Etech Environmental	Company Name:	Chevron Environmental Management
Address:	3100 Plains Hwy	Address:	1500 Louisiana St. Office 38116
City, State ZIP:	Lovington, NM 88260	City, State ZIP:	Houston, TX 77002
Phone:	832-854-5601	Email:	jimichelson@chevron.com, daniel@etechenv.com

Work Order Comments	
Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐	
State of Project:	
Reporting Level II ☐ Level III ☐ PST/UST ☐ RRP ☐ Level IV ☐	
Deliverables: EDD ☐ ADAPT ☐ Other:	

Project Name:	VGWU Sat 4	Turn Around	☐
Project Number:		Routine	☐
P.O. Number:		Rush: no	
Sampler's Name:	Daniel Dominguez	Due Date:	

ANALYSIS REQUEST										Work Order Notes
SAMPLE RECEIPT										TAT starts the day received by the lab, if received by 4:30pm Sample Comments
Temp Blank:	Yes	No	Wet Ice:	Yes	No					
Temperature (°C):	Thermometer ID									
Received Intact:	Yes	No	Correction Factor:							
Cooler Custody Seals:	Yes	No	N/A							
Sample Custody Seals:	Yes	No	N/A	Total Containers:						

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers									
					Chloride	BTEX	TPH							
Padd1	Soil	7-Jan-20	1125	2"	1	X	X							
Padd2	Soil	7-Jan-20	1130	2"	1	X								
Padd3	Soil	7-Jan-20	1135	2"	1	X								
Padd4	Soil	7-Jan-20	1140	2"	1	X								
Padd5	Soil	7-Jan-20	1145	2"	1	X	X							
Padd6	Soil	7-Jan-20	1150	2"	1	X								
Padd7	Soil	7-Jan-20	1155	2"	1	X								
Padd8	Soil	7-Jan-20	1200	2"	1	X								
Padd9	Soil	7-Jan-20	1205	2"	1	X								
Padd0	Soil	7-Jan-20	1210	2"	1	X								

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 SiO2 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 1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. 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 Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>[Signature]</i>	2 <i>[Signature]</i>	1/7/20	3 <i>[Signature]</i>	4 <i>[Signature]</i>	6
5					



Chain of Custody

Work Order No:

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432-704-5440) EL Paso, TX (915)585-3443 Lubbock, TX (806)794-1296
 Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

www.xenco.com Page 6 of 9

Project Manager:	daniel.dominguez	Bill to: (if different)	Jason Michelson
Company Name:	Etech Environmental	Company Name:	Chevron Environmental Management
Address:	3100 Plains Hwy	Address:	1500 Louisiana St. Office 38116
City, State ZIP:	Lovington, NM 88260	City, State ZIP:	Houston, TX 77002
Phone:	832-854-5601	Email:	jimichelson@chevron.com; daniel@etechenv.com

Project Name:	VGWU Sat 4	Turn Around	ANALYSIS REQUEST										Work Order Notes
Project Number:		Routine											TAT starts the day received by the lab, if received by 4:30pm
P.O. Number:		Rush: no											
Sampler's Name:	Daniel Dominguez	Due Date:											

SAMPLE RECEIPT		Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):		Thermometer ID					
Received Inact:	Yes	No					
Cooler Custody Seals:	Yes	No	N/A	Correction Factor:			
Sample Custody Seals:	Yes	No	N/A	Total Containers:			

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers										Sample Comments	
Pad51	Soil	7-Jan-20	1215	2"	1	X										
Pad52	Soil	7-Jan-20	1220	2"	1	X										
Pad53	Soil	7-Jan-20	1225	2"	1	X	X									
Pad54	Soil	7-Jan-20	1230	2"	1	X										
Pad55	Soil	7-Jan-20	1235	2"	1	X										
Pad56	Soil	7-Jan-20	1240	2"	1	X										
Pad57	Soil	7-Jan-20	1245	2"	1	X										
Pad58	Soil	7-Jan-20	1255	2"	1	X										
Pad59	Soil	7-Jan-20	1300	2"	1	X										
Pad60	Soil	7-Jan-20	1305	2"	1	X										

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 SiO2 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 1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. 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 Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		1/1/20	2		
3			4		
5			6		



Chain of Custody

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
Midland, TX (432-704-5440) EL Paso, TX (915)585-3443 Lubbock, TX (806)794-1296
Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

Work Order No:

www.xenco.com Page 7 of 9

Project Manager:	daniel dominguez	Bill to: (if different)	Jason Michelson
Company Name:	Etech Environmental	Company Name:	Chevron Environmental Management
Address:	3100 Plains Hwy	Address:	1500 Louisiana St. Office 38116
City, State ZIP:	Lovington, NM 88260	City, State ZIP:	Houston, TX 77002
Phone:	832-854-5601	Email:	jnichelson@chevron.com; daniel@etechenv.com

Work Order Comments	
Program: UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐	
State of Project:	
Reporting Level II ☐ Level III ☐ PST/UST ☐ FRP ☐ Level IV ☐	
Deliverables: EDD ☐ ADAPT ☐ Other:	

Project Name:	VGWU Sat 4	Turn Around		ANALYSIS REQUEST										Work Order Notes					
Project Number:		Routine ☐																	
P.O. Number:		Rush: no																	
Sampler's Name:	Daniel Dominguez	Due Date:																	
SAMPLE RECEIPT				Temp Blank:	Yes	No	Wet Ice:	Yes	No										
Temperature (°C):		Thermometer ID																	
Received Intact:	Yes	No																	
Cooler Custody Seals:	Yes	No	N/A	Correction Factor:															
Sample Custody Seals:	Yes	No	N/A	Total Containers:															
Sample Identification				Matrix	Date Sampled	Time Sampled	Depth	Number of Containers											
								Chloride	BTEX	TPH									
Pad61				Soil	7-Jan-20	1310	2"	1	X										
Pad62				Soil	7-Jan-20	1315	2"	1	X										
Pad63				Soil	7-Jan-20	1320	2"	1	X										
Pad64				Soil	7-Jan-20	1325	2"	1	X										
Pad65				Soil	7-Jan-20	1330	2"	1	X										
Pad66				Soil	7-Jan-20	1335	2"	1	X										
Pad67				Soil	7-Jan-20	1340	2"	1	X										
Pad68				Soil	7-Jan-20	1345	2"	1	X										
Pad69				Soil	7-Jan-20	1350	2"	1	X										
Pad70				Soil	7-Jan-20	1355	2"	1	X										

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 SiO2 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 1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. 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 Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		1/13/20			



Chain of Custody

Work Order No:

104601102

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432-704-5440) EL Paso, TX (915)585-3443 Lubbock, TX (806)794-1296
 Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

www.xenco.com Page 8 of 9

Project Manager:	daniel dominguez	Bill to: (if different)	Jason Michelson
Company Name:	Etech Environmental	Company Name:	Chevron Environmental Management
Address:	3100 Plains Hwy	Address:	1500 Louisiana St. Office 38116
City, State ZIP:	Loveington, NM 88260	City, State ZIP:	Houston, TX 77002
Phone:	832-854-5601	Email:	jimichelson@chevron.com, daniel@etechenvy.com

Work Order Comments	
Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐	
State of Project:	
Reporting Level: I ☐ Level II ☐ Level III ☐ PST/UST ☐ RRP ☐ Level IV ☐	
Deliverables: EDD ☐ ADAPT ☐ Other:	

Project Name:	VGWU Sat 4	Turn Around	☐	ANALYSIS REQUEST	Work Order Notes
Project Number:		Routine			
P.O. Number:		Rush: no			
Sampler's Name:	Daniel Dominguez	Due Date:			

SAMPLE RECEIPT	Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):		Thermometer ID				
Received Intact:	Yes	No				
Cooler Custody Seals:	Yes	No	N/A	Correction Factor:		
Sample Custody Seals:	Yes	No	N/A	Total Containers:		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers															Sample Comments
					Chloride	BTEX	TPH													
Pad71	Soil	7-Jan-20	1400	2"	1	X														
Pad72	Soil	7-Jan-20	1405	2"	1	X														
Pad73	Soil	7-Jan-20	1410	2"	1	X														
Pad74	Soil	7-Jan-20	1415	2"	1	X														
Pad75	Soil	7-Jan-20	1420	2"	1	X														
Pad76	Soil	7-Jan-20	1425	2"	1	X														
Pad77	Soil	7-Jan-20	1430	2"	1	X														
Pad78	Soil	7-Jan-20	1435	2"	1	X														
Pad79	Soil	7-Jan-20	1440	2"	1	X														
Pad80	Soil	7-Jan-20	1445	2"	1	X														

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 SiO2 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 1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. 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 Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>[Signature]</i>	2 <i>[Signature]</i>	1/1/20	3 <i>[Signature]</i>	4 <i>[Signature]</i>	
5			6		



Chain of Custody

Work Order No:

144942

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432-704-5440) El Paso, TX (915)585-3443 Lubbock, TX (806)794-1296
 Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

www.xenco.com Page 9 of 9

Project Manager:	daniel dominguez	Bill to: (if different)	Jason Michelson
Company Name:	Etech Environmental	Company Name:	Chevron Environmental Management
Address:	3100 Plains Hwy	Address:	1500 Louisiana St. Office 38116
City, State ZIP:	Loveington, NM 88260	City, State ZIP:	Houston, TX 77002
Phone:	832-854-5601	Email:	jimichelson@chevron.com, daniel@etechenv.com

Work Order Comments Program: UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐ State of Project: Reporting Level II ☐ Level III ☐ PST/UST ☐ RRP ☐ Level IV ☐ Deliverables: EDD ☐ ADAPT ☐ Other:	
---	--

Project Name:	VGWU Sat 4	Turn Around	ANALYSIS REQUEST																Work Order Notes	
Project Number:		Routine ☐																	TAT starts the day received by the lab, if received by 4:30pm	
P.O. Number:		Rush: no																		
Sampler's Name:	Daniel Dominguez	Due Date:																		
SAMPLE RECEIPT			Temp Blank:	Yes	No	Wet Ice:	Yes	No												
Temperature (°C):		Thermometer ID																		
Received intact:	Yes	No																		
Cooler Custody Seals:	Yes	No	N/A	Correction Factor:																
Sample Custody Seals:	Yes	No	N/A	Total Containers:																
Sample Identification			Matrix	Date Sampled	Time Sampled	Depth	Number of Containers										Sample Comments			
	Pad81	Soil	7-Jan-20	1450	2"	1	X	Chloride	BTEX	TPH										
	Pad82	Soil	7-Jan-20	1455	2"	1	X													
	Pad83	Soil	7-Jan-20	1500	2"	1	X													
	Pad84	Soil	7-Jan-20	1505	2"	1	X													
	Pad85	Soil	7-Jan-20	1510	2"	1	X													
	Pad86	Soil	7-Jan-20	1515	2"	1	X													
	Pad87	Soil	7-Jan-20	1520	2"	1	X		X											
	Pad88	Soil	7-Jan-20	1525	2"	1	X													

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 SiO2 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 1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. 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 Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>[Signature]</i>	<i>[Signature]</i>	1/7/20	2 <i>[Signature]</i>	<i>[Signature]</i>	
3			4		
5			6		



Client: Etech Environmental & Safety Solution, I

Date/ Time Received: 01/09/2020 11:34:00 AM

Work Order #: 648462

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	.4
#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:

Brianna Teel

Date: 01/09/2020

Checklist reviewed by:

Jessica Kramer

Date: 01/09/2020



Certificate of Analysis Summary 649557

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: VGWU Sat 4

Project Id:

Contact: Daniel Dominguez

Project Location:

Date Received in Lab: Mon Jan-20-20 09:30 am

Report Date: 21-JAN-20

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	649557-001	649557-002	649557-003	649557-004	649557-005	
	Field Id:	SW3b	SW4b	SW5b	SW6b	SW7b	
	Depth:	2-	2-	2-	2-	2-	
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	
	Sampled:	Jan-09-20 10:30	Jan-09-20 10:35	Jan-09-20 10:40	Jan-09-20 10:45	Jan-09-20 10:50	
BTEX by EPA 8021B	Extracted:	Jan-20-20 17:00	Jan-20-20 17:00	Jan-20-20 17:00	Jan-20-20 17:00	Jan-20-20 17:00	
	Analyzed:	Jan-21-20 05:51	Jan-21-20 06:11	Jan-21-20 06:31	Jan-21-20 06:51	Jan-21-20 07:12	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	
Toluene		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	
Ethylbenzene		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	
m,p-Xylenes		<0.00400 0.00400	<0.00396 0.00396	<0.00400 0.00400	<0.00398 0.00398	<0.00398 0.00398	
o-Xylene		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	
Total Xylenes		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	
Total BTEX		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	
Chloride by EPA 300	Extracted:	Jan-20-20 13:50	Jan-20-20 13:50	Jan-20-20 13:50	Jan-20-20 13:50	Jan-20-20 13:50	
	Analyzed:	Jan-21-20 10:31	Jan-20-20 22:06	Jan-20-20 22:13	Jan-20-20 22:21	Jan-21-20 10:38	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		14.0 4.96	23.9 4.98	103 25.0	30.1 25.3	23.0 5.05	
TPH By SW8015 Mod	Extracted:	Jan-20-20 14:00	Jan-20-20 14:00	Jan-20-20 14:00	Jan-20-20 14:00	Jan-20-20 14:00	
	Analyzed:	Jan-21-20 01:20	Jan-21-20 01:41	Jan-21-20 02:02	Jan-21-20 02:23	Jan-21-20 02:44	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	
Diesel Range Organics (DRO)		<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	
Total TPH		<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	

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

Version: 1.9%

Jessica Kramer
Project Assistant

Analytical Report 649557

for
Etech Environmental & Safety Solution, Inc

Project Manager: Daniel Dominguez

VGWU Sat 4

21-JAN-20

Collected By: Client



1211 W. Florida Ave
Midland TX 79701

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: **Daniel Dominguez**
Etech Environmental & Safety Solution, Inc
P.O. Box 8469
Midland, TX 79708

Reference: XENCO Report No(s): **649557**
VGWU Sat 4
Project Address:

Daniel Dominguez:

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) 649557. 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. 649557 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,

A handwritten signature in black ink that reads 'Jessica Kramer'.

Jessica Kramer

Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

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



Sample Cross Reference 649557

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW3b	S	01-09-20 10:30	2	649557-001
SW4b	S	01-09-20 10:35	2	649557-002
SW5b	S	01-09-20 10:40	2	649557-003
SW6b	S	01-09-20 10:45	2	649557-004
SW7b	S	01-09-20 10:50	2	649557-005



CASE NARRATIVE

Client Name: Etech Environmental & Safety Solution, Inc

Project Name: VGWU Sat 4

Project ID:
Work Order Number(s): 649557

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

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3113912 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Certificate of Analytical Results 649557



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **SW3b** Matrix: Soil Date Received: 01.20.20 09.30
 Lab Sample Id: 649557-001 Date Collected: 01.09.20 10.30 Sample Depth: 2
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 01.20.20 13.50 Basis: Wet Weight
 Seq Number: 3113886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.0	4.96	mg/kg	01.21.20 10.31		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 01.20.20 14.00 Basis: Wet Weight
 Seq Number: 3113872

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.21.20 01.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.21.20 01.20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.21.20 01.20	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.21.20 01.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	81	%	70-135	01.21.20 01.20	
o-Terphenyl	84-15-1	90	%	70-135	01.21.20 01.20	



Certificate of Analytical Results 649557

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **SW3b**
 Lab Sample Id: 649557-001

Matrix: Soil
 Date Collected: 01.09.20 10.30

Date Received: 01.20.20 09.30
 Sample Depth: 2

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 01.20.20 17.00

Basis: Wet Weight

Seq Number: 3113912

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.21.20 05.51	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.21.20 05.51	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.21.20 05.51	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	01.21.20 05.51	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.21.20 05.51	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.21.20 05.51	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.21.20 05.51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	110	%	70-130	01.21.20 05.51		
4-Bromofluorobenzene	460-00-4	80	%	70-130	01.21.20 05.51		



Certificate of Analytical Results 649557



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **SW4b** Matrix: Soil Date Received: 01.20.20 09.30
 Lab Sample Id: 649557-002 Date Collected: 01.09.20 10.35 Sample Depth: 2
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 01.20.20 13.50 Basis: Wet Weight
 Seq Number: 3113886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	23.9	4.98	mg/kg	01.20.20 22.06		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 01.20.20 14.00 Basis: Wet Weight
 Seq Number: 3113872

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.21.20 01.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.21.20 01.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.21.20 01.41	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.21.20 01.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	78	%	70-135	01.21.20 01.41	
o-Terphenyl	84-15-1	87	%	70-135	01.21.20 01.41	



Certificate of Analytical Results 649557



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **SW4b**
 Lab Sample Id: 649557-002

Matrix: Soil
 Date Collected: 01.09.20 10.35

Date Received: 01.20.20 09.30
 Sample Depth: 2

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 01.20.20 17.00

Basis: Wet Weight

Seq Number: 3113912

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	01.21.20 06.11	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	01.21.20 06.11	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	01.21.20 06.11	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	01.21.20 06.11	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	01.21.20 06.11	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	01.21.20 06.11	U	1
Total BTEX		<0.00198	0.00198	mg/kg	01.21.20 06.11	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	107	%	70-130	01.21.20 06.11		
4-Bromofluorobenzene	460-00-4	80	%	70-130	01.21.20 06.11		



Certificate of Analytical Results 649557



Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **SW5b** Matrix: Soil Date Received: 01.20.20 09.30
 Lab Sample Id: 649557-003 Date Collected: 01.09.20 10.40 Sample Depth: 2
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 01.20.20 13.50 Basis: Wet Weight
 Seq Number: 3113886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	103	25.0	mg/kg	01.20.20 22.13		5

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 01.20.20 14.00 Basis: Wet Weight
 Seq Number: 3113872

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.21.20 02.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.21.20 02.02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.21.20 02.02	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.21.20 02.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	01.21.20 02.02	
o-Terphenyl	84-15-1	92	%	70-135	01.21.20 02.02	



Certificate of Analytical Results 649557

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **SW5b**
 Lab Sample Id: 649557-003

Matrix: Soil
 Date Collected: 01.09.20 10.40

Date Received: 01.20.20 09.30
 Sample Depth: 2

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 01.20.20 17.00

Basis: Wet Weight

Seq Number: 3113912

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.21.20 06.31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.21.20 06.31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.21.20 06.31	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	01.21.20 06.31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.21.20 06.31	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.21.20 06.31	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.21.20 06.31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	85	%	70-130	01.21.20 06.31		
1,4-Difluorobenzene	540-36-3	112	%	70-130	01.21.20 06.31		



Certificate of Analytical Results 649557

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **SW6b** Matrix: Soil Date Received: 01.20.20 09.30
 Lab Sample Id: 649557-004 Date Collected: 01.09.20 10.45 Sample Depth: 2
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 01.20.20 13.50 Basis: Wet Weight
 Seq Number: 3113886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	30.1	25.3	mg/kg	01.20.20 22.21		5

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 01.20.20 14.00 Basis: Wet Weight
 Seq Number: 3113872

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	01.21.20 02.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	01.21.20 02.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	01.21.20 02.23	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	01.21.20 02.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	81	%	70-135	01.21.20 02.23	
o-Terphenyl	84-15-1	90	%	70-135	01.21.20 02.23	



Certificate of Analytical Results 649557

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **SW6b**
 Lab Sample Id: 649557-004

Matrix: Soil
 Date Collected: 01.09.20 10.45

Date Received: 01.20.20 09.30
 Sample Depth: 2

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 01.20.20 17.00

Basis: Wet Weight

Seq Number: 3113912

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	01.21.20 06.51	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	01.21.20 06.51	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	01.21.20 06.51	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	01.21.20 06.51	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	01.21.20 06.51	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	01.21.20 06.51	U	1
Total BTEX		<0.00199	0.00199	mg/kg	01.21.20 06.51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	84	%	70-130	01.21.20 06.51		
1,4-Difluorobenzene	540-36-3	110	%	70-130	01.21.20 06.51		



Certificate of Analytical Results 649557

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **SW7b** Matrix: Soil Date Received: 01.20.20 09.30
 Lab Sample Id: 649557-005 Date Collected: 01.09.20 10.50 Sample Depth: 2
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 01.20.20 13.50 Basis: Wet Weight
 Seq Number: 3113886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	23.0	5.05	mg/kg	01.21.20 10.38		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 01.20.20 14.00 Basis: Wet Weight
 Seq Number: 3113872

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.21.20 02.44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.21.20 02.44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.21.20 02.44	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.21.20 02.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-135	01.21.20 02.44	
o-Terphenyl	84-15-1	91	%	70-135	01.21.20 02.44	



Certificate of Analytical Results 649557

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id: **SW7b**
 Lab Sample Id: 649557-005

Matrix: Soil
 Date Collected: 01.09.20 10.50

Date Received: 01.20.20 09.30
 Sample Depth: 2

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 01.20.20 17.00

Basis: Wet Weight

Seq Number: 3113912

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	01.21.20 07.12	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	01.21.20 07.12	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	01.21.20 07.12	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	01.21.20 07.12	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	01.21.20 07.12	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	01.21.20 07.12	U	1
Total BTEX		<0.00199	0.00199	mg/kg	01.21.20 07.12	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	107	%	70-130	01.21.20 07.12		
4-Bromofluorobenzene	460-00-4	78	%	70-130	01.21.20 07.12		



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



Etech Environmental & Safety Solution, Inc

VGWU Sat 4

Analytical Method: Chloride by EPA 300

Seq Number: 3113886

MB Sample Id: 7694779-1-BLK

Matrix: Solid

LCS Sample Id: 7694779-1-BKS

Prep Method: E300P

Date Prep: 01.20.20

LCSD Sample Id: 7694779-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	238	95	239	96	90-110	0	20	mg/kg	01.20.20 17:35	

Analytical Method: Chloride by EPA 300

Seq Number: 3113886

Parent Sample Id: 649539-001

Matrix: Soil

MS Sample Id: 649539-001 S

Prep Method: E300P

Date Prep: 01.20.20

MSD Sample Id: 649539-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	47.8	249	286	96	295	99	90-110	3	20	mg/kg	01.20.20 18:09	

Analytical Method: Chloride by EPA 300

Seq Number: 3113886

Parent Sample Id: 649559-001

Matrix: Soil

MS Sample Id: 649559-001 S

Prep Method: E300P

Date Prep: 01.20.20

MSD Sample Id: 649559-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	8.94	250	235	90	235	90	90-110	0	20	mg/kg	01.20.20 20:50	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3113872

MB Sample Id: 7694782-1-BLK

Matrix: Solid

LCS Sample Id: 7694782-1-BKS

Prep Method: SW8015P

Date Prep: 01.20.20

LCSD Sample Id: 7694782-1-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)	<15.0	1000	1050	105	1160	116	70-135	10	20	mg/kg	01.20.20 19:00	
Diesel Range Organics (DRO)	<15.0	1000	921	92	1030	103	70-135	11	20	mg/kg	01.20.20 19:00	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	83		88		100		70-135	%	01.20.20 19:00
o-Terphenyl	94		88		88		70-135	%	01.20.20 19:00

Analytical Method: TPH By SW8015 Mod

Seq Number: 3113872

Matrix: Solid

MB Sample Id: 7694782-1-BLK

Prep Method: SW8015P

Date Prep: 01.20.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.20.20 18:39	

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



Etech Environmental & Safety Solution, Inc

VGWU Sat 4

Analytical Method: TPH By SW8015 Mod

Seq Number: 3113872

Parent Sample Id: 649539-001

Matrix: Soil

MS Sample Id: 649539-001 S

Prep Method: SW8015P

Date Prep: 01.20.20

MSD Sample Id: 649539-001 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)	23.3	998	1090	107	1080	106	70-135	1	20	mg/kg	01.20.20 20:04	
Diesel Range Organics (DRO)	<15.0	998	979	98	975	98	70-135	0	20	mg/kg	01.20.20 20:04	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	96		93		70-135	%	01.20.20 20:04
o-Terphenyl	99		97		70-135	%	01.20.20 20:04

Analytical Method: BTEX by EPA 8021B

Seq Number: 3113912

MB Sample Id: 7694758-1-BLK

Matrix: Solid

LCS Sample Id: 7694758-1-BKS

Prep Method: SW5030B

Date Prep: 01.20.20

LCSD Sample Id: 7694758-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000385	0.100	0.110	110	0.114	114	70-130	4	35	mg/kg	01.21.20 03:32	
Toluene	<0.000456	0.100	0.0955	96	0.0995	100	70-130	4	35	mg/kg	01.21.20 03:32	
Ethylbenzene	<0.000565	0.100	0.0882	88	0.0916	92	70-130	4	35	mg/kg	01.21.20 03:32	
m,p-Xylenes	<0.00101	0.200	0.171	86	0.179	90	70-130	5	35	mg/kg	01.21.20 03:32	
o-Xylene	<0.000344	0.100	0.0865	87	0.0902	90	70-130	4	35	mg/kg	01.21.20 03:32	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		105		106		70-130	%	01.21.20 03:32
4-Bromofluorobenzene	74		89		91		70-130	%	01.21.20 03:32

Analytical Method: BTEX by EPA 8021B

Seq Number: 3113912

Parent Sample Id: 649557-001

Matrix: Soil

MS Sample Id: 649557-001 S

Prep Method: SW5030B

Date Prep: 01.20.20

MSD Sample Id: 649557-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000386	0.100	0.104	104	0.105	105	70-130	1	35	mg/kg	01.21.20 04:12	
Toluene	0.000790	0.100	0.0912	90	0.0917	91	70-130	1	35	mg/kg	01.21.20 04:12	
Ethylbenzene	<0.000567	0.100	0.0819	82	0.0818	82	70-130	0	35	mg/kg	01.21.20 04:12	
m,p-Xylenes	<0.00102	0.201	0.158	79	0.157	79	70-130	1	35	mg/kg	01.21.20 04:12	
o-Xylene	0.000550	0.100	0.0798	79	0.0796	79	70-130	0	35	mg/kg	01.21.20 04:12	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	111		110		70-130	%	01.21.20 04:12
4-Bromofluorobenzene	97		95		70-130	%	01.21.20 04:12

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: Etech Environmental & Safety Solution, I

Date/ Time Received: 01.20.2020 09.30.00 AM

Work Order #: 649557

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.1
#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:



Brianna Teel

Date: 01.20.2020

Checklist reviewed by:



Jessica Kramer

Date: 01.21.2020



Analytical Report 649443

for

Etech Environmental & Safety Solution, Inc

Project Manager: Daniel Dominguez

VGWU Sat 4

01.20.2020

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

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)



01.20.2020

Project Manager: **Daniel Dominguez**
Etech Environmental & Safety Solution, Inc
P.O. Box 8469
Midland, TX 79708

Reference: XENCO Report No(s): **649443**
VGWU Sat 4
Project Address:

Daniel Dominguez:

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) 649443. 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. 649443 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,

A handwritten signature in black ink that reads 'Jessica Kramer'.

Jessica Kramer
Project Assistant

A Small Business and Minority Company

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



Sample Cross Reference 649443

Etech Environmental & Safety Solution, Inc, Midland, TX

VGWU Sat 4

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Pad8b	S	01.14.2020 14:00	2	649443-001
Pad45b	S	01.14.2020 14:05	2	649443-002



CASE NARRATIVE

Client Name: Etech Environmental & Safety Solution, Inc

Project Name: VGWU Sat 4

Project ID:

Work Order Number(s): 649443

Report Date: 01.20.2020

Date Received: 01.17.2020

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results

649443

Etech Environmental & Safety Solution, Inc, Midland, TX
VGWU Sat 4

Sample Id: Pad8b	Matrix: Soil	Sample Depth: 2
Lab Sample Id: 649443-001	Date Collected: 01.14.2020 14:00	Date Received: 01.17.2020 11:40
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Analyst: CHE	% Moist:	Tech: CHE
Seq Number: 3113684	Date Prep: 01.17.2020 15:00	
	Prep seq: 7694630	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	12100	250	42.9	mg/kg	01.17.2020 16:19		50

Sample Id: Pad45b	Matrix: Soil	Sample Depth: 2
Lab Sample Id: 649443-002	Date Collected: 01.14.2020 14:05	Date Received: 01.17.2020 11:40
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Analyst: CHE	% Moist:	Tech: CHE
Seq Number: 3113684	Date Prep: 01.17.2020 15:00	
	Prep seq: 7694630	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	3080	50.0	8.58	mg/kg	01.17.2020 16:40		10

**Certificate of Analytical Results****649443****Etech Environmental & Safety Solution, Inc, Midland, TX****VGWU Sat 4**Sample Id: **7694630-1-BLK**

Matrix: Solid

Sample Depth:

Lab Sample Id: 7694630-1-BLK

Date Collected:

Date Received:

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3113684

Date Prep: 01.17.2020 15:00

Prep seq: 7694630

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<5.00	5.00	0.858	mg/kg	01.17.2020 15:19	U	1



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. **ND** Not Detected.

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



BS / BSD Recoveries

Project Name: VGWU Sat 4

Work Order #: 649443

Project ID:

Analyst: CHE

Date Prepared: 01.17.2020

Date Analyzed: 01.17.2020

Lab Batch ID: 3113684

Sample: 7694630-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<5.00	250	257	103	250	256	102	0	90-110	20	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$ Blank Spike Recovery [D] = $100 * (C)/[B]$ Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



Form 3 - MS / MSD Recoveries

Project Name: VGWU Sat 4

Work Order #: 649443

Lab Batch ID: 3113684

Date Analyzed: 01.17.2020

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 649253-003 S

Batch #: 1 Matrix: Soil

Date Prepared: 01.17.2020

Analyst: CHE

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	33.0	200	238	103	200	238	103	0	90-110	20	

Lab Batch ID: 3113684

QC- Sample ID: 649426-010 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01.17.2020

Date Prepared: 01.17.2020

Analyst: CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	233	250	482	100	250	480	99	0	90-110	20	

Matrix Spike Percent Recovery $[D] = 100 \times (C - A) / B$
 Relative Percent Difference $RPD = 200 \times |(C - F) / (C + F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F - A) / E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
 N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Chain of Custody

Work Order No:

449443

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3333
Midland, TX (432-704-5440) El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813) 288-1111
Hobbs, NM (575-392-7550)

www.xenco.com Page 1 of 1

Project Manager:		daniel dominquez	Bill to: (if different)	Jason Michelson
Company Name:		Etech Environmental	Company Name:	Chevron Environmental Management
Address:		3100 Plains Hwy	Address:	1500 Louisiana St. Office 38116
City, State ZIP:		Livingston, NM 88260	City, State ZIP:	Houston, TX 77002
Phone:		832-854-5601	Email:	imichelson@chevron.com; daniel@etechenv.com

Work Order Comments Program: UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐ State of Project: Reporting Level II ☐ Level III ☐ PST/UST ☐ RRP ☐ Level IV ☐ Deliverables: EDD ☐ ADAPT ☐ Other:	
---	--

Project Name:		VGWU Sat 4		Turn Around		ANALYSIS REQUEST												Work Order Notes					
Project Number:				Routine ☐														TAT starts the day received by the lab, if received by 4:30pm Sample Comments					
P.O. Number:				Rush: yes																			
Sampler's Name:		Daniel Dominguez		Due Date:																			
SAMPLE RECEIPT		Temp Blank:		Yes ☒ No ☐		Wet Ice: ☒ Yes ☐ No ☐																	
Temperature (°C):		0.1/1.3		Thermometer ID																			
Received Intact:		Yes ☒ No ☐																					
Cooler Custody Seals:		Yes ☐ No ☒ N/A ☐		Correction Factor:																			
Sample Custody Seals:		Yes ☐ No ☐ N/A ☐		Total Containers:																			
Sample Identification		Matrix		Date Sampled		Time Sampled		Depth		Number of Containers													
Pad8b		Soil		14-Jan-20		14:00		2		1													
Pad45b		Soil		14-Jan-20		14:05		2		1													

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 ₂	Na	Sr	Ti	Sn	U	V	Zn
<i>Circle Method(s) and Metal(s) to be analyzed</i>		TCLP / SPLP	6010:	8RCRA	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Pb	Mn	Mo	Ni	Se	Ag	Ti	U													

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. 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 Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

1631 / 245.1 / 7470 / 7471 : Hg



Client: Etech Environmental & Safety Solution, I

Date/ Time Received: 01/17/2020 11:40:00 AM

Work Order #: 649443

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

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:

Alexis Jaime

Date: 01/17/2020

Checklist reviewed by:

Jessica Kramer

Date: 01/17/2020

Appendix D

Photographic Log

Photographic Log

Dates: 12/13/2019 - 12/16/2019



Photographic Log

Dates: 12/18/2019 - 01/02/2020

12/18/19, 2:42 PM

+32.782378,-103.510402

Photo Number:

#3

Photo Direction:

North

Photo Description:View of Portion of the
Excavated Area.**Photo Number:**

#4

Photo Direction:

South

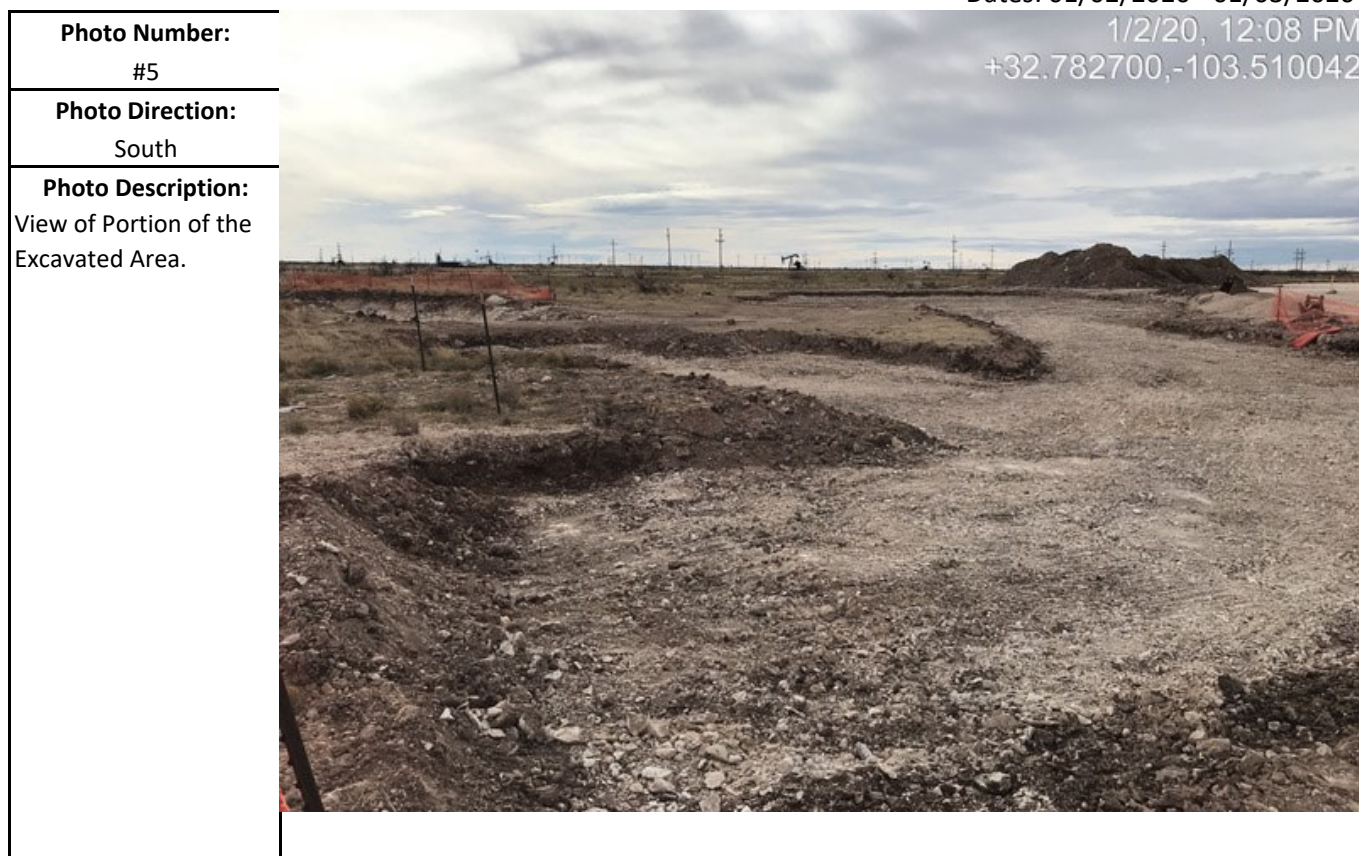
Photo Description:View of Portion of the
Excavated Area.

1/2/20, 12:07 PM

+32.782728,-103.510161

Photographic Log

Dates: 01/02/2020 - 01/03/2020



Photographic Log

Dates: 01/07/2020 - 01/08/2020

1/7/20, 11:45 AM

+32.782255,-103.510677

Photo Number:

#7

Photo Direction:

Southwest

Photo Description:

View of gypsum being incorporated into non-impacted topsoil.

**Photo Number:**

#8

Photo Direction:

Southwest

Photo Description:

View of Portion of the Excavated Area.



1/8/20, 11:52 AM

+32.782345,-103.510082

Photographic Log

Dates: 01/10/2020



Photographic Log

Dates: 01/10/2020



Photographic Log

Dates: 01/15/2020

Photo Number: #13	
Photo Direction: South	
Photo Description: View of the Affected Area after backfilling activities.	

Photo Number: #14	
Photo Direction: South	
Photo Description: View of the Affected Area after backfilling activities.	

Photographic Log

Dates: 01/15/2020



District I
1625 N. French Dr., Hobbs, NM 88240
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 4552

CONDITIONS

Operator: Arcadis U.S., Inc 630 Plaza Drive Highlands Ranch, CO 80129	OGRID: 329073
	Action Number: 4552
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bbillings	None	9/13/2021