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State of New Mexico
Oil Conservation Division

Incident ID	NDHR 1918948878
District RP	1RP-5609
Facility ID	fDHR 1918948760
Application ID	pDHR 191894 8398

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	64 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☒ Yes ☐ No

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

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

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

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

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State of New Mexico
Oil Conservation Division

Incident ID	NDHR 1918948878
District RP	1RP-5609
Facility ID	fDHR 1918948760
Application ID	pDHR 1918948398

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

Printed Name: Rob Kirk Title: General Manager, HSE and Compliance

Signature:  Date: 03/27/2020

email: rob.kirk@solarismidstream.com Telephone: 432-203-9020

OCD Only

Received by: Date:

Form C-141 State of New Mexico
Page 5 Oil Conservation Division

Incident ID	NDHR 1918948878
District RP	1RP-5609
Facility ID	fDHR 1918948760
Application ID	pDHR 191894 8398

Remediation Plan

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

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

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

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

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

Printed Name: Rob Kirk Title: General Manager, HSE and Compliance

Signature: RP Kirk Date: 03/27/2020

email: rob.kirk@solarismidstream.com Telephone: 432-203-9020

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

Release Investigation and Remedial Action Plan

General Site Information:
Caza Eagle Claw Line (NMOCD Reference #: 1RP-5609)

Site Contact:
Mr. Rob Kirk, Solaris Water Midstream LLC
907 Tradewinds Blvd, Suite B, Midland, Texas 79706
(432) 203-9020

Depth to Ground Water
64 feet below grade surface

Distance to Nearest Surface Water
Laguna Tonto (Central-western Lea County, NM), approximately 10.35 miles to the West

Driving Directions
From Hwy 62, South on Co Rd 27-A 1.95 mi, East on Lease Road 1.46 mi.,
to Pipe location

Legal Description
Unit D, Section 5, T20S, R35E, Lea County, New Mexico

March 13, 2020
Terracon Project No. AR197234

Prepared for:
Solaris Water Midstream LLC
Midland, Texas

Prepared by:
Terracon Consultants, Inc.
Lubbock, Texas

March 13, 2020

Solaris Water Midstream LLC
907 Tradewinds Blvd., Suite B
Midland, Texas 79706

Attn: Mr. Rob Kirk
P: 432-203-9020
E: rob.kirk@solarismidstream.com

RE: **Release Investigation and Remedial Action Plan**
Caza Eagle Claw SWD Flowback Line Release (1RP-5609)
Unit D, Section 5, Township 20 South, Range 35 East, Lea County, New Mexico
Terracon Project No. AR197234

Dear Mr. Kirk,

Terracon Consultants, Inc. (Terracon) is pleased to submit our Release Investigation and Remedial Action Plan (RAP) for the site referenced above. The Release Investigation and RAP were developed in accordance with the New Mexico Oil Conservation Division (NMOCD) regulations concerning clean-up actions required for releases of crude oil and produced water. Based on the findings of the release investigation assessment, Terracon recommends the following actions be taken to achieve protection of fresh water and the environment in accordance with NMOCD regulations. Terracon developed the Release Investigation and RAP in general accordance with our proposal (PAR197234) dated July 8, 2019.

- Based on the magnitude of chloride and hydrocarbon concentrations detected within the release margins to depths subject to NMOCD Reclamation requirements, approximately 2,000 cubic yards (cy) of chloride impacted material will be required to be excavated and disposed of at a permitted disposal facility under manifest.
- Following excavation to recommended Reclamation depths, vertical and horizontal delineation samples will be collected from the base and walls of the excavation to confirm the remaining levels of soil contaminants are below the desired NMOCD Reclamation objectives.
- Based on the anticipated depth to groundwater and pending the confirmed vertical delineation, it is anticipated that a remedial response will be warranted within the soils at depths greater than 4 ft. bgs in the areas surrounding soil boring HA-3 and GP-4. Confirmation sampling for the presence of chlorides will be executed to confirm the remaining levels within soil are below the desired NMOCD Remediation objectives.

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

Sincerely,
Terracon Consultants, Inc.

Joseph Guesnier
Staff Scientist
Lubbock

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

Terracon

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Release Investigation and Remedial Action Plan
Caza Eagle Claw SWD Flowback Line Release
Unit D Section 5, Township 20 South, Range 35 East,
Lea County, New Mexico
NMOCD Reference No. 1RP-5609
Terracon Project No. AR197234
March 13, 2020

1.0 SITE DESCRIPTION

The Site is comprised of an approximate 0.45-acre tract of land within the Unit D Section 5, Township 20 South, Range 35 East, Lea County, New Mexico (hereinafter, the site). The site consists primarily of undeveloped range land except for a caliche lease road that is used by Solaris Water Midstream (Solaris). A Topographic Map illustrating the site location is included as Figure 1 and a Chloride Concentration Map is included as Figure 2, and a Chloride Concentration Map (Soils >4 ft bgs.) is included as Figure 3 in Appendix A.

2.0 SCOPE OF SERVICES

Terracon's scope of services is to investigate the magnitude and extent of the documented release and develop a Remedial Action Plan (RAP) in accordance with the New Mexico Oil Conservation Division (NMOCD) and Bureau of Land Management (BLM) requirements that detail site closure activities to be completed. This RAP addresses the July 1, 2019 release of approximately 50 barrels (bbls) of produced water which contained an estimated 0.5 bbls of crude oil originating from a malfunctioning joint on a poly pipeline of a Solaris flowback line.

3.0 INTRODUCTION AND NOTIFICATION

The following table provides detailed information regarding the July 1, 2019 produced water release at the Caza Eagle Claw Flowback Line Release Site in Lea County, New Mexico:

Required Information	Site and Release information	
Responsible party Local contact	The facility is operated by Solaris Water Midstream	
	Contact: Mr. Rob Kirk	P: (469) 978-5620 E: rob.kirk@solarismidstream.com
NMOCD Notification	Notice of the release was provided to Dylan Rose-Cross (NMOCD), by Rob Kirk (Solaris), on July 8, 2019.	
Facility description	The Caza Eagle Claw Line is in Lea County, New Mexico. It is an approximate 0.45-acre area located within Unit D, Section 5, Township 20 South, Range 35 East, approximately 13.25 miles	

Required Information	Site and Release information	
	west of Monument, New Mexico. The site is being utilized for the above ground pipeline.	
Time of incident	July 1, 2019, discovered at 8:00 a.m.	
Discharge event	A 6-inch polyethylene line became over pressurized and a joint malfunctioned. At the release point, released fluid saturated proximal surface soil before pooling, then flowing east down the ditch on the southside of the lease road, and the pressure of the release ran north over the lease road, terminating in the ditch on the northside of the lease road. The release margins are illustrated on Figure 2 of Appendix A.	
Type of discharge	The documented fluids release occurred at the surface and appears to be extensive to depth south of the lease road.	
Quantity of spilled material	Total Fluids: 50 bbls	Produced Water: 49.5 bbls containing approximately 0.5 bbls of crude oil
	Total Fluids Recovered: 10.25 bbls	Produced Water: 10 bbls Crude Oil: 0.25 bbls
Site characteristics	Relatively undulating topography with the native ground surface very gently sloping to the southeast.	
Immediate corrective actions	Initial source elimination was accomplished by the Solaris Water Midstream foreman shutting off the line, and repairing it. A vacuum truck removed surface residuals.	

4.0 INITIAL RESPONSE ACTIONS

4.1 Source Elimination

Initial source elimination was accomplished by the Solaris Water Midstream foreman shutting off and repairing the line.

5.0 GENERAL SITE CHARACTERISTICS

5.1 Depth to Groundwater

A water well record search of the New Mexico Office of the State Engineer NMOSE POD Geographic Information System (GIS) data portal identified one registered well (L-04157) within 1.04 miles of the site. The depth to groundwater at the site is anticipated to be 64 feet bgs. NMOSE registered wells within a 5-mile radius of the site have an average depth to groundwater

of 286 feet bgs, with a minimum reported groundwater depth of 18 feet bgs (Figure 6 of Appendix A).

5.2 Distance to Nearest Potable Water Well

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

5.3 Distance to Nearest Surface Water

Laguna Tonto (Central-western Lea County, NM), approximately 10.35 miles to the west of the site.

5.4 Soil / Waste Characteristics

Soils at the site are mapped as pyote soils and dune land, 0 to 3 percent slopes, 0 to 30 inches of fine sand; and 30 to 60 inches of fine, sandy loam. This soil has a surface layer of fine sand; and depth to restrictive features is greater than 80 inches bgs, resulting in the formation being categorized with a negligible runoff classification.

5.5 Groundwater Quality

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

6.0 REGULATORY FRAMEWORK AND RESPONSE ACTION LEVELS

Oil and gas exploration and production facilities in New Mexico are generally regulated by the NMOCD. The NMOCD has issued the *Closure Criteria for Soils Impacted by a Release, June 21, 2018* and *Restoration, Reclamation, and Re-vegetation (19.15.29.13) NMAC – D (Reclamation of areas no longer in use)* as guidance documents for the remediation and reclamation of sites impacted by releases from oil and gas exploration and production activities. Sections 6.1 and 6.2 below detail applicability of these guidance documents to the site-specific characteristics associated with the Caza Eagle Claw Line release.

6.1 Reclamation Levels (Surface to 4 ft. bgs)

The below Reclamation Limits for chlorides, TPH (GRO+DRO+MRO), BTEX (includes benzene, toluene, ethylbenzene and xylenes), and benzene are defined within New Mexico Administration Code (NMAC) *Restoration, Reclamation, and Re-vegetation* (19.15.29.13) *New Mexico Administration Code (NMAC) – D (Reclamation of areas no longer in use)* for soils extending to 4 ft. bgs.:

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

6.2 Remediation Levels (> 4 ft. bgs)

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

Table 1
Closure Criteria for Soils Impacted by a Release

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

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

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

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

7.0 SOIL SAMPLING PROCEDURES

Soil sampling procedures are detailed as follows:

7.1 Soil Sampling Procedures for Laboratory Analysis

Soil Sampling Procedures

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

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

Analytical Methods

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

- Chloride – EPA Method 300.0

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

8.0 RELEASE INVESTIGATION DATA EVALUATION

During Terracon's July 3, 2019, September 30, 2019 and February 26, 2020 release investigation activities, a total of 45 soil samples were collected from the site and analyzed for BTEX, chloride, and/or TPH. A total of 41 samples were collected from within the release margins, and four samples were collected outside of the impacted area to evaluate background concentrations.

8.1 Background Data Evaluation

A total of four discrete soil samples were collected from two background locations (HA-5 and HA-6) in up-gradient positions relative to the release extent. Four of the samples were analyzed for the presence of BTEX. The four analyzed samples did not exhibit concentrations of BTEX constituents above applicable laboratory SDLs, as summarized in Appendix A, Table 1.

Total TPH was detected above applicable laboratory SDLs in each of the analyzed background samples. The Total TPH concentrations ranged from 17.7 mg/kg in soil sample HA-6 (0.5 ft bgs 1 ft bgs) to 38.7 mg/kg in soil sample HA-6 (surface to 0.5 ft bgs), as summarized in Appendix A, Table 1.

Each of the four background samples collected were analyzed for the presence of chloride. The detected chloride concentrations ranged from 1.81 mg/kg in soil sample HA-5 (surface to 0.5 ft bgs) to 10.8 mg/kg in soil sample HA-6 (surface to 0.5 ft bgs), as summarized in Appendix A, Table 1.

Based on the review of the analytical results of the background soil samples, the detected constituent concentrations did not exceed NMOCD Action Levels based on the criteria ranking parameters and applicability by depth. Based on this comparison, NMOCD Action Levels will continue to be utilized as the applicable RALs for the site.

8.2 Release Margins Data Evaluation

8.2.1 Reclamation Assessment Data Evaluation (On Lease Road)

A total of three discrete soil samples were collected from one sample location (HA-7) from the center of the release area on the lease road. The three samples were analyzed for the presence of Benzene. In the three samples Benzene was not detected above applicable laboratory SDLs; and which did not exceed the applicable NMOCD RAL for benzene of 10 mg/kg, as summarized in Appendix A, Table 1.

Total BTEX was not detected above applicable laboratory SDLs; and which did not exceed the applicable NMOCD RAL for Total BTEX of 50 mg/kg, as summarized in Appendix A, Table 1.

Total TPH was not detected above applicable laboratory SDLs; and which did not exceed the applicable NMOCD RAL for Total TPH of 100 mg/kg as summarized in Appendix A, Table 1.

Chloride was detected above applicable laboratory SDLs in all soil samples analyzed within the Reclamation Assessment target depth. The chloride concentrations ranged from 11.6 mg/kg in soil sample HA-7 (0.5 ft bgs to 1 ft bgs) to 2,020 mg/kg in soil sample HA-7 (surface to 0.5 ft bgs) One of the three soil samples analyzed exhibited chloride concentrations above the applicable NMOCD Reclamation Assessment Limit of 600 mg/kg, as summarized in Table 1.

8.2.2 Reclamation Assessment Data Evaluation (Off Lease Road)

Benzene was detected above applicable laboratory SDLs in one of the 27 soil samples analyzed within the release margins off the lease road. The benzene concentration of 0.0857 mg/kg in soil sample HA-4 (surface to 0.5 ft. bgs); did not exceed the applicable NMOCD RAL for benzene of 10 mg/kg, as summarized in Table 1.

Total BTEX was detected above applicable laboratory SDLs in three of the 27 soil samples analyzed within the release margins off the lease road. The Total BTEX concentration ranged from 0.00566 mg/kg in soil sample GP-5 (surface to 0.5 ft bgs) to 17.3 mg/kg in soil sample HA-4 (surface to 0.5 ft. bgs); which did not exceed the applicable NMOCD RAL for Total BTEX of 50 mg/kg, as summarized in Table 1.

Total TPH was detected above applicable laboratory SDLs in 15 of the 27 soil samples analyzed within the release margins off the lease road. The Total TPH concentrations ranged from 8.94 mg/kg in soil samples HA-2 (0.5 ft. bgs to 1 ft. bgs) to 18,000 mg/kg in soil sample HA-4 (surface to 0.5 ft. bgs). Four of the soil samples analyzed within the release margins at depths from (surface to 1 ft. bgs) in HA-4, GP-1, and GP-3 did exhibit Total TPH concentrations above the NMOCD RAL of 100 mg/kg for Total TPH as summarized in Table 1.

Chloride was detected above applicable laboratory SDLs in 25 of the 27 soil samples analyzed within the Reclamation Assessment target depths. The chloride concentrations ranged from 14.5 mg/kg in soil sample HA-10 (surface to 0.5 ft bgs) to 12,200 mg/kg in soil sample HA-3 (1.5 to 2 ft bgs). Of the 27 soil samples analyzed, 14 soil samples exhibited chloride concentrations above the applicable NMOCD Reclamation Assessment Limit of 600 mg/kg, as summarized in Table 1.

8.2.3 Remediation Assessment Data Evaluation

At each of the original soil boring locations, a soil sample was collected and analyzed from the 4.5 to 5 ft. bgs interval for the presence of chlorides. The samples were not analyzed for the presence of BTEX or TPH as the constituents were not present or had been delineated within shallower intervals. Additional vertical samples at depths greater than 4 ft. bgs were collected from the open remedial excavations and Geo-probing activities. These samples were analyzed for benzene, Total BTEX, Total TPH, and chlorides.

Benzene was not detected above applicable laboratory SDLs; and which did not exceed the applicable NMOCD RAL for benzene of 10 mg/kg, as summarized in Appendix A, Table 1.

Total BTEX was not detected above applicable laboratory SDLs; and which did not exceed the applicable NMOCD RAL for Total BTEX of 50 mg/kg, as summarized in Appendix A, Table 1.

Total TPH was detected above applicable laboratory SDLs in four of the 11 soil samples analyzed within the release margins off the lease road. The Total TPH concentrations ranged from 10.7 mg/kg in soil samples GP-3 (4 ft bgs to 5 ft bgs), GP-2 (8 ft bgs to 9 ft bgs) to 37.5 mg/kg in soil sample GP-5 (4 ft bgs to 5 ft bgs); which did not exceed the applicable NMOCD RAL for Total TPH of 2,500 mg/kg, as summarized in Appendix A, Table 1.

The detected chloride concentrations ranged in concentrations from 24 mg/kg in soil sample HA-2 (4.5 ft. bgs to 5 ft. bgs) to 10,400 mg/kg in soil sample GP-5 (4 ft. bgs to 5 ft. bgs). The detected chloride concentrations at depths greater than 4 ft. bgs did exceed the applicable NMOCD Remediation Action Limit of 10,000 mg/kg, in HA-3 (4.5 to 5 ft. bgs) and GP-4 (4 ft. bgs to 5 ft. bgs). as summarized in Appendix A Table 1. The dispersion of chloride concentrations can be observed in the HA-8 and HA-9 (5.5 ft bgs to 6 ft bgs) soil samples, and GP-2 (8 ft bgs to 9 ft bgs).

It should be noted that soil borings advanced within the release margins were terminated due to auger refusal upon encountering a cemented caliche layer at approximately 7 ft bgs, with the sole exception being GP-2 (8 ft bgs to 9 ft bgs).

8.3 Release Investigation Data Summary

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

Of the 41 soil samples analyzed, four soil samples exhibited TPH concentrations above the applicable NMOCD Reclamation Action Limit of 100 mg/kg. None of the soil samples analyzed for TPH exceeded the NMOCD Remediation Action Limit for samples collected collected deeper

than 4 ft. bgs. The bottom-of-hole samples did not exhibit TPH concentrations above actionable limit.

Of the 41 soil samples analyzed, 15 soil samples exhibited chloride concentrations above the applicable NMOCD Reclamation Action Limit of 600 mg/kg. Two of the soil samples analyzed for chlorides exceeded the NMOCD Remediation Action Limit of 10,000 mg/kg for samples collected deeper than 4 ft. bgs.

It is anticipated that released produced water chlorides consolidated upon the cemented layer of the Pyote Soils at approximately 80 inches bgs. Based on the proximity of the analyzed samples to this restrictive layer and the magnitude of the concentrations being elevated above 10,000 mg/kg in the vicinity of soil boring HA-3 and GP-4, Terracon conducted additional vertical delineation and analyzed for the presence of chlorides at this restrictive zone to ensure that concentrations are not elevated further at this restrictive interphase. Terracons additional sampling indicated that chloride concentrations at soil borings HA-8 and HA-9, begin to decline at depths of 72 inches bgs.

9.0 SOIL RECLAMATION AND REMEDIATION

Impacted soil will be remediated, reclamated and managed according to the criteria described below which is intended to protect fresh waters, public health and the environment from exposure to the above constituents of concern.

9.1 Reclamation Response Objectives

Based on the magnitude of chloride concentrations detected within the release margins to depths subject to NMOCD Reclamation requirements, approximately 2,000 cy of chloride impacted material will be required to be excavated and disposed of at a permitted disposal facility under manifest.

9.2 Remediation Response Objectives

Following excavation to recommended Reclamation depths, vertical and horizontal delineation samples will be collected from the base and walls of the excavation to confirm the remaining levels of soil contaminants are below the desired NMOCD RALs.

Based on the anticipated depth to groundwater and pending the confirmed vertical delineation, it is anticipated that a remedial response will not be warranted within the soils at depths greater than 4 ft. bgs with the exception of areas in the vicinity of soil boring HA-3 and GP-2. Excavation of areas proximate will soil boring HA-3 and GP-2 are recommended based on the apparent extent of impacts to depth. Confirmation sampling of excavation activities will be conducted to ensure the extent of the impacts have been mitigated to below NMOCD Remediation Action Limits.

9.3 Soil Management

The selected method of soil management is removal and disposal at a NMOCD-approved facility. Excavated soils will be transported by truck (20 cubic yard capacity) and disposed of at either the R360 Disposal Facility located in Halfway, New Mexico or the Lea Land Disposal Facility located in Lea County, New Mexico, based on landfill approvals.

9.4 Variance Request

Remediation Levels (> 4 ft. bgs)

To provide adequate protection of the remediation zone <4 ft. bgs. and encapsulate the contaminates >4 ft. bgs, Terracon requests to utilize a 20 millileters poly liner on the portions of the excavations present on the south side of the lease road. All NMOCD requirements will be observed during the installation process and the NMOCD will be notified 48 hrs prior to the initiation of the liner installation.

10.0 TERMINATION OF REMEDIAL ACTIONS, CLOSURE AND REPORTING

10.1 Termination of Reclamation and Remedial Actions

Reclamation and remedial actions at the site will be terminated when the confirmation samples indicate that the above objectives have been completed within the reclamation and remedial depth designations. The intent of the reclamation and remedial approaches are to achieve compliance with NMOCD regulatory objectives in ensuring that any remaining contaminants will not pose a threat to present or foreseeable beneficial use of fresh water, the public health and the environment.

10.2 Final Closure

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

10.3 Final Report

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

APPENDIX A – FIGURES AND TABLES

Figure 1 – Topographic Map

Figure 2 – Chloride Concentration Map

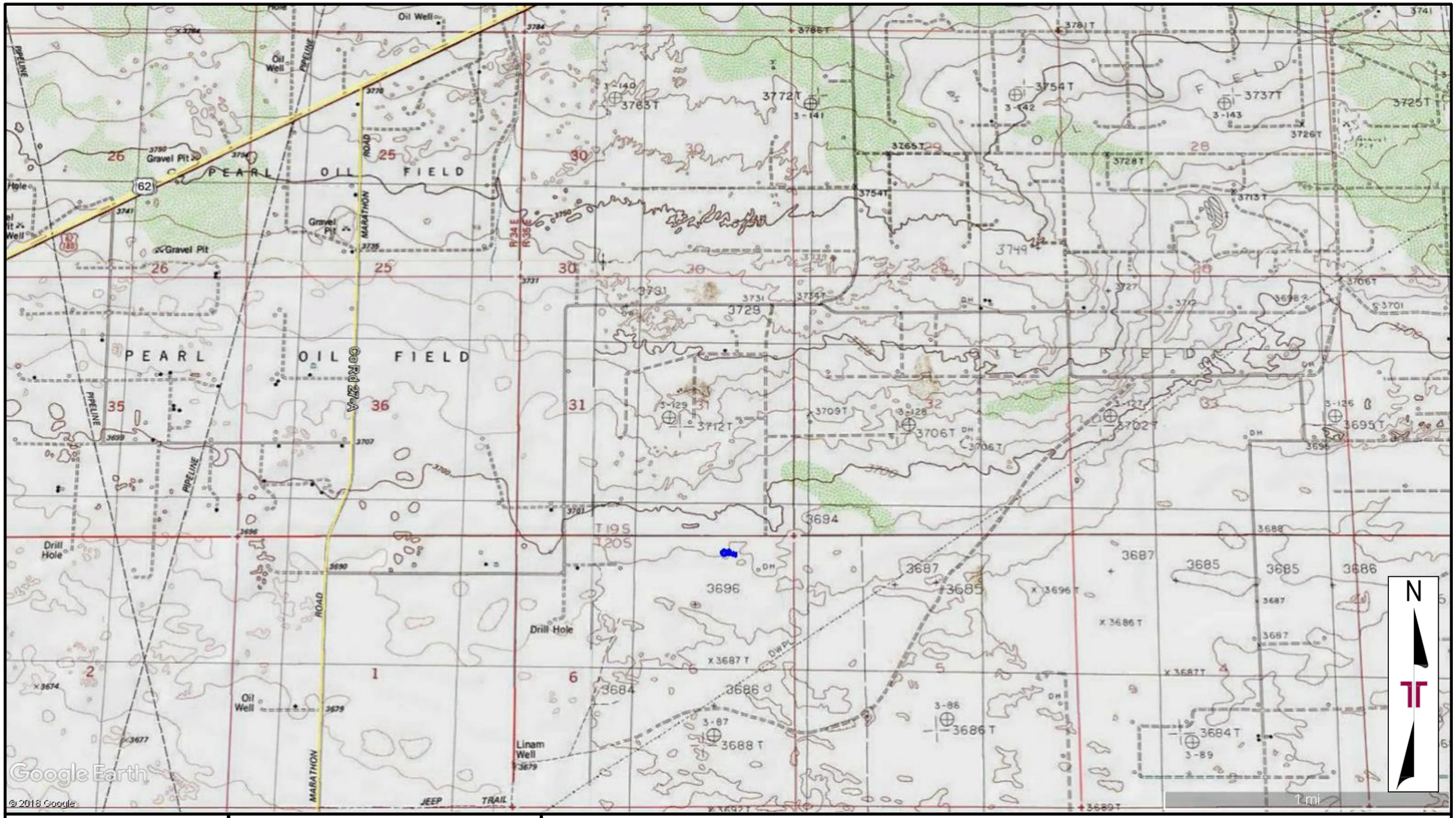
Figure 3 – Chloride Concentration Map (Soils >4 ft bgs.)

Figure 4 – Geo Probe Map

Figure 5 – Additional Off Pad Concentration Map

Figure 6 – NMOSE POD Location Map

Table 1 – Soil Sample Analytical Results

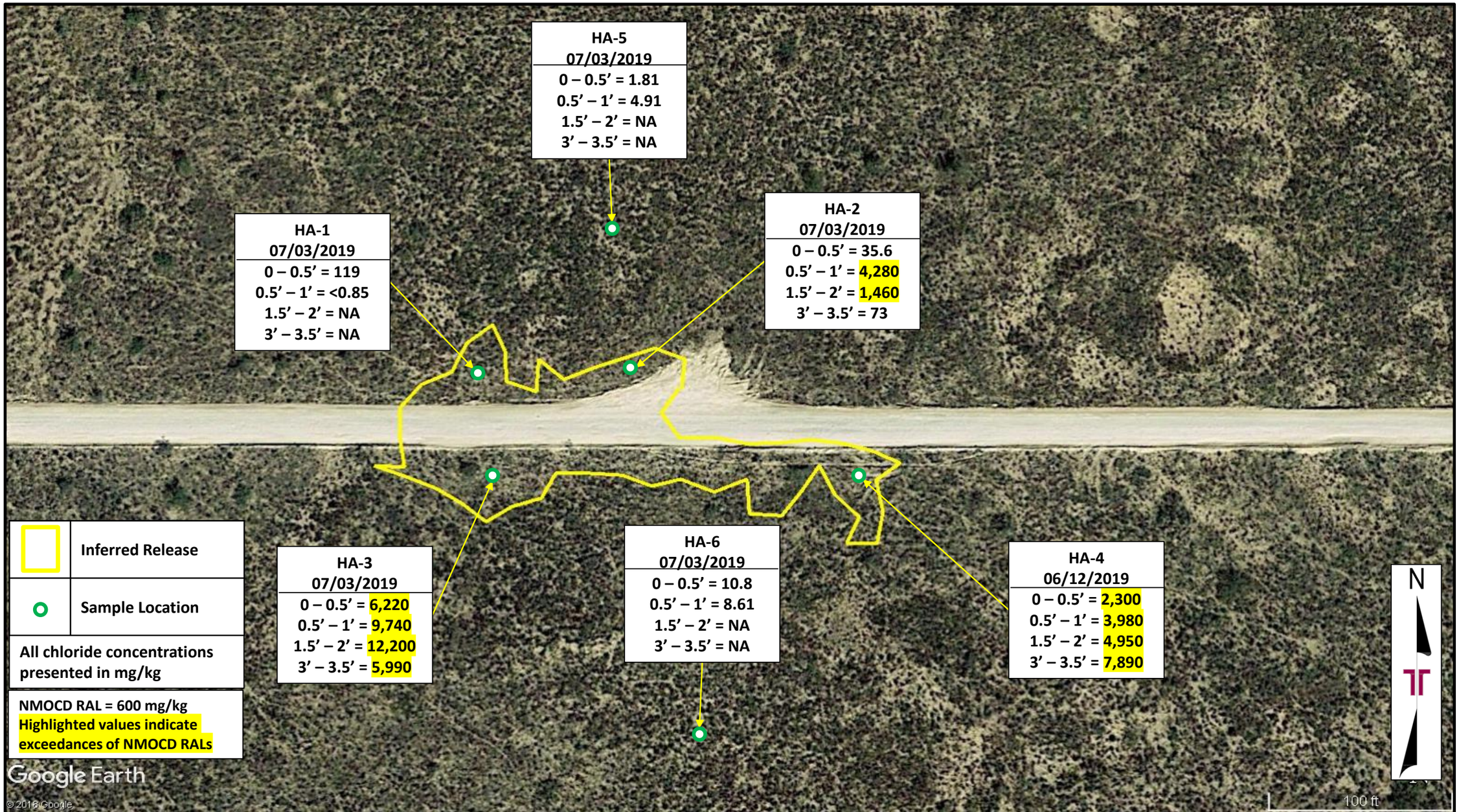


Project No.	AR197234
Scale:	As Shown
Source:	USGS
Date:	2014

Terracon
Consulting Engineers & Scientists
5827 50th St. Suite 1 Lubbock, Texas 79424
PH. (806) 300-0104 FAX. (806) 797 0947

Figure 1 – Topo Map

Caza Eagle Claw Flowback Line Release
32.608587°, -103.492156°
Lea County, New Mexico



Project No.	AR197234
Scale:	As Shown
Source:	Google Earth
Image Date:	11/02/2017

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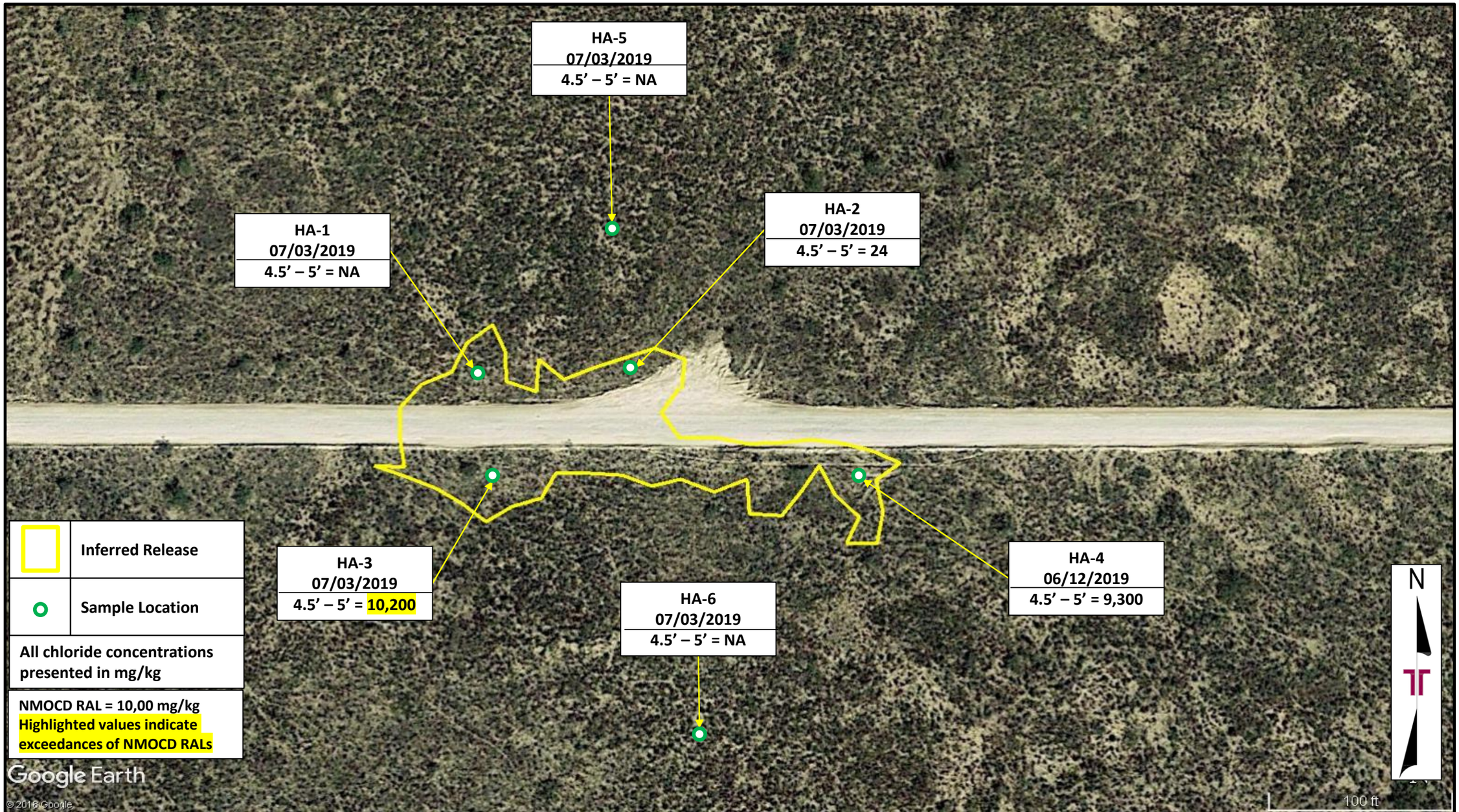
Figure 2 – Chloride Concentration Map (Soils within Reclamation Depths)

Caza Eagle Claw SWD Flowback Line Release
32.608587°, -103.492156°
Lea County, New Mexico



Project No.	AR197234
Scale:	As Shown
Source:	Google Earth
Image Date:	11/02/2017

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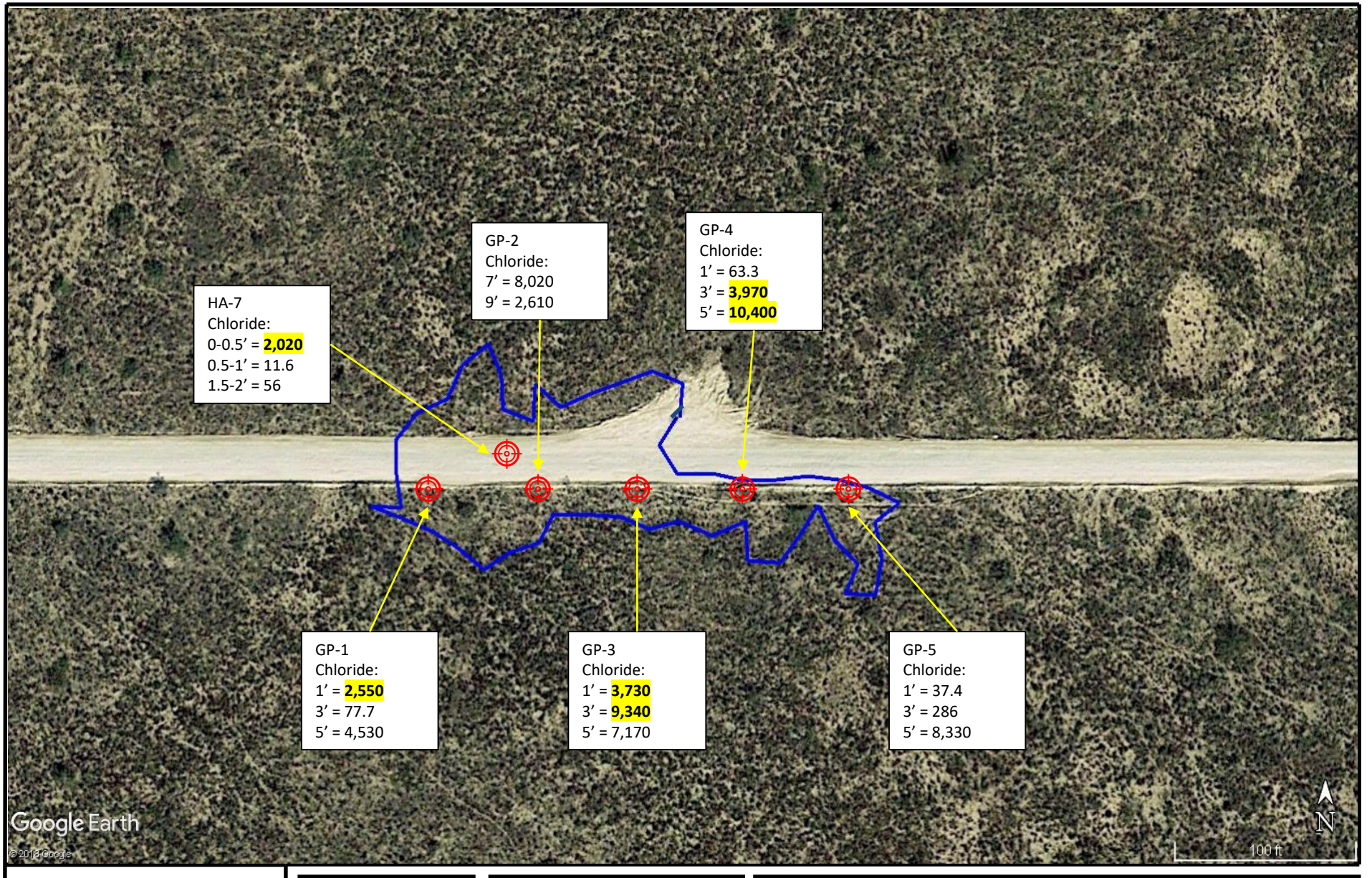
Figure 3 – Chloride Concentration Map (Soils >4 ft bgs.)

Caza Eagle Claw SWD Flowback Line Release
32.608587°, -103.492156°
Lea County, New Mexico



Geo-Probe Sample

N

Project No.	AR197234
Scale:	1:1200
Source:	Google Earth
Date:	10/02/2019

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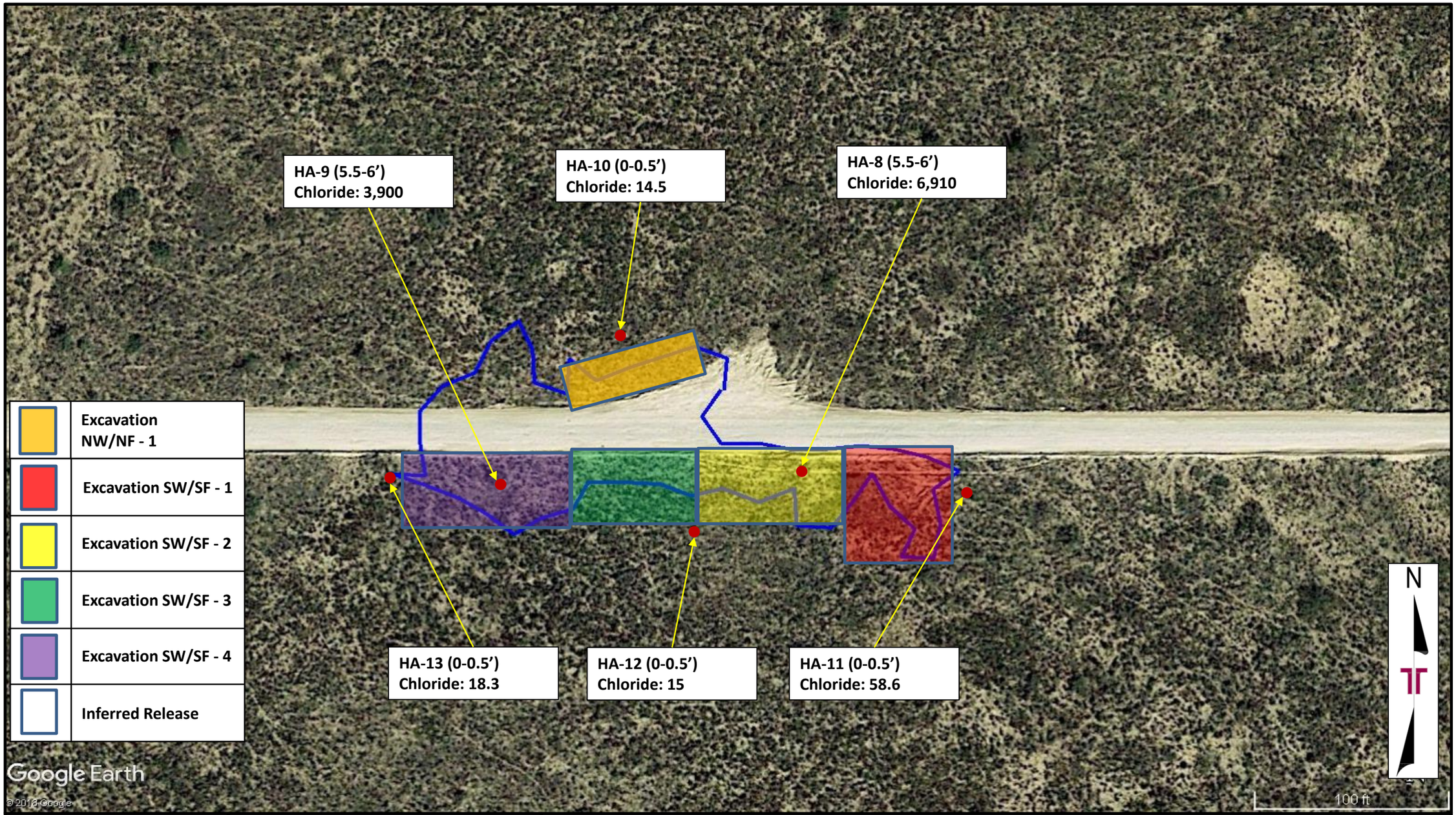
Figure 4 – Geo Probe Map

Caza Eagle Claw
32.608611, -103.492222
Lea County, New Mexico



Project No.	AR197234
Scale:	As Shown
Source:	Google Earth
Image Date:	11/02/2017

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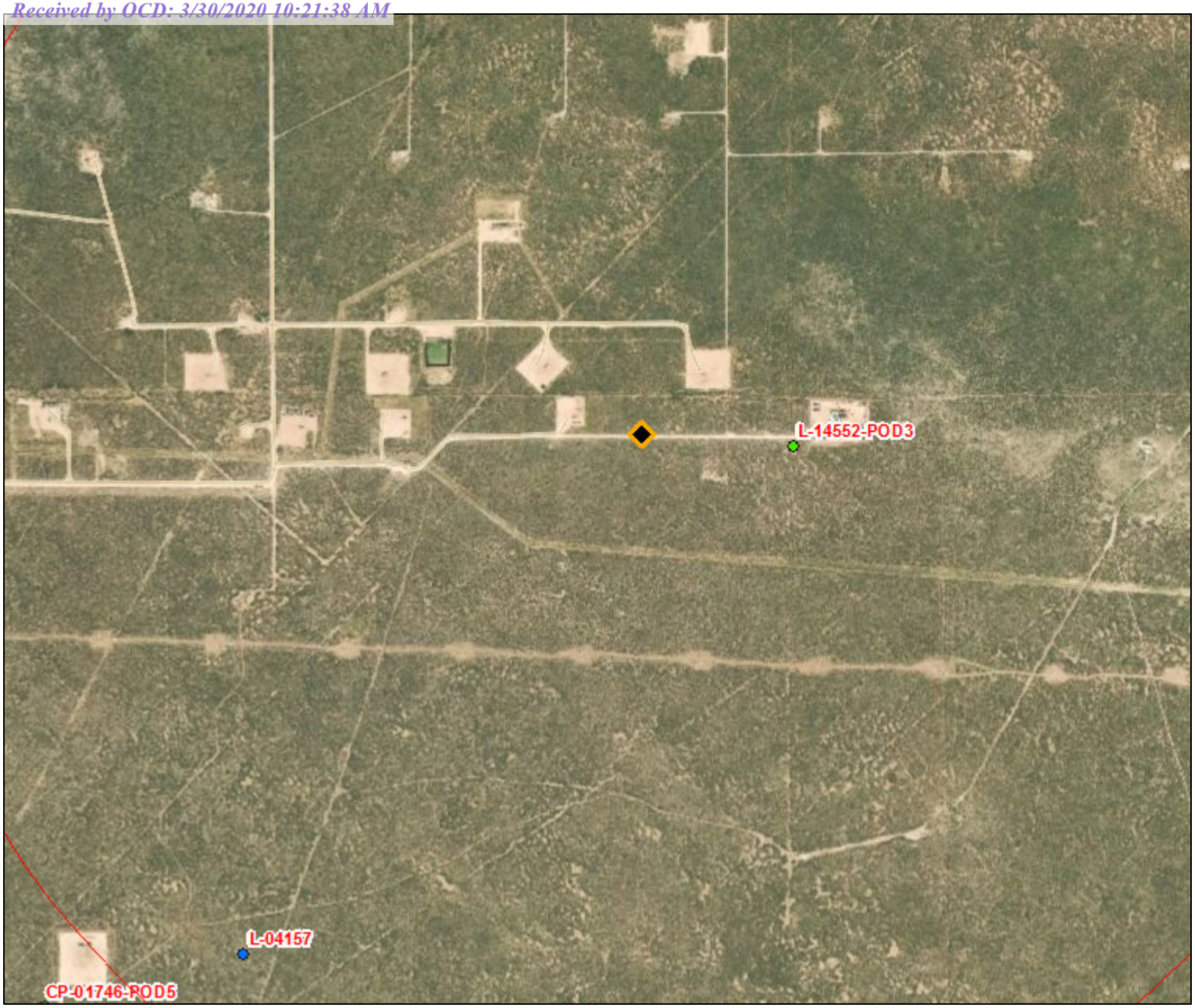
Figure 5 – Additional Off Pad Concentration Map

Caza Eagle Claw SWD Flowback Line Release
32.608587°, -103.492156°
Lea County, New Mexico



Coordinates

UTM - NAD 83 (m) - Zone 13

Easting 641486.940

Northing 3608906.503

State Plane - NAD 83 (f) - Zone E

Easting 800375.495

Northing 586181.910

Degrees Minutes Seconds

Latitude 32 : 36 : 31.153972

Longitude -103 : 29 : 31.603373

Location pulled from New Map Point

Spatial Information

OSE Administrative Area: District 2
County: Lea
Groundwater Basin: Lea County
Sub-Basin: Upper Pecos-Black
Abstract Area: Lea County
Land Grant: Not in Land Grant
Restrictions:
NA

PLSS Description

NW NW NE NE Qtr of Sec 6 of 20S 35E

Derived from Projected PLSS- Qtr Sec. locations are calculated and are only approximations

File Number:
Owner:
Purpose:
Author:

NEW MEXICO OFFICE OF THE STATE ENGINEER

1:18,056

mi
0 0.05 0.1 0.2

N

8/2/2019

Image Information
Source: DigitalGlobe
Date: 9/6/2017
Resolution (m): 0.5
Accuracy (m): 4

User Defined Point

1.2 Miles Buffer

New Mexico Office of the State Engineer

Water Right Summary

get image list

WR File Number: L 04157 **Subbasin:** L **Cross Reference:** -

Primary Purpose: DOL 72-12-1 DOMESTIC AND LIVESTOCK WATERING

Primary Status: PMT PERMIT

Total Acres: **Subfile:** - **Header:** -

Total Diversion: 3 **Cause/Case:** -

Owner: VIRGIL LINAM

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	492205	72121	1959-05-25	PMT	LOG	L 04157	T		3	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Other Location Desc
L 04157		Shallow	3	3		06	20S	35E	640483	3607561*	

***An (*) after northing value indicates UTM location was derived from PLSS - see Help**

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS - BTEX[1], Chloride[2], and TPH[3]
Caza Eagle Claw SWD Floback Line Release
Terracon Project No. AR197234

Sample I.D.	Sample Depth (ft. bgs)	Sample Type	Sample Date	BTEX (mg/kg)	Chloride (mg/kg)	TPH (8015M) (mg/kg)			
						GRO	DRO	MRO	TOTAL
Release Margin Samples (Off Pad)									
HA-1	0 - 0.5	Grab	07/03/19	Benzene - <0.000382 Toluene - <0.000452 Ethylbenzene - <0.000560 Total Xylenes - <0.000342 Total BTEX - <0.000342	119	18.8	8.62	<8.1	27.4
	0.5 - 1	Grab	07/03/19	Benzene - <0.000381 Toluene - <0.000451 Ethylbenzene - <0.000559 Total Xylenes - <0.000341 Total BTEX - <0.000341	<0.850	14.1	14.3	<8.1	28.4
	1.5 - 2	Grab	07/03/19	BTEX - NA	NA	13.7	13.3	<8.11	27
	3 - 3.5	Grab	NA	BTEX - NA	NA	NA			
	4.5 - 5	Grab	NA	BTEX - NA	NA	NA			
HA-2	0 - 0.5	Grab	07/03/19	Benzene - <0.000383 Toluene - <0.000453 Ethylbenzene - <0.000561 Total Xylenes - <0.000342 Total BTEX - <0.000342	35.6	12.9	29.6	<8.13	42.5
	0.5 - 1	Grab	07/03/19	Benzene - <0.000384 Toluene - <0.000455 Ethylbenzene - <0.000564 Total Xylenes - <0.000344 Total BTEX - <0.000344	**4,280**	8.94	<8.12	<8.12	8.94
	1.5 - 2	Grab	07/03/19	BTEX - NA	**1,460**	NA			
	3 - 3.5	Grab	07/03/19	BTEX - NA	73	NA			
	4.5 - 5	Grab	07/03/19	BTEX - NA	24	NA			
NMOCD Reclamation Standards[4] (Applicable for Soils from the Surface to 4 ft. Below Grade Surface)				**Benzene - 10 Toluene - N/A Ethylbenzene - N/A Total Xylenes - N/A Total BTEX - 50**	**600**	**N/A**			**100**
NMOCD Remediation and Delineation Standards[5] (Applicable for Soils at Depths Greater than 4 ft. Below Grade Surface)				**Benzene - 10 Toluene - N/A Ethylbenzene - N/A Total Xylenes - N/A Total BTEX - 50**	**10,000**	**1,000**		**N/A**	**2,500**

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

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Caza Eagle Claw SWD Floback Line Release
Terracon Project No. AR197234

Sample I.D.	Sample Depth (ft. bgs)	Sample Type	Sample Date	BTEX (mg/kg)	Chloride (mg/kg)	TPH (8015M) (mg/kg)			
						GRO	DRO	MRO	TOTAL
Release Margin Samples (Off Pad)									
HA-3	0 - 0.5	Grab	07/03/19	Benzene - <0.000383 Toluene - <0.000453 Ethylbenzene - <0.000561 Total Xylenes - <0.000342 Total BTEX - <0.000342	**6,220**	<7.98	18.2	<8.1	18.2
	0.5 - 1	Grab	07/03/19	Benzene - <0.000381 Toluene - <0.000451 Ethylbenzene - <0.000559 Total Xylenes - <0.000341 Total BTEX - <0.000341	**9,740**	12.9	12.1	<8.11	25
	1.5 - 2	Grab	07/03/19	BTEX - NA	**12,200**	<7.99	14.3	<8.12	14.3
	3 - 3.5	Grab	07/03/19	BTEX - NA	**5,990**	NA			
	4.5 - 5	Grab	07/03/19	BTEX - NA	**10,200**	NA			
HA-4	0 - 0.5	Grab	07/03/19	Benzene - 0.0857 Toluene - 2.6 Ethylbenzene - 4.23 Total Xylenes - 10.4 Total BTEX - 17.3	**2,300**	1,200	14,600	2,160	**18,000**
	0.5 - 1	Grab	07/03/19	Benzene - <0.00383 Toluene - <0.00454 Ethylbenzene - <0.00563 Total Xylenes - <0.00343 Total BTEX - <0.00343	**3,980**	14.6	425	77.4	**517**
	1.5 - 2	Grab	07/03/19	BTEX - NA	**4,950**	10.8	45.4	8.52	64.7
	3 - 3.5	Grab	07/03/19	BTEX - NA	**7,890**	NA			
	4.5 - 5	Grab	07/03/19	BTEX - NA	9,300	NA			
NMOCD Reclamation Standards[4] **(Applicable for Soils from the Surface to 4 ft. Below Grade Surface)**				**Benzene - 10** **Toluene - N/A** **Ethylbenzene - N/A** **Total Xylenes - N/A** **Total BTEX - 50**	**600**	**N/A**			**100**
NMOCD Remediation and Delineation Standards[5] **(Applicable for Soils at Depths Greater than 4 ft. Below Grade Surface)**				**Benzene - 10** **Toluene - N/A** **Ethylbenzene - N/A** **Total Xylenes - N/A** **Total BTEX - 50**	**10,000**	**1,000**		**N/A**	**2,500**

1. BTEX = Benzene, toluene, ethylbenzene, total xylenes analyzed by EPA Method 8021B
2. Chloride = Chloride analyzed by EPA Method 300.
3. TPH = Total petroleum hydrocarbons analyzed by EPA Method 8015M (GRO/DRO/MRO)
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Caza Eagle Claw SWD Floback Line Release
Terracon Project No. AR197234

Sample I.D.	Sample Depth (ft. bgs)	Sample Type	Sample Date	BTEX (mg/kg)	Chloride (mg/kg)	TPH (8015M) (mg/kg)			
						GRO	DRO	MRO	TOTAL
Release Margin Samples (On Lease Road)									
HA-7	0 - 0.5	Grab	NA	Benzene - <0.00897 Toluene - <0.00464 Ethylbenzene - <0.00611 Total Xylenes - <0.00677 Total BTEX - <0.00464	**2,020**	<9.98	<9.98	<9.98	<9.98
	0.5 - 1	Grab	NA	Benzene - <0.00902 Toluene - <0.00467 Ethylbenzene - <0.00615 Total Xylenes - <0.00681 Total BTEX - <0.00467	11.6	<9.94	<9.94	<9.94	<9.94
	1.5 - 2	Grab	NA	Benzene - <0.00881 Toluene - <0.00456 Ethylbenzene - <0.00600 Total Xylenes - <0.00665 Total BTEX - <0.00456	56	<10.0	<10.0	<10.0	<10.0
	3 - 3.5	Grab	NA	BTEX - NA	**NA**	NA			
	4.5 - 5	Grab	NA	BTEX - NA	NA	NA			
NMOCD Reclamation Standards[4] (Applicable for Soils from the Surface to 4 ft. Below Grade Surface)				**Benzene - 10 Toluene - N/A Ethylbenzene - N/A Total Xylenes - N/A Total BTEX - 50**	**600**	**N/A**			**100**
NMOCD Remediation and Delineation Standards[5] (Applicable for Soils at Depths Greater than 4 ft. Below Grade Surface)				**Benzene - 10 Toluene - N/A Ethylbenzene - N/A Total Xylenes - N/A Total BTEX - 50**	**10,000**	**1,000**		**N/A**	**2,500**

1. BTEX = Benzene, toluene, ethylbenzene, total xylenes analyzed by EPA Method 8021B
2. Chloride = Chloride analyzed by EPA Method 300.
3. TPH = Total petroleum hydrocarbons analyzed by EPA Method 8015M (GRO/DRO/MRO)
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Caza Eagle Claw SWD Floback Line Release
Terracon Project No. AR197234

Sample I.D.	Sample Depth (ft. bgs)	Sample Type	Sample Date	BTEX (mg/kg)	Chloride (mg/kg)	TPH (8015M) (mg/kg)			
						GRO	DRO	MRO	TOTAL
Background Samples									
HA-5	0 - 0.5	Grab	07/03/19	Benzene - <0.000386 Toluene - <0.000457 Ethylbenzene - <0.000567 Total Xylenes - <0.000346 Total BTEX - <0.000346	1.81	20.4	<8.12	8.45	28.9
	0.5 - 1	Grab	07/03/19	Benzene - <0.000385 Toluene - <0.000456 Ethylbenzene - <0.000565 Total Xylenes - <0.000344 Total BTEX - <0.000344	4.91	20.1	<8.11	<8.11	20.1
	1.5 - 2	Grab	07/03/19	BTEX - NA	NA	NA			
	3 - 3.5	Grab	07/03/19	BTEX - NA	NA	NA			
	4.5 - 5	Grab	07/03/19	BTEX - NA	NA	NA			
HA-6	0 - 0.5	Grab	07/03/19	Benzene - <0.000385 Toluene - <0.000456 Ethylbenzene - <0.000565 Total Xylenes - <0.00344 Total BTEX - <0.00344	10.8	25.5	13.2	<8.13	38.7
	0.5 - 1	Grab	07/03/19	Benzene - <0.000383 Toluene - <0.000453 Ethylbenzene - <0.000561 Total Xylenes - <0.000342 Total BTEX - <0.000342	8.61	17.7	<8.1	<8.1	17.7
	1.5 - 2	Grab	07/03/19	BTEX - NA	NA	NA			
	3 - 3.5	Grab	07/03/19	BTEX - NA	NA	NA			
	4.5 - 5	Grab	07/03/19	BTEX - NA	NA	NA			
NMOCD Reclamation Standards[4] (Applicable for Soils from the Surface to 4 ft. Below Grade Surface)				**Benzene - 10 Toluene - N/A Ethylbenzene - N/A Total Xylenes - N/A Total BTEX - 50**	**600**	**N/A**			**100**
NMOCD Remediation and Delineation Standards[5] (Applicable for Soils at Depths Greater than 4 ft. Below Grade Surface)				**Benzene - 10 Toluene - N/A Ethylbenzene - N/A Total Xylenes - N/A Total BTEX - 50**	**10,000**	**1,000**		**N/A**	**2,500**

1. BTEX = Benzene, toluene, ethylbenzene, total xylenes analyzed by EPA Method 8021B
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Terracon Project No. AR197234

Sample I.D.	Sample Depth (ft. bgs)	Sample Type	Sample Date	BTEX (mg/kg)	Chloride (mg/kg)	TPH (8015M) (mg/kg)			
						GRO	DRO	MRO	TOTAL
Geoprobe Samples									
GP-1	0 - 1	Grab	09/30/19	Benzene - <0.0899 Toluene - <0.0465 Ethylbenzene - 0.775 Total Xylenes - 4.41 Total BTEX - 5.19	**2,550**	636	8,680	857	**10,200**
	2 - 3	Grab	09/30/19	Benzene - <0.00888 Toluene - <0.00460 Ethylbenzene - <0.00605 Total Xylenes - <0.00670 Total BTEX - <0.00460	77.7	<9.94	34.2	30.0	64.2
	4 - 5	Grab	09/30/19	Benzene - <0.00845 Toluene - <0.00437 Ethylbenzene - <0.00576 Total Xylenes - <0.00637 Total BTEX - <0.00437	4,530	<9.98	12.6	15.6	28.2
	5 - 6	Grab	09/30/19	BTEX - NA	NA	NA			
GP-2	1 - 2	Grab	09/30/19	Benzene - NA Toluene - NA Ethylbenzene - NA Total Xylenes - NA Total BTEX - NA	NA	NA			
	6 - 7	Grab	09/30/19	Benzene - <0.00854 Toluene - <0.00442 Ethylbenzene - <0.00582 Total Xylenes - <0.00645 Total BTEX - <0.00442	8,020	<9.94	<9.94	<9.94	<9.94
	8 - 9	Grab	09/30/19	Benzene - <0.00873 Toluene - <0.00452 Ethylbenzene - <0.00595 Total Xylenes - <0.00965 Total BTEX - <0.00965	2,610	10.7	<9.90	<9.90	10.7
NMOCD Reclamation Standards[4] (Applicable for Soils from the Surface to 4 ft. Below Grade Surface)				**Benzene - 10 Toluene - N/A Ethylbenzene - N/A Total Xylenes - N/A Total BTEX - 50**	**600**	**N/A**			**100**
NMOCD Remediation and Delineation Standards[5] (Applicable for Soils at Depths Greater than 4 ft. Below Grade Surface)				**Benzene - 10 Toluene - N/A Ethylbenzene - N/A Total Xylenes - N/A Total BTEX - 50**	**10,000**	**1,000**		**N/A**	**2,500**

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						GRO	DRO	MRO	TOTAL
Geoprobe Samples									
GP-3	0 - 1	Grab	09/30/19	Benzene - <0.00871 Toluene - <0.00451 Ethylbenzene - <0.00593 Total Xylenes - <0.00657 Total BTEX - <0.00451	**3,730**	11.5	121	26.6	**159**
	2 - 3	Grab	09/30/19	Benzene - <0.00890 Toluene - <0.00461 Ethylbenzene - <0.00606 Total Xylenes - <0.00671 Total BTEX - <0.00461	**9,340**	<10.0	<10.0	<10.0	<10.0
	4 - 5	Grab	09/30/19	Benzene - <0.00892 Toluene - <0.00462 Ethylbenzene - <0.00607 Total Xylenes - <0.00673 Total BTEX - <0.00462	7,150	<9.96	10.7	<9.96	10.7
GP-4	0 - 1	Grab	09/30/19	Benzene - <0.00850 Toluene - <0.00440 Ethylbenzene - <0.00579 Total Xylenes - <0.00641 Total BTEX - <0.00440	63.3	<9.95	<9.95	<9.95	<9.95
	2 - 3	Grab	09/30/19	Benzene - <0.00774 Toluene - <0.00401 Ethylbenzene - <0.00527 Total Xylenes - <0.00584 Total BTEX - <0.00401	**3,970**	<10.0	<10.0	<10.0	<10.0
	4 - 5	Grab	09/30/19	Benzene - <0.00810 Toluene - <0.00419 Ethylbenzene - <0.00552 Total Xylenes - <0.00611 Total BTEX - <0.00419	**10,400**	<9.96	<9.96	<9.96	<9.96
NMOCD Reclamation Standards[4] **(Applicable for Soils from the Surface to 4 ft. Below Grade Surface)**				**Benzene - 10** **Toluene - N/A** **Ethylbenzene - N/A** **Total Xylenes - N/A** **Total BTEX - 50**	**600**	**N/A**			**100**
NMOCD Remediation and Delineation Standards[5] **(Applicable for Soils at Depths Greater than 4 ft. Below Grade Surface)**				**Benzene - 10** **Toluene - N/A** **Ethylbenzene - N/A** **Total Xylenes - N/A** **Total BTEX - 50**	**10,000**	**1,000**		**N/A**	**2,500**

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NA = Not Analyzed

N/A = Not Applicable

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

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS - BTEX[1], Chloride[2], and TPH[3]
Caza Eagle Claw SWD Floback Line Release
Terracon Project No. AR197234

Sample I.D.	Sample Depth (ft. bgs)	Sample Type	Sample Date	BTEX (mg/kg)	Chloride (mg/kg)	TPH (8015M) (mg/kg)			
						GRO	DRO	MRO	TOTAL
Geoprobe Samples									
GP-5	0 - 1	Grab	09/30/19	Benzene - <0.00853 Toluene - 0.00566 Ethylbenzene - <0.00581 Total Xylenes - <0.00643 Total BTEX - 0.00566	37.4	<10.0	11.3	<10.0	11.3
	2 - 3	Grab	09/30/19	Benzene - <0.00813 Toluene - <0.00421 Ethylbenzene - <0.00554 Total Xylenes - <0.00899 Total BTEX - <0.00899	286	10.7	15.3	<9.99	26.0
	4 - 5	Grab	09/30/19	Benzene - <0.00871 Toluene - <0.00451 Ethylbenzene - <0.00593 Total Xylenes - <0.00657 Total BTEX - <0.00451	8,330	<9.97	25.2	12.3	37.5
Additional Release Margin Samples (Off Pad)									
HA-10	0 - 0.5	Grab	02/26/20	Benzene - <0.00817 Toluene - <0.00423 Ethylbenzene - <0.00557 Total Xylenes - <0.00617 Total BTEX - <0.00423	14.5	<0.245	<7.45	<7.45	<0.245
HA-11	0 - 0.5	Grab	02/26/20	Benzene - <0.00902 Toluene - <0.00467 Ethylbenzene - <0.00615 Total Xylenes - <0.00681 Total BTEX - <0.00467	58.6	<0.270	<7.47	<7.47	<0.270
HA-12	0 - 0.5	Grab	02/26/20	Benzene - <0.00781 Toluene - <0.00404 Ethylbenzene - <0.00532 Total Xylenes - <0.00589 Total BTEX - <0.00404	15.1	<0.234	<7.44	<7.44	<0.234
HA-13	0 - 0.5	Grab	02/26/20	Benzene - <0.00779 Toluene - <0.00403 Ethylbenzene - <0.00531 Total Xylenes - <0.00588 Total BTEX - <0.00403	18.3	<0.234	<7.47	<7.47	<0.234
HA-8	5.5 - 6	Grab	02/26/20	Benzene - <0.00869 Toluene - <0.00450 Ethylbenzene - <0.00592 Total Xylenes - <0.00656 Total BTEX - <0.00450	6,910	<0.261	<7.55	<7.55	<0.261
HA-9	5.5 - 6	Grab	02/26/20	Benzene - <0.00892 Toluene - <0.00462 Ethylbenzene - <0.00607 Total Xylenes - <0.00673 Total BTEX - <0.00462	3,900	<0.267	<7.42	<7.42	<0.267
NMOCD Reclamation Standards[4] (Applicable for Soils from the Surface to 4 ft. Below Grade Surface)				**Benzene - 10 Toluene - N/A Ethylbenzene - N/A Total Xylenes - N/A Total BTEX - 50**	**600**	**N/A**			**100**
NMOCD Remediation and Delineation Standards[5] (Applicable for Soils at Depths Greater than 4 ft. Below Grade Surface)				**Benzene - 10 Toluene - N/A Ethylbenzene - N/A Total Xylenes - N/A Total BTEX - 50**	**10,000**	**1,000**		**N/A**	**2,500**

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

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

APPENDIX B – PHOTOGRAPHIC LOG

PHOTO 1: View of site and staining, facing west. 7/03/2019 / **TIME:** 12:05PM / **GPS:** 32.6085 -103.4916

PHOTO 2: View of site and staining, facing west. 7/03/2019 / **TIME:** 12:05PM / **GPS:** 32.6087 -103.4920

PHOTO 3: View of site and staining, facing south. 7/03/2019 / **TIME:** 12:06PM / **GPS:** 32.6088 -103.4925

PHOTO 4: View of site and staining, facing east. 7/03/2019 / **TIME:** 12:07PM / **GPS:** 32.6085 -103.4926

PHOTO 5: View of site staining, point of release and repair, facing south. 7/03/2019 / **TIME:** 12:10PM / **GPS:** 32.6086 -103.4923

PHOTO 6: View of HA-1, facing south. 7/03/2019 / **TIME:** 12:38PM / **GPS:** 32.6087 -103.4923

PHOTO 7: View of HA-2, facing south. 7/03/2019 / **TIME:** 12:53PM / **GPS:** 32.6088 -103.4921

PHOTO 8: View of HA-5, facing south. 7/03/2019 / **TIME:** 1:05PM / **GPS:** 32.6088 -103.4923

PHOTO 9: View of HA-4, facing west. 7/03/2019 / **TIME:** 1:38PM / **GPS:** 32.6085 -103.4917

PHOTO 10: View of HA-3, facing north. 7/03/2019 / **TIME:** 1:53PM / **GPS:** 32.6085 -103.4924

PHOTO 11: View of HA-6, facing north. 7/03/2019 / **TIME:** 2:02PM / **GPS:** 32.6082 -103.4920

PHOTO 12: View of HA-4, HA-8, GP-4, Excavation, facing southeast. 02/19/2020 / **TIME:** 2:08PM / **GPS:** 32.6085 -103.4917

PHOTO 13: View of HA-3, HA-9, GP-2, excavation, facing southwest. 02/19/2020 / **TIME:** 2:08PM / **GPS:** 32.6085 -103.4924

PHOTO 14: View of south of lease road excavation, facing east. 02/03/2020 / **TIME:** 4:16PM / **GPS:** 32.6085 -103.4924

PHOTO 15: View of south of lease road excavation, facing east. 02/03/20 / **TIME:** 4:05PM / **GPS:** 32.6085 -103.4925

PHOTO 16: View of south of lease road excavation, facing west. 02/03/2020 / **TIME:** 4:00PM / **GPS:** 32.6085 -103.4925

PHOTO 17: View of excavation on the south of lease road. 02/03/2019 / **TIME:** 3:52PM / **GPS:** 32.6085 -103.4925

PHOTO 18: View of excavation north of lease road, facing west. 02/03/2019 / **TIME:** 11:51PM / **GPS:** 32.6085 -103.4925

PHOTO 19: View of excavation north of lease road, facing east. 02/03/2019 / **TIME:** 11:52PM / **GPS:** 32.6085 -103.4925

PHOTO 20: View of HA-7.1 on lease road. 02/03/2019 / **TIME:** 11:35PM / **GPS:** 32.6085 -103.4925

APPENDIX C – ANALYTICAL REPORT AND CHAIN OF CUSTODY

Analytical Report 630020

for

Terracon-Lubbock

Project Manager: John Fergerson

Caza Eagle Claw

AR197234

22-JUL-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)

Table of Contents

22-JUL-19

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

Reference: XENCO Report No(s): **630020**
Caza Eagle Claw
Project Address:

John Fergerson:

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) 630020. 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. 630020 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

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

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

Sample Cross Reference 630020

Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
HA-1 (0-0.5)	S	07-03-19 12:06	0 - 0.5 ft	630020-001
HA-1 (0.5-1)	S	07-03-19 12:12	0.5 - 1 ft	630020-002
HA-1 (1.5-2)	S	07-03-19 12:18	1.5 - 2 ft	630020-003
HA-2 (0-0.5)	S	07-03-19 12:36	0 - 0.5 ft	630020-006
HA-2 (0.5-1)	S	07-03-19 12:42	0.5 - 1 ft	630020-007
HA-2 (1.5-2)	S	07-03-19 12:48	1.5 - 2 ft	630020-008
HA-2 (3-3.5)	S	07-03-19 12:54	3 - 3.5 ft	630020-009
HA-2 (4.5-5)	S	07-03-19 13:00	4.5 - 5 ft	630020-010
HA-3 (0-0.5)	S	07-03-19 13:06	0 - 0.5 ft	630020-011
HA-3 (0.5-1)	S	07-03-19 13:12	0.5 - 1 ft	630020-012
HA-3 (1.5-2)	S	07-03-19 13:18	1.5 - 2 ft	630020-013
HA-3 (3-3.5)	S	07-03-19 13:24	3 - 3.5 ft	630020-014
HA-3 (4.5-5)	S	07-03-19 13:28	4.5 - 5 ft	630020-015
HA-4 (0-0.5)	S	07-03-19 13:30	0 - 0.5 ft	630020-016
HA-4 (0.5-1)	S	07-03-19 13:36	0.5 - 1 ft	630020-017
HA-4 (1.5-2)	S	07-03-19 13:42	1.5 - 2 ft	630020-018
HA-4 (3-3.5)	S	07-03-19 13:48	3 - 3.5 ft	630020-019
HA-4 (4.5-5)	S	07-03-19 13:51	4.5 - 5 ft	630020-020
HA-5 (0-0.5)	S	07-03-19 14:54	0 - 0.5 ft	630020-021
HA-5 (0.5-1)	S	07-03-19 15:00	0.5 - 1 ft	630020-022
HA-6 (0-0.5)	S	07-03-19 15:18	0 - 0.5 ft	630020-026
HA-6 (0.5-1)	S	07-03-19 15:24	0.5 - 1 ft	630020-027
HA-1 (3-3.5)	S	07-03-19 12:24	3 - 3.5 ft	Not Analyzed
HA-1 (4-4.5)	S	07-03-19 12:30	4 - 4.5 ft	Not Analyzed
HA-5 (1.5-2)	S	07-03-19 15:06	1.5 - 2 ft	Not Analyzed
HA-5 (3-3.5)	S	07-03-19 15:12	3 - 3.5 ft	Not Analyzed
HA-5 (4.5-5)	S	07-03-19 15:15	4.5 - 5 ft	Not Analyzed
HA-6 (1.5-2)	S	07-03-19 15:30	1.5 - 2 ft	Not Analyzed
HA-6 (3-3.5)	S	07-03-19 15:36	3 - 3.5 ft	Not Analyzed

CASE NARRATIVE

Client Name: Terracon-Lubbock

Project Name: Caza Eagle Claw

Project ID: *AR197234*
Work Order Number(s): *630020*

Report Date: *22-JUL-19*
Date Received: *07/05/2019*

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3095246 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 630020-016.

Batch: LBA-3096052 TPH by SW8015 Mod
Surrogate o-Terphenyl recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 630020-003.

Certificate of Analytical Results
630020
Terracon-Lubbock, Lubbock, TX
Caza Eagle Claw

Sample Id: **HA-1 (0-0.5)** Matrix: Soil Sample Depth: 0 - 0.5 ft

Lab Sample Id: 630020-001 Date Collected: 07.03.19 12.06 Date Received: 07.05.19 12.49

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: CHE % Moist: Tech: CHE

Seq Number: 3094603 Date Prep: 07.05.19 15.45

Prep seq: 7681440

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**119**	5.04	0.865	mg/kg	07.05.19 18:14		1

Analytical Method: TPH by SW8015 Mod Prep Method: 1005

Analyst: ARM % Moist: Tech: DVM

Seq Number: 3095306 Date Prep: 07.14.19 09.00

Prep seq: 7681995

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	**18.8**	15.0	7.98	mg/kg	07.14.19 18:18		1
Diesel Range Organics (DRO)	C10C28DRO	**8.62**	15.0	8.10	mg/kg	07.14.19 18:18	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.10	15.0	8.10	mg/kg	07.14.19 18:18	U	1
Total TPH	PHC635	**27.4**		7.98	mg/kg	07.14.19 18:18		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	98	70 - 135	%		
o-Terphenyl	91	70 - 135	%		

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: AMB % Moist: Tech: ALG

Seq Number: 3095246 Date Prep: 07.12.19 17.18

Prep seq: 7681931

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000382	0.00198	0.000382	mg/kg	07.13.19 09:26	U	1
Toluene	108-88-3	<0.000452	0.00198	0.000452	mg/kg	07.13.19 09:26	U	1
Ethylbenzene	100-41-4	<0.000560	0.00198	0.000560	mg/kg	07.13.19 09:26	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00397	0.00101	mg/kg	07.13.19 09:26	U	1
o-Xylene	95-47-6	<0.000342	0.00198	0.000342	mg/kg	07.13.19 09:26	U	1
Total Xylenes	1330-20-7	<0.000342		0.000342	mg/kg	07.13.19 09:26	U	
Total BTEX		<0.000342		0.000342	mg/kg	07.13.19 09:26	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	96	70 - 130	%		
4-Bromofluorobenzene	109	70 - 130	%		

Certificate of Analytical Results
630020
Terracon-Lubbock, Lubbock, TX
Caza Eagle Claw

Sample Id: **HA-1 (0.5-1)** Matrix: Soil Sample Depth: 0.5 - 1 ft

Lab Sample Id: 630020-002 Date Collected: 07.03.19 12.12 Date Received: 07.05.19 12.49

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: CHE % Moist: Tech: CHE

Seq Number: 3094603 Date Prep: 07.05.19 15.45

Prep seq: 7681440

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<0.850	4.95	0.850	mg/kg	07.05.19 18:19	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: 1005

Analyst: ARM % Moist: Tech: DVM

Seq Number: 3095306 Date Prep: 07.14.19 09.00

Prep seq: 7681995

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	**14.1**	14.9	7.97	mg/kg	07.14.19 19:17	J	1
Diesel Range Organics (DRO)	C10C28DRO	**14.3**	14.9	8.10	mg/kg	07.14.19 19:17	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.10	14.9	8.10	mg/kg	07.14.19 19:17	U	1
Total TPH	PHC635	**28.4**		7.97	mg/kg	07.14.19 19:17		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	129	70 - 135	%		
o-Terphenyl	124	70 - 135	%		

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: AMB % Moist: Tech: ALG

Seq Number: 3095246 Date Prep: 07.12.19 17.18

Prep seq: 7681931

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000381	0.00198	0.000381	mg/kg	07.13.19 09:48	U	1
Toluene	108-88-3	<0.000451	0.00198	0.000451	mg/kg	07.13.19 09:48	U	1
Ethylbenzene	100-41-4	<0.000559	0.00198	0.000559	mg/kg	07.13.19 09:48	U	1
m,p-Xylenes	179601-23-1	<0.00100	0.00396	0.00100	mg/kg	07.13.19 09:48	U	1
o-Xylene	95-47-6	<0.000341	0.00198	0.000341	mg/kg	07.13.19 09:48	U	1
Total Xylenes	1330-20-7	<0.000341		0.000341	mg/kg	07.13.19 09:48	U	
Total BTEX		<0.000341		0.000341	mg/kg	07.13.19 09:48	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	97	70 - 130	%		
4-Bromofluorobenzene	105	70 - 130	%		

Certificate of Analytical Results
630020

Terracon-Lubbock, Lubbock, TX
Caza Eagle Claw

Sample Id: **HA-1 (1.5-2)** Matrix: Soil Sample Depth: 1.5 - 2 ft

Lab Sample Id: 630020-003 Date Collected: 07.03.19 12.18 Date Received: 07.05.19 12.49

Analytical Method: TPH by SW8015 Mod Prep Method: 1005

Analyst: ARM % Moist: Tech: DVM

Seq Number: 3096052 Date Prep: 07.16.19 15.00

Prep seq: 7682451

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	**13.7**	15.0	7.99	mg/kg	07.21.19 23:47	J	1
Diesel Range Organics (DRO)	C10C28DRO	**13.3**	15.0	8.11	mg/kg	07.21.19 23:47	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.11	15.0	8.11	mg/kg	07.21.19 23:47	U	1
Total TPH	PHC635	**27.0**		7.99	mg/kg	07.21.19 23:47		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	100	70 - 135	%		
o-Terphenyl	67	70 - 135	%		**

Certificate of Analytical Results
630020
Terracon-Lubbock, Lubbock, TX
Caza Eagle Claw

Sample Id: **HA-2 (0-0.5)** Matrix: Soil Sample Depth: 0 - 0.5 ft

Lab Sample Id: 630020-006 Date Collected: 07.03.19 12.36 Date Received: 07.05.19 12.49

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: CHE % Moist: Tech: CHE

Seq Number: 3094637 Date Prep: 07.08.19 10.00

Prep seq: 7681478

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**35.6**	5.03	0.864	mg/kg	07.08.19 13:46		1

Analytical Method: TPH by SW8015 Mod Prep Method: 1005

Analyst: ARM % Moist: Tech: DVM

Seq Number: 3095306 Date Prep: 07.14.19 09.00

Prep seq: 7681995

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	**12.9**	15.0	8.00	mg/kg	07.14.19 19:36	J	1
Diesel Range Organics (DRO)	C10C28DRO	**29.6**	15.0	8.13	mg/kg	07.14.19 19:36		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.13	15.0	8.13	mg/kg	07.14.19 19:36	U	1
Total TPH	PHC635	**42.5**		8.00	mg/kg	07.14.19 19:36		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	112	70 - 135	%		
o-Terphenyl	109	70 - 135	%		

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: AMB % Moist: Tech: ALG

Seq Number: 3095246 Date Prep: 07.12.19 17.18

Prep seq: 7681931

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	07.13.19 10:10	U	1
Toluene	108-88-3	<0.000453	0.00199	0.000453	mg/kg	07.13.19 10:10	U	1
Ethylbenzene	100-41-4	<0.000561	0.00199	0.000561	mg/kg	07.13.19 10:10	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	07.13.19 10:10	U	1
o-Xylene	95-47-6	<0.000342	0.00199	0.000342	mg/kg	07.13.19 10:10	U	1
Total Xylenes	1330-20-7	<0.000342		0.000342	mg/kg	07.13.19 10:10	U	
Total BTEX		<0.000342		0.000342	mg/kg	07.13.19 10:10	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	99	70 - 130	%		
4-Bromofluorobenzene	120	70 - 130	%		

Certificate of Analytical Results
630020
Terracon-Lubbock, Lubbock, TX
Caza Eagle Claw

Sample Id: **HA-2 (0.5-1)** Matrix: Soil Sample Depth: 0.5 - 1 ft

Lab Sample Id: 630020-007 Date Collected: 07.03.19 12.42 Date Received: 07.05.19 12.49

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: CHE % Moist: Tech: CHE

Seq Number: 3094637 Date Prep: 07.08.19 10.00

Prep seq: 7681478

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**4280**	25.0	4.29	mg/kg	07.08.19 13:54		5

Analytical Method: TPH by SW8015 Mod Prep Method: 1005

Analyst: ARM % Moist: Tech: DVM

Seq Number: 3095306 Date Prep: 07.14.19 09.00

Prep seq: 7681995

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	**8.94**	15.0	7.99	mg/kg	07.14.19 19:56	J	1
Diesel Range Organics (DRO)	C10C28DRO	<8.12	15.0	8.12	mg/kg	07.14.19 19:56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.12	15.0	8.12	mg/kg	07.14.19 19:56	U	1
Total TPH	PHC635	**8.94**		7.99	mg/kg	07.14.19 19:56	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	99	70 - 135	%		
o-Terphenyl	96	70 - 135	%		

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: AMB % Moist: Tech: ALG

Seq Number: 3095246 Date Prep: 07.12.19 17.18

Prep seq: 7681931

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000384	0.00200	0.000384	mg/kg	07.13.19 10:32	U	1
Toluene	108-88-3	<0.000455	0.00200	0.000455	mg/kg	07.13.19 10:32	U	1
Ethylbenzene	100-41-4	<0.000564	0.00200	0.000564	mg/kg	07.13.19 10:32	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00399	0.00101	mg/kg	07.13.19 10:32	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	07.13.19 10:32	U	1
Total Xylenes	1330-20-7	<0.000344		0.000344	mg/kg	07.13.19 10:32	U	
Total BTEX		<0.000344		0.000344	mg/kg	07.13.19 10:32	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	96	70 - 130	%		
4-Bromofluorobenzene	109	70 - 130	%		

Certificate of Analytical Results
630020
Terracon-Lubbock, Lubbock, TX
Caza Eagle Claw

Sample Id: **HA-2 (1.5-2)** Matrix: Soil Sample Depth: 1.5 - 2 ft
Lab Sample Id: 630020-008 Date Collected: 07.03.19 12.48 Date Received: 07.05.19 12.49
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3095583 Date Prep: 07.16.19 16.00
Prep seq: 7682140

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**1460**	5.00	0.858	mg/kg	07.17.19 08:15		1

Sample Id: **HA-2 (3-3.5)** Matrix: Soil Sample Depth: 3 - 3.5 ft
Lab Sample Id: 630020-009 Date Collected: 07.03.19 12.54 Date Received: 07.05.19 12.49
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3095583 Date Prep: 07.16.19 16.00
Prep seq: 7682140

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**73.0**	5.01	0.860	mg/kg	07.17.19 08:22		1

Sample Id: **HA-2 (4.5-5)** Matrix: Soil Sample Depth: 4.5 - 5 ft
Lab Sample Id: 630020-010 Date Collected: 07.03.19 13.00 Date Received: 07.05.19 12.49
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3095583 Date Prep: 07.16.19 16.00
Prep seq: 7682140

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**24.0**	4.98	0.855	mg/kg	07.17.19 08:30		1

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630020
Terracon-Lubbock, Lubbock, TX
Caza Eagle Claw

Sample Id: **HA-3 (0-0.5)** Matrix: Soil Sample Depth: 0 - 0.5 ft

Lab Sample Id: 630020-011 Date Collected: 07.03.19 13.06 Date Received: 07.05.19 12.49

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: CHE % Moist: Tech: CHE

Seq Number: 3094637 Date Prep: 07.08.19 10.00

Prep seq: 7681478

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**6220**	50.0	8.58	mg/kg	07.08.19 14:14		10

Analytical Method: TPH by SW8015 Mod Prep Method: 1005

Analyst: ARM % Moist: Tech: DVM

Seq Number: 3095306 Date Prep: 07.14.19 09.00

Prep seq: 7681995

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<7.98	15.0	7.98	mg/kg	07.14.19 20:16	U	1
Diesel Range Organics (DRO)	C10C28DRO	**18.2**	15.0	8.10	mg/kg	07.14.19 20:16		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.10	15.0	8.10	mg/kg	07.14.19 20:16	U	1
Total TPH	PHC635	**18.2**		7.98	mg/kg	07.14.19 20:16		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	98	70 - 135	%		
o-Terphenyl	95	70 - 135	%		

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: AMB % Moist: Tech: ALG

Seq Number: 3095246 Date Prep: 07.12.19 17.18

Prep seq: 7681931

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	07.13.19 10:54	U	1
Toluene	108-88-3	<0.000453	0.00199	0.000453	mg/kg	07.13.19 10:54	U	1
Ethylbenzene	100-41-4	<0.000561	0.00199	0.000561	mg/kg	07.13.19 10:54	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	07.13.19 10:54	U	1
o-Xylene	95-47-6	<0.000342	0.00199	0.000342	mg/kg	07.13.19 10:54	U	1
Total Xylenes	1330-20-7	<0.000342		0.000342	mg/kg	07.13.19 10:54	U	
Total BTEX		<0.000342		0.000342	mg/kg	07.13.19 10:54	U	

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

Certificate of Analytical Results
630020
Terracon-Lubbock, Lubbock, TX
Caza Eagle Claw

Sample Id: **HA-3 (0.5-1)** Matrix: Soil Sample Depth: 0.5 - 1 ft

Lab Sample Id: 630020-012 Date Collected: 07.03.19 13.12 Date Received: 07.05.19 12.49

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: CHE % Moist: Tech: CHE

Seq Number: 3094637 Date Prep: 07.08.19 10.00

Prep seq: 7681478

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**9740**	49.6	8.52	mg/kg	07.08.19 14:51		10

Analytical Method: TPH by SW8015 Mod Prep Method: 1005

Analyst: ARM % Moist: Tech: DVM

Seq Number: 3095306 Date Prep: 07.14.19 09.00

Prep seq: 7681995

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	**12.9**	15.0	7.99	mg/kg	07.14.19 20:35	J	1
Diesel Range Organics (DRO)	C10C28DRO	**12.1**	15.0	8.11	mg/kg	07.14.19 20:35	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.11	15.0	8.11	mg/kg	07.14.19 20:35	U	1
Total TPH	PHC635	**25.0**		7.99	mg/kg	07.14.19 20:35		

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

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: AMB % Moist: Tech: ALG

Seq Number: 3095246 Date Prep: 07.12.19 10.12

Prep seq: 7681931

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000381	0.00198	0.000381	mg/kg	07.13.19 11:16	U	1
Toluene	108-88-3	<0.000451	0.00198	0.000451	mg/kg	07.13.19 11:16	U	1
Ethylbenzene	100-41-4	<0.000559	0.00198	0.000559	mg/kg	07.13.19 11:16	U	1
m,p-Xylenes	179601-23-1	<0.00100	0.00396	0.00100	mg/kg	07.13.19 11:16	U	1
o-Xylene	95-47-6	<0.000341	0.00198	0.000341	mg/kg	07.13.19 11:16	U	1
Total Xylenes	1330-20-7	<0.000341		0.000341	mg/kg	07.13.19 11:16	U	
Total BTEX		<0.000341		0.000341	mg/kg	07.13.19 11:16	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	98	70 - 130	%		
4-Bromofluorobenzene	114	70 - 130	%		

Certificate of Analytical Results
630020
Terracon-Lubbock, Lubbock, TX
Caza Eagle Claw

Sample Id: **HA-3 (1.5-2)** Matrix: Soil Sample Depth: 1.5 - 2 ft

Lab Sample Id: 630020-013 Date Collected: 07.03.19 13.18 Date Received: 07.05.19 12.49

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: CHE % Moist: Tech: CHE

Seq Number: 3095674 Date Prep: 07.17.19 10.10

Prep seq: 7682180

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**12200**	99.4	17.1	mg/kg	07.17.19 11:28		20

Analytical Method: TPH by SW8015 Mod Prep Method: 1005

Analyst: ARM % Moist: Tech: DVM

Seq Number: 3096052 Date Prep: 07.16.19 15.00

Prep seq: 7682451

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<7.99	15.0	7.99	mg/kg	07.22.19 00:11	U	1
Diesel Range Organics (DRO)	C10C28DRO	**14.3**	15.0	8.12	mg/kg	07.22.19 00:11	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.12	15.0	8.12	mg/kg	07.22.19 00:11	U	1
Total TPH	PHC635	**14.3**		7.99	mg/kg	07.22.19 00:11	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	113	70 - 135	%		
o-Terphenyl	83	70 - 135	%		

Sample Id: **HA-3 (3-3.5)** Matrix: Soil Sample Depth: 3 - 3.5 ft

Lab Sample Id: 630020-014 Date Collected: 07.03.19 13.24 Date Received: 07.05.19 12.49

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: CHE % Moist: Tech: CHE

Seq Number: 3095674 Date Prep: 07.17.19 10.10

Prep seq: 7682180

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**5990**	49.9	8.57	mg/kg	07.17.19 11:36		10

Certificate of Analytical Results
630020

Terracon-Lubbock, Lubbock, TX
Caza Eagle Claw

Sample Id:	**HA-3 (4.5-5)**	Matrix:	Soil	Sample Depth:	4.5 - 5 ft
Lab Sample Id:	630020-015	Date Collected:	07.03.19 13.28	Date Received:	07.05.19 12.49
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Analyst:	CHE	% Moist:		Tech:	CHE
Seq Number:	3095674	Date Prep:	07.17.19 10.10		
		Prep seq:	7682180		

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**10200**	50.4	8.65	mg/kg	07.17.19 11:43		10

Certificate of Analytical Results
630020
Terracon-Lubbock, Lubbock, TX
Caza Eagle Claw

Sample Id: **HA-4 (0-0.5)** Matrix: Soil Sample Depth: 0 - 0.5 ft

Lab Sample Id: 630020-016 Date Collected: 07.03.19 13.30 Date Received: 07.05.19 12.49

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: CHE % Moist: Tech: CHE

Seq Number: 3094637 Date Prep: 07.08.19 10.00

Prep seq: 7681478

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**2300**	25.1	4.30	mg/kg	07.08.19 14:58		5

Analytical Method: TPH by SW8015 Mod Prep Method: 1005

Analyst: ARM % Moist: Tech: DVM

Seq Number: 3095306 Date Prep: 07.14.19 09.00

Prep seq: 7681995

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	**1200**	75.0	40.0	mg/kg	07.14.19 20:55		5
Diesel Range Organics (DRO)	C10C28DRO	**14600**	75.0	40.6	mg/kg	07.14.19 20:55		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**2160**	75.0	40.6	mg/kg	07.14.19 20:55		5
Total TPH	PHC635	**18000**		40.0	mg/kg	07.14.19 20:55		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	122	70 - 135	%		
o-Terphenyl	115	70 - 135	%		

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: AMB % Moist: Tech: ALG

Seq Number: 3095246 Date Prep: 07.12.19 10.12

Prep seq: 7681931

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	**0.0857**	0.0398	0.00765	mg/kg	07.14.19 05:16		20
Toluene	108-88-3	**2.60**	0.0398	0.00906	mg/kg	07.14.19 05:16		20
Ethylbenzene	100-41-4	**4.23**	0.0398	0.0112	mg/kg	07.14.19 05:16		20
m,p-Xylenes	179601-23-1	**7.36**	0.0795	0.0202	mg/kg	07.14.19 05:16		20
o-Xylene	95-47-6	**3.04**	0.0398	0.00685	mg/kg	07.14.19 05:16		20
Total Xylenes	1330-20-7	**10.4**		0.00685	mg/kg	07.14.19 05:16		
Total BTEX		**17.3**		0.00685	mg/kg	07.14.19 05:16		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	88	70 - 130	%		
4-Bromofluorobenzene	203	70 - 130	%		**

Certificate of Analytical Results
630020
Terracon-Lubbock, Lubbock, TX
Caza Eagle Claw

Sample Id: **HA-4 (0.5-1)** Matrix: Soil Sample Depth: 0.5 - 1 ft

Lab Sample Id: 630020-017 Date Collected: 07.03.19 13.36 Date Received: 07.05.19 12.49

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: CHE % Moist: Tech: CHE

Seq Number: 3094637 Date Prep: 07.08.19 10.00

Prep seq: 7681478

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**3980**	24.9	4.27	mg/kg	07.08.19 15:05		5

Analytical Method: TPH by SW8015 Mod Prep Method: 1005

Analyst: ARM % Moist: Tech: DVM

Seq Number: 3095306 Date Prep: 07.14.19 09.00

Prep seq: 7681995

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	**14.6**	14.9	7.97	mg/kg	07.14.19 21:15	J	1
Diesel Range Organics (DRO)	C10C28DRO	**425**	14.9	8.10	mg/kg	07.14.19 21:15		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**77.4**	14.9	8.10	mg/kg	07.14.19 21:15		1
Total TPH	PHC635	**517**		7.97	mg/kg	07.14.19 21:15		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	116	70 - 135	%		
o-Terphenyl	125	70 - 135	%		

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: AMB % Moist: Tech: ALG

Seq Number: 3095246 Date Prep: 07.12.19 17.18

Prep seq: 7681931

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	07.13.19 11:38	U	1
Toluene	108-88-3	<0.000454	0.00199	0.000454	mg/kg	07.13.19 11:38	U	1
Ethylbenzene	100-41-4	<0.000563	0.00199	0.000563	mg/kg	07.13.19 11:38	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	07.13.19 11:38	U	1
o-Xylene	95-47-6	<0.000343	0.00199	0.000343	mg/kg	07.13.19 11:38	U	1
Total Xylenes	1330-20-7	<0.000343		0.000343	mg/kg	07.13.19 11:38	U	
Total BTEX		<0.000343		0.000343	mg/kg	07.13.19 11:38	U	

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

Certificate of Analytical Results
630020
Terracon-Lubbock, Lubbock, TX
Caza Eagle Claw

Sample Id: **HA-4 (1.5-2)** Matrix: Soil Sample Depth: 1.5 - 2 ft

Lab Sample Id: 630020-018 Date Collected: 07.03.19 13.42 Date Received: 07.05.19 12.49

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: CHE % Moist: Tech: CHE

Seq Number: 3095674 Date Prep: 07.17.19 10.10

Prep seq: 7682180

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**4950**	49.8	8.55	mg/kg	07.17.19 11:50		10

Analytical Method: TPH by SW8015 Mod Prep Method: 1005

Analyst: ARM % Moist: Tech: DVM

Seq Number: 3096052 Date Prep: 07.16.19 15.00

Prep seq: 7682451

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	**10.8**	15.0	7.98	mg/kg	07.22.19 00:34	J	1
Diesel Range Organics (DRO)	C10C28DRO	**45.4**	15.0	8.10	mg/kg	07.22.19 00:34		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**8.52**	15.0	8.10	mg/kg	07.22.19 00:34	J	1
Total TPH	PHC635	**64.7**		7.98	mg/kg	07.22.19 00:34		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	123	70 - 135	%		
o-Terphenyl	84	70 - 135	%		

Sample Id: **HA-4 (3-3.5)** Matrix: Soil Sample Depth: 3 - 3.5 ft

Lab Sample Id: 630020-019 Date Collected: 07.03.19 13.48 Date Received: 07.05.19 12.49

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: CHE % Moist: Tech: CHE

Seq Number: 3095674 Date Prep: 07.17.19 10.10

Prep seq: 7682180

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**7890**	49.6	8.52	mg/kg	07.17.19 12:12		10

Certificate of Analytical Results
630020

Terracon-Lubbock, Lubbock, TX
Caza Eagle Claw

Sample Id: **HA-4 (4.5-5)** Matrix: Soil Sample Depth: 4.5 - 5 ft

Lab Sample Id: 630020-020 Date Collected: 07.03.19 13.51 Date Received: 07.05.19 12.49

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: CHE % Moist: Tech: CHE

Seq Number: 3095674 Date Prep: 07.17.19 10.10

Prep seq: 7682180

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**9300**	49.5	8.50	mg/kg	07.17.19 12:19		10

Certificate of Analytical Results
630020
Terracon-Lubbock, Lubbock, TX
Caza Eagle Claw

Sample Id: **HA-5 (0-0.5)** Matrix: Soil Sample Depth: 0 - 0.5 ft

Lab Sample Id: 630020-021 Date Collected: 07.03.19 14.54 Date Received: 07.05.19 12.49

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: CHE % Moist: Tech: CHE

Seq Number: 3094637 Date Prep: 07.08.19 10.00

Prep seq: 7681478

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**1.81**	4.98	0.855	mg/kg	07.08.19 15:12	J	1

Analytical Method: TPH by SW8015 Mod Prep Method: 1005

Analyst: ARM % Moist: Tech: DVM

Seq Number: 3095306 Date Prep: 07.14.19 09.00

Prep seq: 7681995

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	**20.4**	15.0	7.99	mg/kg	07.14.19 21:35		1
Diesel Range Organics (DRO)	C10C28DRO	<8.12	15.0	8.12	mg/kg	07.14.19 21:35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**8.45**	15.0	8.12	mg/kg	07.14.19 21:35	J	1
Total TPH	PHC635	**28.9**		7.99	mg/kg	07.14.19 21:35		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	93	70 - 135	%		
o-Terphenyl	86	70 - 135	%		

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: AMB % Moist: Tech: ALG

Seq Number: 3095246 Date Prep: 07.12.19 17.18

Prep seq: 7681931

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000386	0.00201	0.000386	mg/kg	07.14.19 12:00	U	1
Toluene	108-88-3	<0.000457	0.00201	0.000457	mg/kg	07.14.19 12:00	U	1
Ethylbenzene	100-41-4	<0.000567	0.00201	0.000567	mg/kg	07.14.19 12:00	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00402	0.00102	mg/kg	07.14.19 12:00	U	1
o-Xylene	95-47-6	<0.000346	0.00201	0.000346	mg/kg	07.14.19 12:00	U	1
Total Xylenes	1330-20-7	<0.000346		0.000346	mg/kg	07.14.19 12:00	U	
Total BTEX		<0.000346		0.000346	mg/kg	07.14.19 12:00	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	99	70 - 130	%		
4-Bromofluorobenzene	116	70 - 130	%		

Certificate of Analytical Results
630020
Terracon-Lubbock, Lubbock, TX
Caza Eagle Claw

Sample Id: **HA-5 (0.5-1)** Matrix: Soil Sample Depth: 0.5 - 1 ft

Lab Sample Id: 630020-022 Date Collected: 07.03.19 15.00 Date Received: 07.05.19 12.49

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: CHE % Moist: Tech: CHE

Seq Number: 3094637 Date Prep: 07.08.19 10.00

Prep seq: 7681478

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**4.91**	5.05	0.867	mg/kg	07.08.19 15:20	J	1

Analytical Method: TPH by SW8015 Mod Prep Method: 1005

Analyst: ARM % Moist: Tech: DVM

Seq Number: 3095306 Date Prep: 07.14.19 09.00

Prep seq: 7681995

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	**20.1**	15.0	7.99	mg/kg	07.14.19 21:55		1
Diesel Range Organics (DRO)	C10C28DRO	<8.11	15.0	8.11	mg/kg	07.14.19 21:55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.11	15.0	8.11	mg/kg	07.14.19 21:55	U	1
Total TPH	PHC635	**20.1**		7.99	mg/kg	07.14.19 21:55		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	94	70 - 135	%		
o-Terphenyl	86	70 - 135	%		

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: AMB % Moist: Tech: ALG

Seq Number: 3095246 Date Prep: 07.12.19 17.18

Prep seq: 7681931

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	07.14.19 12:22	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	07.14.19 12:22	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	07.14.19 12:22	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	07.14.19 12:22	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	07.14.19 12:22	U	1
Total Xylenes	1330-20-7	<0.000344		0.000344	mg/kg	07.14.19 12:22	U	
Total BTEX		<0.000344		0.000344	mg/kg	07.14.19 12:22	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	96	70 - 130	%		
4-Bromofluorobenzene	105	70 - 130	%		

Certificate of Analytical Results
630020
Terracon-Lubbock, Lubbock, TX
Caza Eagle Claw

Sample Id: **HA-6 (0-0.5)** Matrix: Soil Sample Depth: 0 - 0.5 ft

Lab Sample Id: 630020-026 Date Collected: 07.03.19 15.18 Date Received: 07.05.19 12.49

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: CHE % Moist: Tech: CHE

Seq Number: 3094637 Date Prep: 07.08.19 10.00

Prep seq: 7681478

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**10.8**	4.99	0.857	mg/kg	07.08.19 15:42		1

Analytical Method: TPH by SW8015 Mod Prep Method: 1005

Analyst: ARM % Moist: Tech: DVM

Seq Number: 3095306 Date Prep: 07.14.19 09.00

Prep seq: 7681995

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	**25.5**	15.0	8.00	mg/kg	07.14.19 22:34		1
Diesel Range Organics (DRO)	C10C28DRO	**13.2**	15.0	8.13	mg/kg	07.14.19 22:34	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.13	15.0	8.13	mg/kg	07.14.19 22:34	U	1
Total TPH	PHC635	**38.7**		8.00	mg/kg	07.14.19 22:34		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	108	70 - 135	%		
o-Terphenyl	100	70 - 135	%		

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: AMB % Moist: Tech: ALG

Seq Number: 3095246 Date Prep: 07.12.19 17.18

Prep seq: 7681931

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	07.14.19 12:44	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	07.14.19 12:44	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	07.14.19 12:44	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	07.14.19 12:44	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	07.14.19 12:44	U	1
Total Xylenes	1330-20-7	<0.000344		0.000344	mg/kg	07.14.19 12:44	U	
Total BTEX		<0.000344		0.000344	mg/kg	07.14.19 12:44	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	97	70 - 130	%		
4-Bromofluorobenzene	109	70 - 130	%		

Certificate of Analytical Results
630020
Terracon-Lubbock, Lubbock, TX
Caza Eagle Claw

Sample Id: **HA-6 (0.5-1)** Matrix: Soil Sample Depth: 0.5 - 1 ft

Lab Sample Id: 630020-027 Date Collected: 07.03.19 15.24 Date Received: 07.05.19 12.49

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: CHE % Moist: Tech: CHE

Seq Number: 3094637 Date Prep: 07.08.19 10.00

Prep seq: 7681478

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**8.61**	4.95	0.850	mg/kg	07.08.19 15:49		1

Analytical Method: TPH by SW8015 Mod Prep Method: 1005

Analyst: ARM % Moist: Tech: DVM

Seq Number: 3095306 Date Prep: 07.14.19 09.00

Prep seq: 7681995

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	**17.7**	15.0	7.98	mg/kg	07.14.19 22:53		1
Diesel Range Organics (DRO)	C10C28DRO	<8.10	15.0	8.10	mg/kg	07.14.19 22:53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.10	15.0	8.10	mg/kg	07.14.19 22:53	U	1
Total TPH	PHC635	**17.7**		7.98	mg/kg	07.14.19 22:53		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	102	70 - 135	%		
o-Terphenyl	94	70 - 135	%		

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: AMB % Moist: Tech: ALG

Seq Number: 3095246 Date Prep: 07.12.19 17.18

Prep seq: 7681931

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	07.14.19 02:19	U	1
Toluene	108-88-3	<0.000453	0.00199	0.000453	mg/kg	07.14.19 02:19	U	1
Ethylbenzene	100-41-4	<0.000561	0.00199	0.000561	mg/kg	07.14.19 02:19	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	07.14.19 02:19	U	1
o-Xylene	95-47-6	<0.000342	0.00199	0.000342	mg/kg	07.14.19 02:19	U	1
Total Xylenes	1330-20-7	<0.000342		0.000342	mg/kg	07.14.19 02:19	U	
Total BTEX		<0.000342		0.000342	mg/kg	07.14.19 02:19	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	89	70 - 130	%		
4-Bromofluorobenzene	89	70 - 130	%		

Certificate of Analytical Results
630020
Terracon-Lubbock, Lubbock, TX
Caza Eagle Claw

Sample Id: **7681440-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 7681440-1-BLK Date Collected: Date Received:
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3094603 Date Prep: 07.05.19 15.45
Prep seq: 7681440

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<0.858	5.00	0.858	mg/kg	07.05.19 15:54	U	1

Sample Id: **7681478-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 7681478-1-BLK Date Collected: Date Received:
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3094637 Date Prep: 07.08.19 08.15
Prep seq: 7681478

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<0.858	5.00	0.858	mg/kg	07.08.19 09:28	U	1

Sample Id: **7681931-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 7681931-1-BLK Date Collected: Date Received:
Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
Analyst: AMB % Moist: Tech: ALG
Seq Number: 3095246 Date Prep: 07.12.19 17.18
Prep seq: 7681931

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	07.13.19 09:04	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	07.13.19 09:04	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	07.13.19 09:04	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	07.13.19 09:04	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	07.13.19 09:04	U	1
Total Xylenes	1330-20-7	<0.000344		0.000344	mg/kg	07.13.19 09:04	U	
Total BTEX		<0.000344		0.000344	mg/kg	07.13.19 09:04	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	93	70 - 130	%		
4-Bromofluorobenzene	98	70 - 130	%		

Certificate of Analytical Results
630020
Terracon-Lubbock, Lubbock, TX
Caza Eagle Claw

Sample Id: **7681995-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 7681995-1-BLK Date Collected: Date Received:
Analytical Method: TPH by SW8015 Mod Prep Method: 1005
Analyst: ARM % Moist: Tech: DVM
Seq Number: 3095306 Date Prep: 07.14.19 09.00
Prep seq: 7681995

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<8.00	15.0	8.00	mg/kg	07.14.19 17:18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<8.13	15.0	8.13	mg/kg	07.14.19 17:18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.13	15.0	8.13	mg/kg	07.14.19 17:18	U	1
Total TPH	PHC635	<8.00		8.00	mg/kg	07.14.19 17:18	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	100	70 - 135	%		
o-Terphenyl	97	70 - 135	%		

Sample Id: **7682140-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 7682140-1-BLK Date Collected: Date Received:
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3095583 Date Prep: 07.16.19 16.00
Prep seq: 7682140

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<0.858	5.00	0.858	mg/kg	07.17.19 04:52	U	1

Sample Id: **7682180-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 7682180-1-BLK Date Collected: Date Received:
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3095674 Date Prep: 07.17.19 10.10
Prep seq: 7682180

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<0.858	5.00	0.858	mg/kg	07.17.19 10:45	U	1

Certificate of Analytical Results
630020
Terracon-Lubbock, Lubbock, TX
Caza Eagle Claw

Sample Id: **7682451-1-BLK** Matrix: Solid Sample Depth:

Lab Sample Id: 7682451-1-BLK Date Collected: Date Received:

Analytical Method: TPH by SW8015 Mod Prep Method: 1005

Analyst: ARM % Moist: Tech: DVM

Seq Number: 3096052 Date Prep: 07.21.19 09.00

Prep seq: 7682451

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<8.00	15.0	8.00	mg/kg	07.21.19 21:26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<8.13	15.0	8.13	mg/kg	07.21.19 21:26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.13	15.0	8.13	mg/kg	07.21.19 21:26	U	1
Total TPH	PHC635	<8.00		8.00	mg/kg	07.21.19 21:26	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	108	70 - 135	%		
o-Terphenyl	83	70 - 135	%		

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: Caza Eagle Claw

Work Orders : 630020,

Project ID: AR197234

Lab Batch #: 3095246 **Sample:** 7681931-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/13/19 07:10

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0287	0.0300	96	70-130	
4-Bromofluorobenzene	0.0320	0.0300	107	70-130	

Lab Batch #: 3095246 **Sample:** 7681931-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/13/19 07:32

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0300	0.0300	100	70-130	
4-Bromofluorobenzene	0.0346	0.0300	115	70-130	

Lab Batch #: 3095246 **Sample:** 630020-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/13/19 07:54

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0288	0.0300	96	70-130	
4-Bromofluorobenzene	0.0345	0.0300	115	70-130	

Lab Batch #: 3095246 **Sample:** 630020-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/13/19 08:16

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0289	0.0300	96	70-130	
4-Bromofluorobenzene	0.0356	0.0300	119	70-130	

Lab Batch #: 3095246 **Sample:** 7681931-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/13/19 09:04

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0278	0.0300	93	70-130	
4-Bromofluorobenzene	0.0295	0.0300	98	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: Caza Eagle Claw

Work Orders : 630020,

Project ID: AR197234

Lab Batch #: 3095306 **Sample:** 7681995-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/14/19 17:18

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.5	100	100	70-135	
o-Terphenyl	48.7	50.0	97	70-135	

Lab Batch #: 3095306 **Sample:** 7681995-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/14/19 17:38

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	122	100	122	70-135	
o-Terphenyl	62.5	50.0	125	70-135	

Lab Batch #: 3095306 **Sample:** 7681995-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/14/19 17:58

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	120	100	120	70-135	
o-Terphenyl	60.0	50.0	120	70-135	

Lab Batch #: 3095306 **Sample:** 630020-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/14/19 18:37

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	124	99.9	124	70-135	
o-Terphenyl	49.1	50.0	98	70-135	

Lab Batch #: 3095306 **Sample:** 630020-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/14/19 18:57

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	99.8	127	70-135	
o-Terphenyl	49.7	49.9	100	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: Caza Eagle Claw

Work Orders : 630020,

Project ID: AR197234

Lab Batch #: 3096052 **Sample:** 7682451-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/21/19 21:26

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	100	108	70-135	
o-Terphenyl	41.7	50.0	83	70-135	

Lab Batch #: 3096052 **Sample:** 7682451-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/21/19 21:49

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	39.3	50.0	79	70-135	

Lab Batch #: 3096052 **Sample:** 7682451-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/21/19 22:13

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	113	100	113	70-135	
o-Terphenyl	46.5	50.0	93	70-135	

Lab Batch #: 3096052 **Sample:** 630699-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/21/19 23:00

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.8	99.7	93	70-135	
o-Terphenyl	35.6	49.9	71	70-135	

Lab Batch #: 3096052 **Sample:** 630699-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/21/19 23:23

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.1	99.9	90	70-135	
o-Terphenyl	35.4	50.0	71	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: Caza Eagle Claw

Work Order #: 630020 **Project ID:** AR197234

Analyst: AMB **Date Prepared:** 07/12/2019 **Date Analyzed:** 07/13/2019

Lab Batch ID: 3095246 **Sample:** 7681931-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B 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
Benzene	<0.000385	0.100	0.0941	94	0.100	0.0903	90	4	70-130	35	
Toluene	<0.000456	0.100	0.0903	90	0.100	0.0882	88	2	70-130	35	
Ethylbenzene	<0.000565	0.100	0.0992	99	0.100	0.0944	94	5	70-130	35	
m,p-Xylenes	<0.00101	0.200	0.198	99	0.200	0.190	95	4	70-130	35	
o-Xylene	<0.000344	0.100	0.0955	96	0.100	0.0946	95	1	70-130	35	

Analyst: CHE **Date Prepared:** 07/05/2019 **Date Analyzed:** 07/05/2019

Lab Batch ID: 3094603 **Sample:** 7681440-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 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
Chloride	<0.858	250	249	100	250	250	100	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: Caza Eagle Claw

Work Order #: 630020 **Project ID:** AR197234

Analyst: CHE **Date Prepared:** 07/08/2019 **Date Analyzed:** 07/08/2019

Lab Batch ID: 3094637 **Sample:** 7681478-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 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
Chloride	<0.858	250	242	97	250	243	97	0	90-110	20	

Analyst: CHE **Date Prepared:** 07/16/2019 **Date Analyzed:** 07/17/2019

Lab Batch ID: 3095583 **Sample:** 7682140-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 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
Chloride	<0.858	250	233	93	250	234	94	0	90-110	20	

Analyst: CHE **Date Prepared:** 07/17/2019 **Date Analyzed:** 07/17/2019

Lab Batch ID: 3095674 **Sample:** 7682180-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 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
Chloride	<0.858	250	236	94	250	235	94	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: Caza Eagle Claw

Work Order #: 630020 **Project ID:** AR197234

Analyst: ARM **Date Prepared:** 07/14/2019 **Date Analyzed:** 07/14/2019

Lab Batch ID: 3095306 **Sample:** 7681995-1-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)	<8.00	1000	1150	115	1000	1120	112	3	70-135	20	
Diesel Range Organics (DRO)	<8.13	1000	1140	114	1000	1120	112	2	70-135	20	

Analyst: ARM **Date Prepared:** 07/21/2019 **Date Analyzed:** 07/21/2019

Lab Batch ID: 3096052 **Sample:** 7682451-1-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)	<8.00	1000	1140	114	1000	1140	114	0	70-135	20	
Diesel Range Organics (DRO)	<8.13	1000	1100	110	1000	1160	116	5	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: Caza Eagle Claw

Work Order # : 630020 **Project ID:** AR197234

Lab Batch ID: 3095246 **QC- Sample ID:** 630020-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/13/2019 **Date Prepared:** 07/12/2019 **Analyst:** AMB

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	0.0994	0.0762	77	0.0992	0.0803	81	5	70-130	35	
Toluene	<0.000453	0.0994	0.0721	73	0.0992	0.0767	77	6	70-130	35	
Ethylbenzene	<0.000561	0.0994	0.0776	78	0.0992	0.0832	84	7	70-130	35	
m,p-Xylenes	<0.00101	0.199	0.154	77	0.198	0.166	84	8	70-130	35	
o-Xylene	<0.000342	0.0994	0.0766	77	0.0992	0.0810	82	6	70-130	35	

Lab Batch ID: 3094603 **QC- Sample ID:** 630023-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/05/2019 **Date Prepared:** 07/05/2019 **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	<0.858	250	266	106	250	264	106	1	90-110	20	

Lab Batch ID: 3094603 **QC- Sample ID:** 630023-013 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/05/2019 **Date Prepared:** 07/05/2019 **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	<0.864	252	262	104	252	261	104	0	90-110	20	

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

Matrix Spike Duplicate Percent Recovery [G] = 100*(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: Caza Eagle Claw

Work Order # : 630020 **Project ID:** AR197234

Lab Batch ID: 3094637 **QC- Sample ID:** 630020-022 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/08/2019 **Date Prepared:** 07/08/2019 **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	4.91	253	269	104	253	269	104	0	90-110	20	

Lab Batch ID: 3094637 **QC- Sample ID:** 630022-016 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/08/2019 **Date Prepared:** 07/08/2019 **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	1520	250	1760	96	250	1760	96	0	90-110	20	

Lab Batch ID: 3095583 **QC- Sample ID:** 630920-006 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/17/2019 **Date Prepared:** 07/16/2019 **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	437	252	652	85	252	653	86	0	90-110	20	X

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

Matrix Spike Duplicate Percent Recovery [G] = 100*(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: Caza Eagle Claw

Work Order # : 630020 **Project ID:** AR197234

Lab Batch ID: 3095583 **QC- Sample ID:** 630955-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/17/2019 **Date Prepared:** 07/16/2019 **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	947	248	1110	66	248	1110	66	0	90-110	20	X

Lab Batch ID: 3095674 **QC- Sample ID:** 630319-004 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/17/2019 **Date Prepared:** 07/17/2019 **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	369	248	591	90	248	592	90	0	90-110	20	

Lab Batch ID: 3095674 **QC- Sample ID:** 630871-011 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/17/2019 **Date Prepared:** 07/17/2019 **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	38.0	251	287	99	251	287	99	0	90-110	20	

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

Matrix Spike Duplicate Percent Recovery [G] = 100*(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: Caza Eagle Claw

Work Order # : 630020 **Project ID:** AR197234

Lab Batch ID: 3095306 **QC- Sample ID:** 630020-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/14/2019 **Date Prepared:** 07/14/2019 **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)	18.8	999	1010	99	998	1040	102	3	70-135	20	
Diesel Range Organics (DRO)	8.62	999	1020	101	998	1040	103	2	70-135	20	

Lab Batch ID: 3096052 **QC- Sample ID:** 630699-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/21/2019 **Date Prepared:** 07/21/2019 **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)	11.0	997	1030	102	999	1010	100	2	70-135	20	
Diesel Range Organics (DRO)	10.1	997	990	98	999	967	96	2	70-135	20	

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

Matrix Spike Duplicate Percent Recovery [G] = 100*(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 RECORD 630070

Terracon

Laboratory: Xenco
Address: 6701 Aberdeen
Lubbock, Texas 79424

Office Location: Lubbock
Phone:
Contact:
Project Manager: John Fergerson
SRS #:
Sampler's Name: Joseph Guesnier
Sampler's Signature

Project Number: AR197234
Project Name: Caza Eagle Claw

ANALYSIS REQUESTED

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

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: 2 oz Glass	4 oz Glass	5035 kit	40 ml VOA	Chloride (EPA Method 300)	TPH Extended 8015	BTEX (EPA Method 8021B)	Hold				Lab Sample ID
S	7/3/2019	12:06		X	HA-1 (0-0.5)	0'	0.5'		X			X	X	X					
S	7/3/2019	12:12		X	HA-1 (0.5-1)	0.5'	1'		X			X	X	X					
S	7/3/2019	12:18		X	HA-1 (1.5-2)	1.5'	2'		X						X				
S	7/3/2019	12:24		X	HA-1 (3-3.5)	3'	3.5'		X						X				
S	7/3/2019	12:30		X	HA-1 (4.5-5)	4.5'	5'		X						X				
S	7/3/2019	12:36		X	HA-2 (0-0.5)	0'	0.5'		X			X	X	X					
S	7/3/2019	12:42		X	HA-2 (0.5-1)	0.5'	1'		X			X	X	X					
S	7/3/2019	12:48		X	HA-2 (1.5-2)	1.5'	2'		X						X				
S	7/3/2019	12:54		X	HA-2 (3-3.5)	3'	3.5'		X						X				
S	7/3/2019	13:00		X	HA-2 (4.5-5)	4.5'	5'		X						X				
S	7/3/2019	13:06		X	HA-3 (0-0.5)	0'	0.5'		X			X	X	X					
S	7/3/2019	13:12		X	HA-3 (0.5-1)	0.5'	1'		X			X	X	X					
S	7/3/2019	13:18		X	HA-3 (1.5-2)	1.5'	2'		X						X				
S	7/3/2019	13:24		X	HA-3 (3-3.5)	3'	3.5'		X						X				
S	7/3/2019	13:28		X	HA-3 (4.5-5)	4.5'	5'		X						X				
S	7/3/2019	13:30		X	HA-4 (0-0.5)	0'	0.5'		X			X	X	X					
S	7/3/2019	13:36		X	HA-4 (0.5-1)	0.5'	1'		X			X	X	X					

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

TRRP Laboratory Review Checklist ☐ Yes ☐ No

Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time
	7-3-19	12:49		7/3/19	1249
Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time
Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time
Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time

NOTES: Client: Solaris

e-mail results to:

john.fergerson@terracon.com
kristina.kohl@terracon.com
jrguesnier@terracon.com

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

CHAIN OF CUSTODY RECORD 630020

Terracon

Laboratory: Xenco
Address: 6701 Aberdeen
Lubbock, Texas 79424

Office Location: Lubbock
Phone:
Project Manager: John Fergerson
Contact:
Sampler's Name: Joseph Guesnier
SRS #:
Sampler's Signature

Project Number: AR197234
Project Name: Caza Eagle Claw

ANALYSIS REQUESTED

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

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: 2 oz Glass	4 oz Glass	5035 kit	40 ml VOA	Chloride (EPA Method 300)	TPH Extended 8015	BTEX (EPA Method 8021B)	Hold				Lab Sample ID
S	7/3/2019	13:42		X	HA-4 (1.5-2)	1.5'	2'		X						X				
S	7/3/2019	13:48		X	HA-4 (3-3.5)	3'	3.5'		X						X				
S	7/3/2019	13:51		X	HA-4 (4.5-5)	4.5'	5'		X						X				
S	7/3/2019	14:54		X	HA-5 (0-0.5)	0'	0.5'		X			X	X	X					
S	7/3/2019	15:00		X	HA-5 (0.5-1)	0.5'	1'		X			X	X	X					
S	7/3/2019	15:06		X	HA-5 (1.5-2)	1.5'	2'		X						X				
S	7/3/2019	15:12		X	HA-5 (3-3.5)	3'	3.5'		X						X				
S	7/3/2019	15:15		X	HA-5 (4.5-5)	4.5'	5'		X						X				
S	7/3/2019	15:18		X	HA-6 (0-0.5)	0'	0.5'		X			X	X	X					
S	7/3/2019	15:24		X	HA-6 (0.5-1)	0.5'	1'		X			X	X	X					
S	7/3/2019	15:30		X	HA-6 (1.5-2)	1.5'	2'		X						X				
S	7/3/2019	15:36		X	HA-6 (3-3.5)	3'	3.5'		X						X				

TURNAROUND TIME ☐ Normal ☐ 48-Hour Rush ☐ 24-Hour Rush TRRP Laboratory Review Checklist ☐ Yes ☐ No

Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
	7-5-19	12:49		7/5/19	1249
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:

NOTES: Client: Solaris

e-mail results to:
john.fergerson@terracon.com
kristina.kohl@terracon.com
jrguesnier@terracon.com

165116.3

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

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Terracon-Lubbock

Date/ Time Received: 07/05/2019 12:49:00 PM

Work Order #: 630020

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)?	16.3	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**No**	RECEIVED OUT OF TEMP
#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: 07/05/2019
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 07/09/2019
Jessica Kramer

Certificate of Analysis Summary 638925

Terracon-Lubbock, Lubbock, TX

Project Name: Caza Eagle Claw

Project Id: AR197234
Contact: Joseph Guesnier
Project Location:

Date Received in Lab: Wed Oct-02-19 04:05 pm
Report Date: 11-OCT-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	638925-001		638925-002		638925-003		638925-007		638925-008		638925-009	
	Field Id:	GP-5 (0-1)		GP-5 2-3		GP-5 (4-5)		GP-4 (0-1)		GP-4 (2-3)		GP-4 (4-5)	
	Depth:	0-1		2-3		4-5		0-1		2-3		4-5	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-30-19 13:00		Sep-30-19 13:02		Sep-30-19 13:04		Sep-30-19 13:15		Sep-30-19 13:17		Sep-30-19 13:19	
BTEX by EPA 8021B	***Extracted:***	Oct-04-19 12:00		Oct-04-19 12:00		Oct-04-19 12:00		Oct-04-19 12:00		Oct-04-19 12:00		Oct-04-19 12:00	
	Analyzed:	Oct-05-19 02:27		Oct-05-19 04:03		Oct-05-19 04:27		Oct-05-19 04:50		Oct-05-19 05:14		Oct-05-19 05:38	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00853	0.0189	<0.00813	0.0180	<0.00871	0.0193	<0.00850	0.0188	<0.00774	0.0171	<0.00810	0.0179
Toluene		0.00566 J	0.0189	<0.00421	0.0180	<0.00451	0.0193	<0.00440	0.0188	<0.00401	0.0171	<0.00419	0.0179
Ethylbenzene		<0.00581	0.0189	<0.00554	0.0180	<0.00593	0.0193	<0.00579	0.0188	<0.00527	0.0171	<0.00552	0.0179
m,p-Xylenes		<0.00643	0.0377	0.00899 J	0.0360	<0.00657	0.0385	<0.00641	0.0376	<0.00584	0.0342	<0.00611	0.0358
o-Xylene		<0.00643	0.0189	<0.00613	0.0180	<0.00657	0.0193	<0.00641	0.0188	<0.00584	0.0171	<0.00611	0.0179
Total Xylenes		<0.00643	0.0189	0.00899 J	0.0180	<0.00657	0.0193	<0.00641	0.0188	<0.00584	0.0171	<0.00611	0.0179
Total BTEX		0.00566 J	0.0189	0.00899 J	0.0180	<0.00451	0.0193	<0.00440	0.0188	<0.00401	0.0171	<0.00419	0.0179
Chloride by EPA 300 **SUB: T104704215-19-30**	***Extracted:***	Oct-04-19 16:45		Oct-04-19 16:45		Oct-04-19 16:45		Oct-04-19 16:45		Oct-04-19 16:45		Oct-04-19 16:45	
	Analyzed:	Oct-04-19 18:54		Oct-04-19 19:17		Oct-04-19 19:25		Oct-04-19 19:33		Oct-04-19 19:41		Oct-04-19 20:04	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		37.4	9.96	286	9.94	8330	98.4	63.3	10.1	3970	10.1	10400	101
TPH By SW8015 Mod **SUB: T104704215-19-30**	***Extracted:***	Oct-07-19 10:59		Oct-07-19 14:00		Oct-07-19 14:03		Oct-07-19 14:06		Oct-07-19 14:09		Oct-07-19 14:12	
	Analyzed:	Oct-07-19 12:25		Oct-07-19 18:07		Oct-07-19 18:25		Oct-07-19 18:43		Oct-07-19 19:01		Oct-07-19 19:20	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<10.0	50.0	10.7 J	50.0	<9.97	49.9	<9.95	49.8	<10.0	50.1	<9.96	49.8
Diesel Range Organics (DRO)		11.3 J	50.0	15.3 J	50.0	25.2 J	49.9	<9.95	49.8	<10.0	50.1	<9.96	49.8
Motor Oil Range Hydrocarbons (MRO)		<10.0	50.0	<9.99	50.0	12.3 J	49.9	<9.95	49.8	<10.0	50.1	<9.96	49.8
Total TPH		11.3 J	50.0	26.0 J	50.0	37.5 J	49.9	<9.95	49.8	<10.0	50.1	<9.96	49.8

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

Jessica Kramer
Project Assistant

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Certificate of Analysis Summary 638925

Terracon-Lubbock, Lubbock, TX

Project Name: Caza Eagle Claw

Project Id: AR197234
Contact: Joseph Guesnier
Project Location:

Date Received in Lab: Wed Oct-02-19 04:05 pm
Report Date: 11-OCT-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	638925-013		638925-014		638925-015		638925-022		638925-023		638925-025	
	Field Id:	GP-3 (0-1)		GP-3 (2-3)		GP-3 (4-5)		GP-2 (6-7)		GP-2 (8-9)		GP-1 (0-1)	
	Depth:	0-1		2-3		4-5		6-7		8-9		0-1	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-30-19 13:28		Sep-30-19 13:30		Sep-30-19 13:32		Sep-30-19 13:51		Sep-30-19 13:53		Sep-30-19 14:05	
BTEX by EPA 8021B	***Extracted:***	Oct-04-19 12:00		Oct-04-19 12:00		Oct-04-19 12:00		Oct-04-19 12:00		Oct-04-19 12:00		Oct-04-19 12:00	
	Analyzed:	Oct-05-19 06:02		Oct-05-19 06:26		Oct-05-19 06:51		Oct-05-19 07:14		Oct-05-19 08:51		Oct-05-19 11:14	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00871	0.0193	<0.00890	0.0197	<0.00892	0.0197	<0.00854	0.0189	<0.00873	0.0193	<0.0899	0.199
Toluene		<0.00451	0.0193	<0.00461	0.0197	<0.00462	0.0197	<0.00442	0.0189	<0.00452	0.0193	<0.0465	0.199
Ethylbenzene		<0.00593	0.0193	<0.00606	0.0197	<0.00607	0.0197	<0.00582	0.0189	<0.00595	0.0193	0.775	0.199
m,p-Xylenes		<0.00657	0.0385	<0.00671	0.0394	<0.00673	0.0394	<0.00645	0.0378	0.00965 J	0.0386	2.56	0.398
o-Xylene		<0.00657	0.0193	<0.00671	0.0197	<0.00673	0.0197	<0.00645	0.0189	<0.00658	0.0193	1.85	0.199
Total Xylenes		<0.00657	0.0193	<0.00671	0.0197	<0.00673	0.0197	<0.00645	0.0189	0.00965 J	0.0193	4.41	0.199
Total BTEX		<0.00451	0.0193	<0.00461	0.0197	<0.00462	0.0197	<0.00442	0.0189	0.00965 J	0.0193	5.19	0.199
Chloride by EPA 300 **SUB: T104704215-19-30**	***Extracted:***	Oct-04-19 16:45		Oct-04-19 16:45		Oct-04-19 16:45		Oct-04-19 16:45		Oct-04-19 16:45		Oct-04-19 16:45	
	Analyzed:	Oct-04-19 20:11		Oct-04-19 20:19		Oct-04-19 20:27		Oct-04-19 20:35		Oct-04-19 20:42		Oct-04-19 21:05	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		3730	9.94	9340	98.4	7150	99.8	8020	99.4	2610 X	10.0	2550	9.96
TPH By SW8015 Mod **SUB: T104704215-19-30**	***Extracted:***	Oct-07-19 14:15		Oct-07-19 14:18		Oct-07-19 14:21		Oct-07-19 14:24		Oct-07-19 14:27		Oct-07-19 14:30	
	Analyzed:	Oct-07-19 19:38		Oct-07-19 19:57		Oct-07-19 20:15		Oct-07-19 20:33		Oct-07-19 20:52		Oct-07-19 21:28	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		11.5 J	50.0	<10.0	50.1	<9.96	49.8	<9.94	49.7	10.7 J	49.5	636	49.8
Diesel Range Organics (DRO)		121	50.0	<10.0	50.1	10.7 J	49.8	<9.94	49.7	<9.90	49.5	8680 D	99.5
Motor Oil Range Hydrocarbons (MRO)		26.6 J	50.0	<10.0	50.1	<9.96	49.8	<9.94	49.7	<9.90	49.5	857	49.8
Total TPH		159	50.0	<10.0	50.1	10.7 J	49.8	<9.94	49.7	10.7 J	49.5	10200	49.8

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Jessica Kramer
Project Assistant

1.000

Table of Contents

Certificate of Analysis Summary 638925

Terracon-Lubbock, Lubbock, TX

Project Name: Caza Eagle Claw

Project Id: AR197234
Contact: Joseph Guesnier
Project Location:

Date Received in Lab: Wed Oct-02-19 04:05 pm
Report Date: 11-OCT-19
Project Manager: Jessica Kramer

Analysis Requested												
	Lab Id:	638925-026		638925-027		638925-029		638925-030		638925-031		
	Field Id:	GP-1 (2-3)		GP-1 (4-5)		HA-7 (0-0.5)		HA-7 (0.5-1)		HA-7 (1.5-2)		
	Depth:	2-3		4-5		0-0.5		0.5-1		1.5-2		
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		
	Sampled:	Sep-30-19 14:07		Sep-30-19 14:12		Sep-30-19 15:30		Sep-30-19 15:32		Sep-30-19 15:34		
BTEX by EPA 8021B	***Extracted:***	Oct-04-19 12:00		Oct-04-19 12:00		Oct-04-19 12:00		Oct-04-19 12:00		Oct-04-19 12:00		
	Analyzed:	Oct-05-19 09:14		Oct-05-19 09:38		Oct-05-19 10:02		Oct-05-19 10:26		Oct-05-19 10:50		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	
Benzene		<0.00888	0.0196	<0.00845	0.0187	<0.00897	0.0198	<0.00902	0.0200	<0.00881	0.0195	
Toluene		<0.00460	0.0196	<0.00437	0.0187	<0.00464	0.0198	<0.00467	0.0200	<0.00456	0.0195	
Ethylbenzene		<0.00605	0.0196	<0.00576	0.0187	<0.00611	0.0198	<0.00615	0.0200	<0.00600	0.0195	
m,p-Xylenes		<0.00670	0.0393	<0.00637	0.0374	<0.00677	0.0397	<0.00681	0.0399	<0.00665	0.0390	
o-Xylene		<0.00670	0.0196	<0.00637	0.0187	<0.00677	0.0198	<0.00681	0.0200	<0.00665	0.0195	
Total Xylenes		<0.00670	0.0196	<0.00637	0.0187	<0.00677	0.0198	<0.00681	0.0200	<0.00665	0.0195	
Total BTEX		<0.00460	0.0196	<0.00437	0.0187	<0.00464	0.0198	<0.00467	0.0200	<0.00456	0.0195	
Chloride by EPA 300 **SUB: T104704215-19-30**	***Extracted:***	Oct-04-19 16:45		Oct-04-19 16:45		Oct-04-19 16:45		Oct-04-19 16:45		Oct-04-19 16:45		
	Analyzed:	Oct-04-19 21:13		Oct-04-19 21:36		Oct-04-19 21:44		Oct-04-19 21:52		Oct-04-19 21:59		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	
Chloride		77.7	9.94	4530	9.92	2020	9.98	11.6	9.84	56.0	9.98	
TPH By SW8015 Mod **SUB: T104704215-19-30**	***Extracted:***	Oct-07-19 14:33		Oct-07-19 14:36		Oct-07-19 16:39		Oct-07-19 16:48		Oct-07-19 16:51		
	Analyzed:	Oct-07-19 21:46		Oct-07-19 22:05		Oct-08-19 00:12		Oct-08-19 01:27		Oct-08-19 01:46		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	
Gasoline Range Hydrocarbons (GRO)		<9.94	49.7	<9.98	49.9	<9.98	49.9	<9.94	49.7	<10.0	50.0	
Diesel Range Organics (DRO)		34.2 J	49.7	12.6 J	49.9	<9.98	49.9	<9.94	49.7	<10.0	50.0	
Motor Oil Range Hydrocarbons (MRO)		30.0 J	49.7	15.6 J	49.9	<9.98	49.9	<9.94	49.7	<10.0	50.0	
Total TPH		64.2	49.7	28.2 J	49.9	<9.98	49.9	<9.94	49.7	<10.0	50.0	

Jessica Kramer
Project Assistant

Analytical Report 638925

for

Terracon-Lubbock

Project Manager: Joseph Guesnier

Caza Eagle Claw

AR197234

11-OCT-19

Collected By: Client

6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

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-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)

11-OCT-19

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

Reference: XENCO Report No(s): **638925**
Caza Eagle Claw
Project Address:

Joseph Guesnier:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 638925. 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. 638925 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

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

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

Sample Cross Reference 638925

Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
GP-5 (0-1)	S	09-30-19 13:00	0 - 1	638925-001
GP-5 2-3	S	09-30-19 13:02	2 - 3	638925-002
GP-5 (4-5)	S	09-30-19 13:04	4 - 5	638925-003
GP-4 (0-1)	S	09-30-19 13:15	0 - 1	638925-007
GP-4 (2-3)	S	09-30-19 13:17	2 - 3	638925-008
GP-4 (4-5)	S	09-30-19 13:19	4 - 5	638925-009
GP-3 (0-1)	S	09-30-19 13:28	0 - 1	638925-013
GP-3 (2-3)	S	09-30-19 13:30	2 - 3	638925-014
GP-3 (4-5)	S	09-30-19 13:32	4 - 5	638925-015
GP-2 (6-7)	S	09-30-19 13:51	6 - 7	638925-022
GP-2 (8-9)	S	09-30-19 13:53	8 - 9	638925-023
GP-1 (0-1)	S	09-30-19 14:05	0 - 1	638925-025
GP-1 (2-3)	S	09-30-19 14:07	2 - 3	638925-026
GP-1 (4-5)	S	09-30-19 14:12	4 - 5	638925-027
HA-7 (0-0.5)	S	09-30-19 15:30	0 - 0.5	638925-029
HA-7 (0.5-1)	S	09-30-19 15:32	0.5 - 1	638925-030
HA-7 (1.5-2)	S	09-30-19 15:34	1.5 - 2	638925-031
GP-5 (6-7)	S	09-30-19 13:06	6 - 7	Not Analyzed
GP-5 (8-9)	S	09-30-19 13:08	8 - 9	Not Analyzed
GP-5 (9-10)	S	09-30-19 13:10	9 - 10	Not Analyzed
GP-4 (6-7)	S	09-30-19 13:21	6 - 7	Not Analyzed
GP-4 (8-9)	S	09-30-19 13:23	8 - 9	Not Analyzed
GP-4 (9-10)	S	09-30-19 13:25	9 - 10	Not Analyzed
GP-3 (6-7)	S	09-30-19 13:34	6 - 7	Not Analyzed
GP-3 (8-9)	S	09-30-19 13:36	8 - 9	Not Analyzed
GP-3 (9-10)	S	09-30-19 13:38	9 - 10	Not Analyzed
GP-2 (0-1)	S	09-30-19 13:45	0 - 1	Not Analyzed
GP-2 (2-3)	S	09-30-19 13:47	2 - 3	Not Analyzed
GP-2 (4-5)	S	09-30-19 13:49	4 - 5	Not Analyzed
GP-2 (9-10)	S	09-30-19 13:55	9 - 10	Not Analyzed
GP-1 (6-7)R	S	09-30-19 14:32	6 - 7	Not Analyzed
HA-7 (3.5-4)	S	09-30-19 15:36	3.5 - 4	Not Analyzed

CASE NARRATIVE

Client Name: Terracon-Lubbock

Project Name: Caza Eagle Claw

Project ID: *AR197234*
Work Order Number(s): *638925*

Report Date: *11-OCT-19*
Date Received: *10/02/2019*

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3103424 Chloride by EPA 300
Lab Sample ID 638925-023 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: 638925-001, -002, -003, -007, -008, -009, -013, -014, -015, -022, -023, -025, -026, -027, -029, -030, -031.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3103504 BTEX by EPA 8021B
Sample 638925-025 was diluted due to hydrocarbons beyond xylene.

Batch: LBA-3103905 TPH by SW8015 Mod
Surrogate 1-Chlorooctane, Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 638925-025.

Certificate of Analytical Results 638925

Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id:	**GP-5 (0-1)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-001	Date Collected:	09.30.19 13.00	Sample Depth:	0 - 1

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	10.04.19 16.45	Basis:	Wet Weight
Seq Number:	3103424			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**37.4**	9.96	0.353	mg/kg	10.04.19 18.54		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	10.07.19 10.59	Basis:	Wet Weight
Seq Number:	3103905			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<10.0	50.0	10.0	mg/kg	10.07.19 12.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	**11.3**	50.0	10.0	mg/kg	10.07.19 12.25	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<10.0	50.0	10.0	mg/kg	10.07.19 12.25	U	1
Total TPH	PHC635	**11.3**	50.0	10.0	mg/kg	10.07.19 12.25	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	10.07.19 12.25	
o-Terphenyl	84-15-1	101	%	70-135	10.07.19 12.25	

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Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id:	**GP-5 (0-1)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-001	Date Collected:	09.30.19 13.00	Sample Depth:	0 - 1
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	10.04.19 12.00	Basis:	Wet Weight
Seq Number:	3103504				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00853	0.0189	0.00853	mg/kg	10.05.19 02.27	U	1
Toluene	108-88-3	**0.00566**	0.0189	0.00442	mg/kg	10.05.19 02.27	J	1
Ethylbenzene	100-41-4	<0.00581	0.0189	0.00581	mg/kg	10.05.19 02.27	U	1
m,p-Xylenes	179601-23-1	<0.00643	0.0377	0.00643	mg/kg	10.05.19 02.27	U	1
o-Xylene	95-47-6	<0.00643	0.0189	0.00643	mg/kg	10.05.19 02.27	U	1
Total Xylenes	1330-20-7	<0.00643	0.0189	0.00643	mg/kg	10.05.19 02.27	U	1
Total BTEX		**0.00566**	0.0189	0.00442	mg/kg	10.05.19 02.27	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	112	%	68-120	10.05.19 02.27	
a,a,a-Trifluorotoluene	98-08-8	110	%	71-121	10.05.19 02.27	

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Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id:	**GP-5 2-3**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-002	Date Collected:	09.30.19 13.02	Sample Depth:	2 - 3

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	10.04.19 16.45	Basis:	Wet Weight
Seq Number:	3103424			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**286**	9.94	0.352	mg/kg	10.04.19 19.17		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	10.07.19 14.00	Basis:	Wet Weight
Seq Number:	3103905			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**10.7**	50.0	9.99	mg/kg	10.07.19 18.07	J	1
Diesel Range Organics (DRO)	C10C28DRO	**15.3**	50.0	9.99	mg/kg	10.07.19 18.07	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.99	50.0	9.99	mg/kg	10.07.19 18.07	U	1
Total TPH	PHC635	**26.0**	50.0	9.99	mg/kg	10.07.19 18.07	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	10.07.19 18.07	
o-Terphenyl	84-15-1	106	%	70-135	10.07.19 18.07	

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Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id:	**GP-5 2-3**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-002	Date Collected:	09.30.19 13.02	Sample Depth:	2 - 3
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	10.04.19 12.00	Basis:	Wet Weight
Seq Number:	3103504				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00813	0.0180	0.00813	mg/kg	10.05.19 04.03	U	1
Toluene	108-88-3	<0.00421	0.0180	0.00421	mg/kg	10.05.19 04.03	U	1
Ethylbenzene	100-41-4	<0.00554	0.0180	0.00554	mg/kg	10.05.19 04.03	U	1
m,p-Xylenes	179601-23-1	**0.00899**	0.0360	0.00613	mg/kg	10.05.19 04.03	J	1
o-Xylene	95-47-6	<0.00613	0.0180	0.00613	mg/kg	10.05.19 04.03	U	1
Total Xylenes	1330-20-7	**0.00899**	0.0180	0.00613	mg/kg	10.05.19 04.03	J	1
Total BTEX		**0.00899**	0.0180	0.00421	mg/kg	10.05.19 04.03	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	113	%	68-120	10.05.19 04.03	
a,a,a-Trifluorotoluene	98-08-8	111	%	71-121	10.05.19 04.03	

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Caza Eagle Claw

Sample Id:	**GP-5 (4-5)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-003	Date Collected:	09.30.19 13.04	Sample Depth:	4 - 5

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	10.04.19 16.45	Basis:	Wet Weight
Seq Number:	3103424			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8330**	98.4	3.48	mg/kg	10.04.19 19.25		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	10.07.19 14.03	Basis:	Wet Weight
Seq Number:	3103905			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.97	49.9	9.97	mg/kg	10.07.19 18.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	**25.2**	49.9	9.97	mg/kg	10.07.19 18.25	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**12.3**	49.9	9.97	mg/kg	10.07.19 18.25	J	1
Total TPH	PHC635	**37.5**	49.9	9.97	mg/kg	10.07.19 18.25	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	10.07.19 18.25	
o-Terphenyl	84-15-1	110	%	70-135	10.07.19 18.25	

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Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id:	**GP-5 (4-5)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-003	Date Collected:	09.30.19 13.04	Sample Depth:	4 - 5
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	10.04.19 12.00	Basis:	Wet Weight
Seq Number:	3103504				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00871	0.0193	0.00871	mg/kg	10.05.19 04.27	U	1
Toluene	108-88-3	<0.00451	0.0193	0.00451	mg/kg	10.05.19 04.27	U	1
Ethylbenzene	100-41-4	<0.00593	0.0193	0.00593	mg/kg	10.05.19 04.27	U	1
m,p-Xylenes	179601-23-1	<0.00657	0.0385	0.00657	mg/kg	10.05.19 04.27	U	1
o-Xylene	95-47-6	<0.00657	0.0193	0.00657	mg/kg	10.05.19 04.27	U	1
Total Xylenes	1330-20-7	<0.00657	0.0193	0.00657	mg/kg	10.05.19 04.27	U	1
Total BTEX		<0.00451	0.0193	0.00451	mg/kg	10.05.19 04.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	68-120	10.05.19 04.27	
a,a,a-Trifluorotoluene	98-08-8	97	%	71-121	10.05.19 04.27	

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Caza Eagle Claw

Sample Id:	**GP-4 (0-1)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-007	Date Collected:	09.30.19 13.15	Sample Depth:	0 - 1

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	10.04.19 16.45	Basis:	Wet Weight
Seq Number:	3103424			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**63.3**	10.1	0.358	mg/kg	10.04.19 19.33		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	10.07.19 14.06	Basis:	Wet Weight
Seq Number:	3103905			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.95	49.8	9.95	mg/kg	10.07.19 18.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<9.95	49.8	9.95	mg/kg	10.07.19 18.43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.95	49.8	9.95	mg/kg	10.07.19 18.43	U	1
Total TPH	PHC635	<9.95	49.8	9.95	mg/kg	10.07.19 18.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	74	%	70-135	10.07.19 18.43	
o-Terphenyl	84-15-1	74	%	70-135	10.07.19 18.43	

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Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id:	**GP-4 (0-1)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-007	Date Collected:	09.30.19 13.15	Sample Depth:	0 - 1
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	10.04.19 12.00	Basis:	Wet Weight
Seq Number:	3103504				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00850	0.0188	0.00850	mg/kg	10.05.19 04.50	U	1
Toluene	108-88-3	<0.00440	0.0188	0.00440	mg/kg	10.05.19 04.50	U	1
Ethylbenzene	100-41-4	<0.00579	0.0188	0.00579	mg/kg	10.05.19 04.50	U	1
m,p-Xylenes	179601-23-1	<0.00641	0.0376	0.00641	mg/kg	10.05.19 04.50	U	1
o-Xylene	95-47-6	<0.00641	0.0188	0.00641	mg/kg	10.05.19 04.50	U	1
Total Xylenes	1330-20-7	<0.00641	0.0188	0.00641	mg/kg	10.05.19 04.50	U	1
Total BTEX		<0.00440	0.0188	0.00440	mg/kg	10.05.19 04.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	68-120	10.05.19 04.50	
a,a,a-Trifluorotoluene	98-08-8	110	%	71-121	10.05.19 04.50	

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Caza Eagle Claw

Sample Id:	**GP-4 (2-3)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-008	Date Collected:	09.30.19 13.17	Sample Depth:	2 - 3

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	10.04.19 16.45	Basis:	Wet Weight
Seq Number:	3103424			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3970**	10.1	0.359	mg/kg	10.04.19 19.41		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	10.07.19 14.09	Basis:	Wet Weight
Seq Number:	3103905			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<10.0	50.1	10.0	mg/kg	10.07.19 19.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<10.0	50.1	10.0	mg/kg	10.07.19 19.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<10.0	50.1	10.0	mg/kg	10.07.19 19.01	U	1
Total TPH	PHC635	<10.0	50.1	10.0	mg/kg	10.07.19 19.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	10.07.19 19.01	
o-Terphenyl	84-15-1	110	%	70-135	10.07.19 19.01	

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Caza Eagle Claw

Sample Id:	**GP-4 (2-3)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-008	Date Collected:	09.30.19 13.17	Sample Depth:	2 - 3
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	10.04.19 12.00	Basis:	Wet Weight
Seq Number:	3103504				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00774	0.0171	0.00774	mg/kg	10.05.19 05.14	U	1
Toluene	108-88-3	<0.00401	0.0171	0.00401	mg/kg	10.05.19 05.14	U	1
Ethylbenzene	100-41-4	<0.00527	0.0171	0.00527	mg/kg	10.05.19 05.14	U	1
m,p-Xylenes	179601-23-1	<0.00584	0.0342	0.00584	mg/kg	10.05.19 05.14	U	1
o-Xylene	95-47-6	<0.00584	0.0171	0.00584	mg/kg	10.05.19 05.14	U	1
Total Xylenes	1330-20-7	<0.00584	0.0171	0.00584	mg/kg	10.05.19 05.14	U	1
Total BTEX		<0.00401	0.0171	0.00401	mg/kg	10.05.19 05.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	68-120	10.05.19 05.14	
a,a,a-Trifluorotoluene	98-08-8	102	%	71-121	10.05.19 05.14	

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Caza Eagle Claw

Sample Id:	**GP-4 (4-5)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-009	Date Collected:	09.30.19 13.19	Sample Depth:	4 - 5

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	10.04.19 16.45	Basis:	Wet Weight
Seq Number:	3103424			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**10400**	101	3.58	mg/kg	10.04.19 20.04		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	10.07.19 14.12	Basis:	Wet Weight
Seq Number:	3103905			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.96	49.8	9.96	mg/kg	10.07.19 19.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<9.96	49.8	9.96	mg/kg	10.07.19 19.20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.96	49.8	9.96	mg/kg	10.07.19 19.20	U	1
Total TPH	PHC635	<9.96	49.8	9.96	mg/kg	10.07.19 19.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	10.07.19 19.20	
o-Terphenyl	84-15-1	108	%	70-135	10.07.19 19.20	

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Caza Eagle Claw

Sample Id:	**GP-4 (4-5)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-009	Date Collected:	09.30.19 13.19	Sample Depth:	4 - 5
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	10.04.19 12.00	Basis:	Wet Weight
Seq Number:	3103504				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00810	0.0179	0.00810	mg/kg	10.05.19 05.38	U	1
Toluene	108-88-3	<0.00419	0.0179	0.00419	mg/kg	10.05.19 05.38	U	1
Ethylbenzene	100-41-4	<0.00552	0.0179	0.00552	mg/kg	10.05.19 05.38	U	1
m,p-Xylenes	179601-23-1	<0.00611	0.0358	0.00611	mg/kg	10.05.19 05.38	U	1
o-Xylene	95-47-6	<0.00611	0.0179	0.00611	mg/kg	10.05.19 05.38	U	1
Total Xylenes	1330-20-7	<0.00611	0.0179	0.00611	mg/kg	10.05.19 05.38	U	1
Total BTEX		<0.00419	0.0179	0.00419	mg/kg	10.05.19 05.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	113	%	68-120	10.05.19 05.38	
a,a,a-Trifluorotoluene	98-08-8	112	%	71-121	10.05.19 05.38	

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Caza Eagle Claw

Sample Id:	**GP-3 (0-1)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-013	Date Collected:	09.30.19 13.28	Sample Depth:	0 - 1

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	10.04.19 16.45	Basis:	Wet Weight
Seq Number:	3103424			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3730**	9.94	0.352	mg/kg	10.04.19 20.11		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	10.07.19 14.15	Basis:	Wet Weight
Seq Number:	3103905			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**11.5**	50.0	10.0	mg/kg	10.07.19 19.38	J	1
Diesel Range Organics (DRO)	C10C28DRO	**121**	50.0	10.0	mg/kg	10.07.19 19.38		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**26.6**	50.0	10.0	mg/kg	10.07.19 19.38	J	1
Total TPH	PHC635	**159**	50.0	10.0	mg/kg	10.07.19 19.38		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	10.07.19 19.38	
o-Terphenyl	84-15-1	105	%	70-135	10.07.19 19.38	

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Caza Eagle Claw

Sample Id:	**GP-3 (0-1)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-013	Date Collected:	09.30.19 13.28	Sample Depth:	0 - 1
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	10.04.19 12.00	Basis:	Wet Weight
Seq Number:	3103504				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00871	0.0193	0.00871	mg/kg	10.05.19 06.02	U	1
Toluene	108-88-3	<0.00451	0.0193	0.00451	mg/kg	10.05.19 06.02	U	1
Ethylbenzene	100-41-4	<0.00593	0.0193	0.00593	mg/kg	10.05.19 06.02	U	1
m,p-Xylenes	179601-23-1	<0.00657	0.0385	0.00657	mg/kg	10.05.19 06.02	U	1
o-Xylene	95-47-6	<0.00657	0.0193	0.00657	mg/kg	10.05.19 06.02	U	1
Total Xylenes	1330-20-7	<0.00657	0.0193	0.00657	mg/kg	10.05.19 06.02	U	1
Total BTEX		<0.00451	0.0193	0.00451	mg/kg	10.05.19 06.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	113	%	68-120	10.05.19 06.02	
a,a,a-Trifluorotoluene	98-08-8	113	%	71-121	10.05.19 06.02	

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Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id:	**GP-3 (2-3)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-014	Date Collected:	09.30.19 13.30	Sample Depth:	2 - 3

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	10.04.19 16.45	Basis:	Wet Weight
Seq Number:	3103424			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9340**	98.4	3.48	mg/kg	10.04.19 20.19		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	10.07.19 14.18	Basis:	Wet Weight
Seq Number:	3103905			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<10.0	50.1	10.0	mg/kg	10.07.19 19.57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<10.0	50.1	10.0	mg/kg	10.07.19 19.57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<10.0	50.1	10.0	mg/kg	10.07.19 19.57	U	1
Total TPH	PHC635	<10.0	50.1	10.0	mg/kg	10.07.19 19.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	10.07.19 19.57	
o-Terphenyl	84-15-1	108	%	70-135	10.07.19 19.57	

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Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id:	**GP-3 (2-3)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-014	Date Collected:	09.30.19 13.30	Sample Depth:	2 - 3
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	10.04.19 12.00	Basis:	Wet Weight
Seq Number:	3103504				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00890	0.0197	0.00890	mg/kg	10.05.19 06.26	U	1
Toluene	108-88-3	<0.00461	0.0197	0.00461	mg/kg	10.05.19 06.26	U	1
Ethylbenzene	100-41-4	<0.00606	0.0197	0.00606	mg/kg	10.05.19 06.26	U	1
m,p-Xylenes	179601-23-1	<0.00671	0.0394	0.00671	mg/kg	10.05.19 06.26	U	1
o-Xylene	95-47-6	<0.00671	0.0197	0.00671	mg/kg	10.05.19 06.26	U	1
Total Xylenes	1330-20-7	<0.00671	0.0197	0.00671	mg/kg	10.05.19 06.26	U	1
Total BTEX		<0.00461	0.0197	0.00461	mg/kg	10.05.19 06.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	68-120	10.05.19 06.26	
a,a,a-Trifluorotoluene	98-08-8	104	%	71-121	10.05.19 06.26	

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Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id:	**GP-3 (4-5)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-015	Date Collected:	09.30.19 13.32	Sample Depth:	4 - 5

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	10.04.19 16.45	Basis:	Wet Weight
Seq Number:	3103424			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7150**	99.8	3.53	mg/kg	10.04.19 20.27		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	10.07.19 14.21	Basis:	Wet Weight
Seq Number:	3103905			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.96	49.8	9.96	mg/kg	10.07.19 20.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	**10.7**	49.8	9.96	mg/kg	10.07.19 20.15	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.96	49.8	9.96	mg/kg	10.07.19 20.15	U	1
Total TPH	PHC635	**10.7**	49.8	9.96	mg/kg	10.07.19 20.15	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	10.07.19 20.15	
o-Terphenyl	84-15-1	108	%	70-135	10.07.19 20.15	

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Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id:	**GP-3 (4-5)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-015	Date Collected:	09.30.19 13.32	Sample Depth:	4 - 5
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	10.04.19 12.00	Basis:	Wet Weight
Seq Number:	3103504				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00892	0.0197	0.00892	mg/kg	10.05.19 06.51	U	1
Toluene	108-88-3	<0.00462	0.0197	0.00462	mg/kg	10.05.19 06.51	U	1
Ethylbenzene	100-41-4	<0.00607	0.0197	0.00607	mg/kg	10.05.19 06.51	U	1
m,p-Xylenes	179601-23-1	<0.00673	0.0394	0.00673	mg/kg	10.05.19 06.51	U	1
o-Xylene	95-47-6	<0.00673	0.0197	0.00673	mg/kg	10.05.19 06.51	U	1
Total Xylenes	1330-20-7	<0.00673	0.0197	0.00673	mg/kg	10.05.19 06.51	U	1
Total BTEX		<0.00462	0.0197	0.00462	mg/kg	10.05.19 06.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	68-120	10.05.19 06.51	
a,a,a-Trifluorotoluene	98-08-8	110	%	71-121	10.05.19 06.51	

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Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id:	**GP-2 (6-7)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-022	Date Collected:	09.30.19 13.51	Sample Depth:	6 - 7

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	10.04.19 16.45	Basis:	Wet Weight
Seq Number:	3103424			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8020**	99.4	3.52	mg/kg	10.04.19 20.35		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	10.07.19 14.24	Basis:	Wet Weight
Seq Number:	3103905			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.94	49.7	9.94	mg/kg	10.07.19 20.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<9.94	49.7	9.94	mg/kg	10.07.19 20.33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.94	49.7	9.94	mg/kg	10.07.19 20.33	U	1
Total TPH	PHC635	<9.94	49.7	9.94	mg/kg	10.07.19 20.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	10.07.19 20.33	
o-Terphenyl	84-15-1	113	%	70-135	10.07.19 20.33	

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Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id:	**GP-2 (6-7)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-022	Date Collected:	09.30.19 13.51	Sample Depth:	6 - 7
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	10.04.19 12.00	Basis:	Wet Weight
Seq Number:	3103504				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00854	0.0189	0.00854	mg/kg	10.05.19 07.14	U	1
Toluene	108-88-3	<0.00442	0.0189	0.00442	mg/kg	10.05.19 07.14	U	1
Ethylbenzene	100-41-4	<0.00582	0.0189	0.00582	mg/kg	10.05.19 07.14	U	1
m,p-Xylenes	179601-23-1	<0.00645	0.0378	0.00645	mg/kg	10.05.19 07.14	U	1
o-Xylene	95-47-6	<0.00645	0.0189	0.00645	mg/kg	10.05.19 07.14	U	1
Total Xylenes	1330-20-7	<0.00645	0.0189	0.00645	mg/kg	10.05.19 07.14	U	1
Total BTEX		<0.00442	0.0189	0.00442	mg/kg	10.05.19 07.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	68-120	10.05.19 07.14	
a,a,a-Trifluorotoluene	98-08-8	108	%	71-121	10.05.19 07.14	

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Caza Eagle Claw

Sample Id:	**GP-2 (8-9)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-023	Date Collected:	09.30.19 13.53	Sample Depth:	8 - 9

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	10.04.19 16.45	Basis:	Wet Weight
Seq Number:	3103424			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2610**	10.0	0.354	mg/kg	10.04.19 20.42	X	1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	10.07.19 14.27	Basis:	Wet Weight
Seq Number:	3103905			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**10.7**	49.5	9.90	mg/kg	10.07.19 20.52	J	1
Diesel Range Organics (DRO)	C10C28DRO	<9.90	49.5	9.90	mg/kg	10.07.19 20.52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.90	49.5	9.90	mg/kg	10.07.19 20.52	U	1
Total TPH	PHC635	**10.7**	49.5	9.90	mg/kg	10.07.19 20.52	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	10.07.19 20.52	
o-Terphenyl	84-15-1	109	%	70-135	10.07.19 20.52	

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Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id:	**GP-2 (8-9)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-023	Date Collected:	09.30.19 13.53	Sample Depth:	8 - 9
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	10.04.19 12.00	Basis:	Wet Weight
Seq Number:	3103504				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00873	0.0193	0.00873	mg/kg	10.05.19 08.51	U	1
Toluene	108-88-3	<0.00452	0.0193	0.00452	mg/kg	10.05.19 08.51	U	1
Ethylbenzene	100-41-4	<0.00595	0.0193	0.00595	mg/kg	10.05.19 08.51	U	1
m,p-Xylenes	179601-23-1	**0.00965**	0.0386	0.00658	mg/kg	10.05.19 08.51	J	1
o-Xylene	95-47-6	<0.00658	0.0193	0.00658	mg/kg	10.05.19 08.51	U	1
Total Xylenes	1330-20-7	**0.00965**	0.0193	0.00658	mg/kg	10.05.19 08.51	J	1
Total BTEX		**0.00965**	0.0193	0.00452	mg/kg	10.05.19 08.51	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	68-120	10.05.19 08.51	
a,a,a-Trifluorotoluene	98-08-8	102	%	71-121	10.05.19 08.51	

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Caza Eagle Claw

Sample Id:	**GP-1 (0-1)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-025	Date Collected:	09.30.19 14.05	Sample Depth:	0 - 1

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	10.04.19 16.45	Basis:	Wet Weight
Seq Number:	3103424			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2550**	9.96	0.353	mg/kg	10.04.19 21.05		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	10.07.19 14.30	Basis:	Wet Weight
Seq Number:	3103905			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**636**	49.8	9.95	mg/kg	10.07.19 21.28		1
Diesel Range Organics (DRO)	C10C28DRO	**8680**	99.5	19.9	mg/kg	10.08.19 13.59	D	2
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**857**	49.8	9.95	mg/kg	10.07.19 21.28		1
Total TPH	PHC635	**10200**	49.8	9.95	mg/kg	10.08.19 13.59		2

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	145	%	70-135	10.07.19 21.28	**
o-Terphenyl	84-15-1	136	%	70-135	10.07.19 21.28	**

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Caza Eagle Claw

Sample Id:	**GP-1 (0-1)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-025	Date Collected:	09.30.19 14.05	Sample Depth:	0 - 1
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	10.04.19 12.00	Basis:	Wet Weight
Seq Number:	3103504				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0899	0.199	0.0899	mg/kg	10.05.19 11.14	U	10
Toluene	108-88-3	<0.0465	0.199	0.0465	mg/kg	10.05.19 11.14	U	10
Ethylbenzene	100-41-4	**0.775**	0.199	0.0612	mg/kg	10.05.19 11.14		10
m,p-Xylenes	179601-23-1	**2.56**	0.398	0.0678	mg/kg	10.05.19 11.14		10
o-Xylene	95-47-6	**1.85**	0.199	0.0678	mg/kg	10.05.19 11.14		10
Total Xylenes	1330-20-7	**4.41**	0.199	0.0678	mg/kg	10.05.19 11.14		10
Total BTEX		**5.19**	0.199	0.0465	mg/kg	10.05.19 11.14		10

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	130	%	68-120	10.05.19 11.14	**
a,a,a-Trifluorotoluene	98-08-8	93	%	71-121	10.05.19 11.14	

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Caza Eagle Claw

Sample Id:	**GP-1 (2-3)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-026	Date Collected:	09.30.19 14.07	Sample Depth:	2 - 3

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	10.04.19 16.45	Basis:	Wet Weight
Seq Number:	3103424			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**77.7**	9.94	0.352	mg/kg	10.04.19 21.13		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	10.07.19 14.33	Basis:	Wet Weight
Seq Number:	3103905			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.94	49.7	9.94	mg/kg	10.07.19 21.46	U	1
Diesel Range Organics (DRO)	C10C28DRO	**34.2**	49.7	9.94	mg/kg	10.07.19 21.46	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**30.0**	49.7	9.94	mg/kg	10.07.19 21.46	J	1
Total TPH	PHC635	**64.2**	49.7	9.94	mg/kg	10.07.19 21.46		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	10.07.19 21.46	
o-Terphenyl	84-15-1	113	%	70-135	10.07.19 21.46	

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Caza Eagle Claw

Sample Id:	**GP-1 (2-3)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-026	Date Collected:	09.30.19 14.07	Sample Depth:	2 - 3
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	10.04.19 12.00	Basis:	Wet Weight
Seq Number:	3103504				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00888	0.0196	0.00888	mg/kg	10.05.19 09.14	U	1
Toluene	108-88-3	<0.00460	0.0196	0.00460	mg/kg	10.05.19 09.14	U	1
Ethylbenzene	100-41-4	<0.00605	0.0196	0.00605	mg/kg	10.05.19 09.14	U	1
m,p-Xylenes	179601-23-1	<0.00670	0.0393	0.00670	mg/kg	10.05.19 09.14	U	1
o-Xylene	95-47-6	<0.00670	0.0196	0.00670	mg/kg	10.05.19 09.14	U	1
Total Xylenes	1330-20-7	<0.00670	0.0196	0.00670	mg/kg	10.05.19 09.14	U	1
Total BTEX		<0.00460	0.0196	0.00460	mg/kg	10.05.19 09.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	68-120	10.05.19 09.14	
a,a,a-Trifluorotoluene	98-08-8	111	%	71-121	10.05.19 09.14	

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Caza Eagle Claw

Sample Id:	**GP-1 (4-5)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-027	Date Collected:	09.30.19 14.12	Sample Depth:	4 - 5

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	10.04.19 16.45	Basis:	Wet Weight
Seq Number:	3103424			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4530**	9.92	0.351	mg/kg	10.04.19 21.36		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	10.07.19 14.36	Basis:	Wet Weight
Seq Number:	3103905			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.98	49.9	9.98	mg/kg	10.07.19 22.05	U	1
Diesel Range Organics (DRO)	C10C28DRO	**12.6**	49.9	9.98	mg/kg	10.07.19 22.05	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**15.6**	49.9	9.98	mg/kg	10.07.19 22.05	J	1
Total TPH	PHC635	**28.2**	49.9	9.98	mg/kg	10.07.19 22.05	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	10.07.19 22.05	
o-Terphenyl	84-15-1	107	%	70-135	10.07.19 22.05	

Certificate of Analytical Results 638925

Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id:	**GP-1 (4-5)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-027	Date Collected:	09.30.19 14.12	Sample Depth:	4 - 5
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	10.04.19 12.00	Basis:	Wet Weight
Seq Number:	3103504				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00845	0.0187	0.00845	mg/kg	10.05.19 09.38	U	1
Toluene	108-88-3	<0.00437	0.0187	0.00437	mg/kg	10.05.19 09.38	U	1
Ethylbenzene	100-41-4	<0.00576	0.0187	0.00576	mg/kg	10.05.19 09.38	U	1
m,p-Xylenes	179601-23-1	<0.00637	0.0374	0.00637	mg/kg	10.05.19 09.38	U	1
o-Xylene	95-47-6	<0.00637	0.0187	0.00637	mg/kg	10.05.19 09.38	U	1
Total Xylenes	1330-20-7	<0.00637	0.0187	0.00637	mg/kg	10.05.19 09.38	U	1
Total BTEX		<0.00437	0.0187	0.00437	mg/kg	10.05.19 09.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	116	%	68-120	10.05.19 09.38	
a,a,a-Trifluorotoluene	98-08-8	113	%	71-121	10.05.19 09.38	

Certificate of Analytical Results 638925

Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id:	**HA-7 (0-0.5)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-029	Date Collected:	09.30.19 15.30	Sample Depth:	0 - 0.5

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	10.04.19 16.45	Basis:	Wet Weight
Seq Number:	3103424			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2020**	9.98	0.353	mg/kg	10.04.19 21.44		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	10.07.19 16.39	Basis:	Wet Weight
Seq Number:	3103909			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.98	49.9	9.98	mg/kg	10.08.19 00.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<9.98	49.9	9.98	mg/kg	10.08.19 00.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.98	49.9	9.98	mg/kg	10.08.19 00.12	U	1
Total TPH	PHC635	<9.98	49.9	9.98	mg/kg	10.08.19 00.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	10.08.19 00.12	
o-Terphenyl	84-15-1	103	%	70-135	10.08.19 00.12	

Certificate of Analytical Results 638925

Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id:	**HA-7 (0-0.5)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-029	Date Collected:	09.30.19 15.30	Sample Depth:	0 - 0.5
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	10.04.19 12.00	Basis:	Wet Weight
Seq Number:	3103504				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00897	0.0198	0.00897	mg/kg	10.05.19 10.02	U	1
Toluene	108-88-3	<0.00464	0.0198	0.00464	mg/kg	10.05.19 10.02	U	1
Ethylbenzene	100-41-4	<0.00611	0.0198	0.00611	mg/kg	10.05.19 10.02	U	1
m,p-Xylenes	179601-23-1	<0.00677	0.0397	0.00677	mg/kg	10.05.19 10.02	U	1
o-Xylene	95-47-6	<0.00677	0.0198	0.00677	mg/kg	10.05.19 10.02	U	1
Total Xylenes	1330-20-7	<0.00677	0.0198	0.00677	mg/kg	10.05.19 10.02	U	1
Total BTEX		<0.00464	0.0198	0.00464	mg/kg	10.05.19 10.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	93	%	68-120	10.05.19 10.02	
a,a,a-Trifluorotoluene	98-08-8	96	%	71-121	10.05.19 10.02	

Certificate of Analytical Results 638925

Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id:	**HA-7 (0.5-1)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-030	Date Collected:	09.30.19 15.32	Sample Depth:	0.5 - 1

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	10.04.19 16.45	Basis:	Wet Weight
Seq Number:	3103424			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11.6**	9.84	0.348	mg/kg	10.04.19 21.52		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	10.07.19 16.48	Basis:	Wet Weight
Seq Number:	3103909			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.94	49.7	9.94	mg/kg	10.08.19 01.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<9.94	49.7	9.94	mg/kg	10.08.19 01.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.94	49.7	9.94	mg/kg	10.08.19 01.27	U	1
Total TPH	PHC635	<9.94	49.7	9.94	mg/kg	10.08.19 01.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	10.08.19 01.27	
o-Terphenyl	84-15-1	79	%	70-135	10.08.19 01.27	

Certificate of Analytical Results 638925

Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id:	**HA-7 (0.5-1)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-030	Date Collected:	09.30.19 15.32	Sample Depth:	0.5 - 1
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	10.04.19 12.00	Basis:	Wet Weight
Seq Number:	3103504				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00902	0.0200	0.00902	mg/kg	10.05.19 10.26	U	1
Toluene	108-88-3	<0.00467	0.0200	0.00467	mg/kg	10.05.19 10.26	U	1
Ethylbenzene	100-41-4	<0.00615	0.0200	0.00615	mg/kg	10.05.19 10.26	U	1
m,p-Xylenes	179601-23-1	<0.00681	0.0399	0.00681	mg/kg	10.05.19 10.26	U	1
o-Xylene	95-47-6	<0.00681	0.0200	0.00681	mg/kg	10.05.19 10.26	U	1
Total Xylenes	1330-20-7	<0.00681	0.0200	0.00681	mg/kg	10.05.19 10.26	U	1
Total BTEX		<0.00467	0.0200	0.00467	mg/kg	10.05.19 10.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	68-120	10.05.19 10.26	
a,a,a-Trifluorotoluene	98-08-8	112	%	71-121	10.05.19 10.26	

Certificate of Analytical Results 638925

Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id:	**HA-7 (1.5-2)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-031	Date Collected:	09.30.19 15.34	Sample Depth:	1.5 - 2

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	10.04.19 16.45	Basis:	Wet Weight
Seq Number:	3103424			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**56.0**	9.98	0.353	mg/kg	10.04.19 21.59		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	10.07.19 16.51	Basis:	Wet Weight
Seq Number:	3103909			SUB:	T104704215-19-30

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<10.0	50.0	10.0	mg/kg	10.08.19 01.46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<10.0	50.0	10.0	mg/kg	10.08.19 01.46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<10.0	50.0	10.0	mg/kg	10.08.19 01.46	U	1
Total TPH	PHC635	<10.0	50.0	10.0	mg/kg	10.08.19 01.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	10.08.19 01.46	
o-Terphenyl	84-15-1	97	%	70-135	10.08.19 01.46	

Certificate of Analytical Results 638925

Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id:	**HA-7 (1.5-2)**	Matrix:	Soil	Date Received:	10.02.19 16.05
Lab Sample Id:	638925-031	Date Collected:	09.30.19 15.34	Sample Depth:	1.5 - 2
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	10.04.19 12.00	Basis:	Wet Weight
Seq Number:	3103504				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00881	0.0195	0.00881	mg/kg	10.05.19 10.50	U	1
Toluene	108-88-3	<0.00456	0.0195	0.00456	mg/kg	10.05.19 10.50	U	1
Ethylbenzene	100-41-4	<0.00600	0.0195	0.00600	mg/kg	10.05.19 10.50	U	1
m,p-Xylenes	179601-23-1	<0.00665	0.0390	0.00665	mg/kg	10.05.19 10.50	U	1
o-Xylene	95-47-6	<0.00665	0.0195	0.00665	mg/kg	10.05.19 10.50	U	1
Total Xylenes	1330-20-7	<0.00665	0.0195	0.00665	mg/kg	10.05.19 10.50	U	1
Total BTEX		<0.00456	0.0195	0.00456	mg/kg	10.05.19 10.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	116	%	68-120	10.05.19 10.50	
a,a,a-Trifluorotoluene	98-08-8	113	%	71-121	10.05.19 10.50	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 638925

Terracon-Lubbock

Caza Eagle Claw

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3103424 Matrix: Solid Date Prep: 10.04.19
MB Sample Id: 7687522-1-BLK LCS Sample Id: 7687522-1-BKS LCSD Sample Id: 7687522-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.354	100	104	104	102	102	80-120	2	20	mg/kg	10.04.19 18:39	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3103424 Matrix: Soil Date Prep: 10.04.19
Parent Sample Id: 638925-001 MS Sample Id: 638925-001 S MSD Sample Id: 638925-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	37.4	100	136	99	137	99	80-120	1	20	mg/kg	10.04.19 19:02	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3103424 Matrix: Soil Date Prep: 10.04.19
Parent Sample Id: 638925-023 MS Sample Id: 638925-023 S MSD Sample Id: 638925-023 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2610	101	2780	168	2740	130	80-120	1	20	mg/kg	10.04.19 20:50	X

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3103905 Matrix: Solid Date Prep: 10.07.19
MB Sample Id: 7687869-1-BLK LCS Sample Id: 7687869-1-BKS LCSD Sample Id: 7687869-1-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)	<10.0	1000	1020	102	1040	104	70-135	2	35	mg/kg	10.07.19 12:07	
Diesel Range Organics (DRO)	<10.0	1000	937	94	952	95	70-135	2	35	mg/kg	10.07.19 12:07	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		111		112		70-135	%	10.07.19 12:07
o-Terphenyl	108		102		103		70-135	%	10.07.19 12:07

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

1.000

QC Summary 638925

Terracon-Lubbock

Caza Eagle Claw

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3103909 — Matrix: Solid — Date Prep: 10.07.19
MB Sample Id: 7687873-1-BLK — LCS Sample Id: 7687873-1-BKS — LCSD Sample Id: 7687873-1-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)	<10.0	1000	1130	113	1180	118	70-135	4	35	mg/kg	10.07.19 23:17	
Diesel Range Organics (DRO)	<10.0	1000	972	97	1020	102	70-135	5	35	mg/kg	10.07.19 23:17	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	112		123		128		70-135	%	10.07.19 23:17
o-Terphenyl	106		92		97		70-135	%	10.07.19 23:17

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3103905 — Matrix: Solid — Date Prep: 10.07.19
MB Sample Id: 7687869-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<10.0	mg/kg	10.07.19 11:48	

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3103909 — Matrix: Solid — Date Prep: 10.07.19
MB Sample Id: 7687873-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<10.0	mg/kg	10.07.19 23:54	

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3103905 — Matrix: Soil — Date Prep: 10.07.19
Parent Sample Id: 638925-001 — MS Sample Id: 638925-001 S — MSD Sample Id: 638925-001 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)	<9.96	996	1050	105	1040	104	70-135	1	35	mg/kg	10.07.19 12:44	
Diesel Range Organics (DRO)	11.3	996	962	95	938	93	70-135	3	35	mg/kg	10.07.19 12:44	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		114		70-135	%	10.07.19 12:44
o-Terphenyl	92		90		70-135	%	10.07.19 12:44

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

1.000

QC Summary 638925

Terracon-Lubbock

Caza Eagle Claw

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3103909 — Matrix: Soil — Date Prep: 10.07.19
Parent Sample Id: 638925-029 — MS Sample Id: 638925-029 S — MSD Sample Id: 638925-029 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)	<9.99	999	1110	111	994	99	70-135	11	35	mg/kg	10.08.19 00:49	
Diesel Range Organics (DRO)	<9.99	999	970	97	902	90	70-135	7	35	mg/kg	10.08.19 00:49	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		112		70-135	%	10.08.19 00:49
o-Terphenyl	92		89		70-135	%	10.08.19 00:49

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3103504 — Matrix: Solid — Date Prep: 10.04.19
MB Sample Id: 7687492-1-BLK — LCS Sample Id: 7687492-1-BKS — LCSD Sample Id: 7687492-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00904	2.00	2.10	105	2.00	100	55-120	5	20	mg/kg	10.05.19 00:26	
Toluene	<0.00468	2.00	2.03	102	2.01	101	77-120	1	20	mg/kg	10.05.19 00:26	
Ethylbenzene	<0.00616	2.00	2.10	105	2.08	104	77-120	1	20	mg/kg	10.05.19 00:26	
m,p-Xylenes	<0.00682	4.00	4.26	107	4.21	105	78-120	1	20	mg/kg	10.05.19 00:26	
o-Xylene	<0.00682	2.00	2.13	107	2.10	105	78-120	1	20	mg/kg	10.05.19 00:26	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	115		107		107		68-120	%	10.05.19 00:26
a,a,a-Trifluorotoluene	108		101		105		71-121	%	10.05.19 00:26

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3103504 — Matrix: Soil — Date Prep: 10.04.19
Parent Sample Id: 638925-001 — MS Sample Id: 638925-001 S — MSD Sample Id: 638925-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00858	1.90	1.92	101	1.90	102	54-120	1	25	mg/kg	10.05.19 02:51	
Toluene	0.00566	1.90	1.93	101	1.93	103	57-120	0	25	mg/kg	10.05.19 02:51	
Ethylbenzene	<0.00584	1.90	2.09	110	2.13	114	58-131	2	25	mg/kg	10.05.19 02:51	
m,p-Xylenes	<0.00647	3.80	3.97	104	4.06	109	62-124	2	25	mg/kg	10.05.19 02:51	
o-Xylene	<0.00647	1.90	1.97	104	2.00	107	62-124	2	25	mg/kg	10.05.19 02:51	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	100		107		68-120	%	10.05.19 02:51
a,a,a-Trifluorotoluene	108		107		71-121	%	10.05.19 02:51

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

1.000

638925

CHAIN OF CUSTODY RECORD

638925

Terracon

Laboratory: Xenco
Address: 6701 Aberdeen
Lubbock, Texas 79424

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

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C): 1.1

Project Number: AR197234
Project Name: Caza Eagle Claw

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: 2 oz Glass	4 oz Glass	5035 kit	40 ml VOA	Chloride (EPA Method 300)	TPH Extended 8015	BTEX (EPA Method 8021B)	Hold	Lab Sample ID
S	9/30/2019	13:00		X	GP-5 (0-1)	0'	1'		X			X	X	X		1
S	9/30/2019	13:02		X	GP-5 (2-3)	2'	3'		X			X	X	X		2
S	9/30/2019	13:04		X	GP-5 (4-5)	4'	5'		X			X	X	X		3
S	9/30/2019	13:06		X	GP-5 (6-7)	6'	7'		X						X	4
S	9/30/2019	13:08		X	GP-5 (8-9)	8'	9'		X						X	5
S	9/30/2019	13:10		X	GP-5 (9-10)	9'	10'		X						X	6
S	9/30/2019	13:15		X	GP-4 (0-1)	0'	1'		X			X	X	X		7
S	9/30/2019	13:17		X	GP-4 (2-3)	2'	3'		X			X	X	X		8
S	9/30/2019	13:19		X	GP-4 (4-5)	4'	5'		X			X	X	X		9
S	9/30/2019	13:21		X	GP-4 (6-7)	6'	7'		X						X	10
S	9/30/2019	13:23		X	GP-4 (8-9)	8'	9'		X						X	11
S	9/30/2019	13:25		X	GP-4 (9-10)	9'	10'		X						X	12
S	9/30/2019	13:28		X	GP-3 (0-1)	0'	1'		X			X	X	X		13
S	9/30/2019	13:30		X	GP-3 (2-3)	2'	3'		X			X	X	X		14
S	9/30/2019	13:32		X	GP-3 (4-5)	4'	5'		X			X	X	X		15
S	9/30/2019	13:34		X	GP-3 (6-7)	6'	7'		X						X	16
S	9/30/2019	13:36		X	GP-3 (8-9)	8'	9'		X						X	17

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

TRRP Laboratory Review Checklist ☐ Yes ☐ No

	Date	Time		Date	Time
Relinquished by (Signature)			Received by (Signature)		
Relinquished by (Signature)	10/2/19	16:05	Received by (Signature)	10/2/19	16:05
Relinquished by (Signature)			Received by (Signature)		
Relinquished by (Signature)			Received by (Signature)		

NOTES: Client: Spur

e-mail results to:
john.fergerson@terracon.com
jrguesnier@terracon.com

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

1.000

C38925

Terracon

CHAIN OF CUSTODY RECORD

Laboratory: Xenco
Address: 6701 Aberdeen, Lubbock, Texas 79424
Phone:
Contact: Joseph Guesnier (806-544-9276)
SRS #:

Office Location: Lubbock
Project Manager: Joseph Guesnier
Sampler's Name: Joseph Guesnier
Sampler's Signature:

Project Number: AR197234
Project Name: Caza Eagle Claw

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C): 1.1

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: 2 oz Glass	4 oz Glass	5035 kit	40 ml VOA	Chloride (EPA Method 300)	TPH Extended 8015	BTEX (EPA Method 8021B)	Hold	Lab Sample ID
S	9/30/2019	13:38		X	GP-3 (9-10)	9'	10'		X						X	18
S	9/30/2019	13:45		X	GP-2 (0-1)	0'	1'		X						X	19
S	9/30/2019	13:47		X	GP-2 (2-3)	2'	3'		X						X	20
S	9/30/2019	13:49		X	GP-2 (4-5)	4'	5'		X						X	21
S	9/30/2019	13:51		X	GP-2 (6-7)	6'	7'		X			X	X	X		22
S	9/30/2019	13:53		X	GP-2 (8-9)	8'	9'		X			X	X	X		23
S	9/30/2019	13:55		X	GP-2 (9-10)	9'	10'		X						X	24
S	9/30/2019	14:05		X	GP-1 (0-1)	0'	1'		X			X	X	X		25
S	9/30/2019	14:07		X	GP-1 (2-3)	2'	3'		X			X	X	X		26
S	9/30/2019	14:10		X	GP-1 (4-5)	4'	5'		X			X	X	X		27
S	9/30/2019	14:12		X	GP- (6-7)R	6'	7'		X						X	28
S	9/30/2019	15:30		X	HA-7 (0-0.5)	0'	0.5'		X			X	X	X		29
S	9/30/2019	15:32		X	HA-7 (0.5-1)	0.5'	1'		X			X	X	X		30
S	9/30/2019	15:34		X	HA-7 (1.5-2)	1.5'	2'		X			X	X	X		31
S	9/30/2019	15:36		X	HA-7 (3.5-4)	3.5'	4'		X						X	32

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

TRRP laboratory Review Checklist ☐ Yes ☐ No

	Date:	Time:		Date:	Time:
Relinquished by (Signature)	09/19	16:05	Received by (Signature)	09/19/19	16:25
Relinquished by (Signature)			Received by (Signature)		
Relinquished by (Signature)			Received by (Signature)		
Relinquished by (Signature)			Received by (Signature)		

NOTES: Client: Spur

e-mail results to:

john.fergerson@terracon.com

jrguesnier@terracon.com

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

Inter-Office Shipment

IOS Number : 49295

Date/Time: 10.03.2019
Lab# From: **Lubbock**
Lab# To: **Houston**

Created by: Brenda Ward
Delivery Priority:
Air Bill No.: 776475821595

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

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
638925-001	S	GP-5 (0-1)	09.30.2019 13:00	E300_CL	Chloride by EPA 300	10.08.2019	03.28.2020	JKR	CL	
638925-001	S	GP-5 (0-1)	09.30.2019 13:00	TX1005	TPH by Texas1005	10.08.2019	10.14.2019	JKR	PHCC12C28 PHCC28C3	
638925-002	S	GP-5 2-3	09.30.2019 13:02	E300_CL	Chloride by EPA 300	10.08.2019	03.28.2020	JKR	CL	
638925-002	S	GP-5 2-3	09.30.2019 13:02	TX1005	TPH by Texas1005	10.08.2019	10.14.2019	JKR	PHCC12C28 PHCC28C3	
638925-003	S	GP-5 (4-5)	09.30.2019 13:04	E300_CL	Chloride by EPA 300	10.08.2019	03.28.2020	JKR	CL	
638925-003	S	GP-5 (4-5)	09.30.2019 13:04	TX1005	TPH by Texas1005	10.08.2019	10.14.2019	JKR	PHCC12C28 PHCC28C3	
638925-007	S	GP-4 (0-1)	09.30.2019 13:15	E300_CL	Chloride by EPA 300	10.08.2019	03.28.2020	JKR	CL	
638925-007	S	GP-4 (0-1)	09.30.2019 13:15	TX1005	TPH by Texas1005	10.08.2019	10.14.2019	JKR	PHCC12C28 PHCC28C3	
638925-008	S	GP-4 (2-3)	09.30.2019 13:17	E300_CL	Chloride by EPA 300	10.08.2019	03.28.2020	JKR	CL	
638925-008	S	GP-4 (2-3)	09.30.2019 13:17	TX1005	TPH by Texas1005	10.08.2019	10.14.2019	JKR	PHCC12C28 PHCC28C3	
638925-009	S	GP-4 (4-5)	09.30.2019 13:19	E300_CL	Chloride by EPA 300	10.08.2019	03.28.2020	JKR	CL	
638925-009	S	GP-4 (4-5)	09.30.2019 13:19	TX1005	TPH by Texas1005	10.08.2019	10.14.2019	JKR	PHCC12C28 PHCC28C3	
638925-013	S	GP-3 (0-1)	09.30.2019 13:28	E300_CL	Chloride by EPA 300	10.08.2019	03.28.2020	JKR	CL	
638925-013	S	GP-3 (0-1)	09.30.2019 13:28	TX1005	TPH by Texas1005	10.08.2019	10.14.2019	JKR	PHCC12C28 PHCC28C3	
638925-014	S	GP-3 (2-3)	09.30.2019 13:30	E300_CL	Chloride by EPA 300	10.08.2019	03.28.2020	JKR	CL	
638925-014	S	GP-3 (2-3)	09.30.2019 13:30	TX1005	TPH by Texas1005	10.08.2019	10.14.2019	JKR	PHCC12C28 PHCC28C3	
638925-015	S	GP-3 (4-5)	09.30.2019 13:32	E300_CL	Chloride by EPA 300	10.08.2019	03.28.2020	JKR	CL	
638925-015	S	GP-3 (4-5)	09.30.2019 13:32	TX1005	TPH by Texas1005	10.08.2019	10.14.2019	JKR	PHCC12C28 PHCC28C3	
638925-022	S	GP-2 (6-7)	09.30.2019 13:51	E300_CL	Chloride by EPA 300	10.08.2019	03.28.2020	JKR	CL	
638925-022	S	GP-2 (6-7)	09.30.2019 13:51	TX1005	TPH by Texas1005	10.08.2019	10.14.2019	JKR	PHCC12C28 PHCC28C3	
638925-023	S	GP-2 (8-9)	09.30.2019 13:53	TX1005	TPH by Texas1005	10.08.2019	10.14.2019	JKR	PHCC12C28 PHCC28C3	
638925-023	S	GP-2 (8-9)	09.30.2019 13:53	E300_CL	Chloride by EPA 300	10.08.2019	03.28.2020	JKR	CL	
638925-025	S	GP-1 (0-1)	09.30.2019 14:05	TX1005	TPH by Texas1005	10.08.2019	10.14.2019	JKR	PHCC12C28 PHCC28C3	
638925-025	S	GP-1 (0-1)	09.30.2019 14:05	E300_CL	Chloride by EPA 300	10.08.2019	03.28.2020	JKR	CL	
638925-026	S	GP-1 (2-3)	09.30.2019 14:07	E300_CL	Chloride by EPA 300	10.08.2019	03.28.2020	JKR	CL	

Inter-Office Shipment

IOS Number : 49295

Date/Time: 10.03.2019
Lab# From: **Lubbock**
Lab# To: **Houston**
Created by: Brenda Ward
Delivery Priority:
Air Bill No.: 776475821595
Please send report to: Jessica Kramer
Address: 6701 Aberdeen, Suite 9 Lubbock, TX 79424
E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
638925-026	S	GP-1 (2-3)	09.30.2019 14:07	TX1005	TPH by Texas1005	10.08.2019	10.14.2019	JKR	PHCC12C28 PHCC28C3	
638925-027	S	GP-1 (4-5)	09.30.2019 14:12	E300_CL	Chloride by EPA 300	10.08.2019	03.28.2020	JKR	CL	
638925-027	S	GP-1 (4-5)	09.30.2019 14:12	TX1005	TPH by Texas1005	10.08.2019	10.14.2019	JKR	PHCC12C28 PHCC28C3	
638925-029	S	HA-7 (0-0.5)	09.30.2019 15:30	E300_CL	Chloride by EPA 300	10.08.2019	03.28.2020	JKR	CL	
638925-029	S	HA-7 (0-0.5)	09.30.2019 15:30	TX1005	TPH by Texas1005	10.08.2019	10.14.2019	JKR	PHCC12C28 PHCC28C3	
638925-030	S	HA-7 (0.5-1)	09.30.2019 15:32	E300_CL	Chloride by EPA 300	10.08.2019	03.28.2020	JKR	CL	
638925-030	S	HA-7 (0.5-1)	09.30.2019 15:32	TX1005	TPH by Texas1005	10.08.2019	10.14.2019	JKR	PHCC12C28 PHCC28C3	
638925-031	S	HA-7 (1.5-2)	09.30.2019 15:34	E300_CL	Chloride by EPA 300	10.08.2019	03.28.2020	JKR	CL	
638925-031	S	HA-7 (1.5-2)	09.30.2019 15:34	TX1005	TPH by Texas1005	10.08.2019	10.14.2019	JKR	PHCC12C28 PHCC28C3	

Inter Office Shipment or Sample Comments:

Relinquished By: Brenda Ward
Brenda Ward

Date Relinquished: 10.03.2019

Received By: Ashly Kowalski

Date Received: 10.04.2019

Cooler Temperature: 2.3

1.000

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Houston

IOS #: 49295

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

Sent By: Brenda Ward **Date Sent:** 10.03.2019 01.27 PM

Received By: Ashly Kowalski **Date Received:** 10.04.2019 09.50 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	2.3	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received with appropriate temperature?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 *Custody Seals Signed and dated for Containers/coolers	**N/A**	
#6 *IOS present?	**Yes**	
#7 Any missing/extra samples?	**No**	
#8 IOS agrees with sample label(s)/matrix?	**Yes**	
#9 Sample matrix/ properties agree with IOS?	**Yes**	
#10 Samples in proper container/ bottle?	**Yes**	
#11 Samples properly preserved?	**Yes**	
#12 Sample container(s) intact?	**Yes**	
#13 Sufficient sample amount for indicated test(s)?	**Yes**	
#14 All samples received within hold time?	**Yes**	

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

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

Checklist reviewed by: _____ Date: 10.04.2019

Ashly Kowalski

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Terracon-Lubbock

Date/ Time Received: 10/02/2019 04:05:00 PM

Work Order #: 638925

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

Temperature Measuring device used : IR-4

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	1.1	
#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)?	**Yes**	TX1005 & Chloride sent to Stafford
#18 Water VOC samples have zero headspace?	**N/A**	

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

Analyst: PH Device/Lot#:

Checklist completed by: Brenda Ward Date: 10/03/2019
Brenda Ward

Checklist reviewed by: Jessica Kramer Date: 10/04/2019
Jessica Kramer

Certificate of Analysis Summary 654170

Terracon-Lubbock, Lubbock, TX

Project Name: Caza Eagle Claw

Project Id: AR197234
Contact: Joseph Guesnier
Project Location:

Date Received in Lab: Fri Feb-28-20 04:45 pm
Report Date: 04-MAR-20
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	654170-001		654170-002		654170-003		654170-004		654170-005		654170-006	
	Field Id:	HA-10 (0-0.5)		HA-11 (0-0.5)		HA-12 (0-0.5)		HA-13 (0-0.5)		HA-8 (5.5-6)		HA-9 (5.5-6	
	Depth:	0-0.5 ft		0-0.5 ft		0-0.5 ft		0-0.5 ft		5.5-6 ft		5.5-6 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-26-20 11:46		Feb-26-20 12:13		Feb-26-20 12:30		Feb-26-20 13:13		Feb-26-20 11:30		Feb-26-20 11:15	
BTEX by EPA 8021B	***Extracted:***	Mar-03-20 13:00		Mar-03-20 13:00		Mar-03-20 13:00		Mar-03-20 13:00		Mar-03-20 13:00		Mar-03-20 13:00	
	Analyzed:	Mar-03-20 23:07		Mar-04-20 01:33		Mar-04-20 01:57		Mar-04-20 02:21		Mar-04-20 02:45		Mar-04-20 03:09	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00817	0.0181	<0.00902	0.0200	<0.00781	0.0173	<0.00779	0.0172	<0.00869	0.0192	<0.00892	0.0197
Toluene		<0.00423	0.0181	<0.00467	0.0200	<0.00404	0.0173	<0.00403	0.0172	<0.00450	0.0192	<0.00462	0.0197
Ethylbenzene		<0.00557	0.0181	<0.00615	0.0200	<0.00532	0.0173	<0.00531	0.0172	<0.00592	0.0192	<0.00607	0.0197
m,p-Xylenes		<0.00617	0.0362	<0.00681	0.0399	<0.00589	0.0345	<0.00588	0.0345	<0.00656	0.0385	<0.00673	0.0394
o-Xylene		<0.00617	0.0181	<0.00681	0.0200	<0.00589	0.0173	<0.00588	0.0172	<0.00656	0.0192	<0.00673	0.0197
Total Xylenes		<0.00617	0.0181	<0.00681	0.0200	<0.00589	0.0173	<0.00588	0.0172	<0.00656	0.0192	<0.00673	0.0197
Total BTEX		<0.00423	0.0181	<0.00467	0.0200	<0.00404	0.0173	<0.00403	0.0172	<0.00450	0.0192	<0.00462	0.0197
Chloride by EPA 300	***Extracted:***	Mar-03-20 08:15		Mar-04-20 08:30		Mar-04-20 08:30		Mar-04-20 08:30		Mar-04-20 08:30		Mar-04-20 08:30	
	Analyzed:	Mar-03-20 10:07		Mar-04-20 10:29		Mar-04-20 10:36		Mar-04-20 10:43		Mar-04-20 10:50		Mar-04-20 10:56	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		14.5 J	25.0	58.6	25.0	15.1 J	25.0	18.3 J	25.0	6910	1250	3900	250
DRO-ORO By SW8015B	***Extracted:***	Mar-02-20 13:30		Mar-02-20 13:30		Mar-02-20 13:30		Mar-02-20 13:30		Mar-02-20 13:30		Mar-02-20 13:30	
	Analyzed:	Mar-03-20 16:46		Mar-03-20 19:14		Mar-03-20 19:50		Mar-03-20 20:25		Mar-03-20 21:04		Mar-03-20 21:43	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Diesel Range Organics (DRO)		<7.45	24.9	<7.47	25.0	<7.44	24.9	<7.47	25.0	<7.55	25.2	<7.42	24.8
Oil Range Hydrocarbons (ORO)		<7.45	24.9	<7.47	25.0	<7.44	24.9	<7.47	25.0	<7.55	25.2	<7.42	24.8
TPH GRO by EPA 8015 Mod.	***Extracted:***	Mar-03-20 14:30		Mar-03-20 14:30		Mar-03-20 14:30		Mar-03-20 14:30		Mar-03-20 14:30		Mar-03-20 14:30	
	Analyzed:	Mar-03-20 23:07		Mar-04-20 01:33		Mar-04-20 01:57		Mar-04-20 02:21		Mar-04-20 02:45		Mar-04-20 03:09	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
TPH-GRO		<0.245	3.62	<0.270	3.99	<0.234	3.45	<0.234	3.45	<0.261	3.85	<0.267	3.94

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

Version: 1.%

Jessica Kramer
Project Assistant

Analytical Report 654170

for

Terracon-Lubbock

Project Manager: Joseph Guesnier

Caza Eagle Claw

AR197234

04-MAR-20

Collected By: Client

6701 Aberdeen, Suite 9 Lubbock, TX 79424

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

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

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

04-MAR-20

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

Reference: XENCO Report No(s): **654170**
Caza Eagle Claw
Project Address:

Joseph Guesnier:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 654170. 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. 654170 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Sample Cross Reference 654170

Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
HA-10 (0-0.5)	S	02-26-20 11:46	0 - 0.5 ft	654170-001
HA-11 (0-0.5)	S	02-26-20 12:13	0 - 0.5 ft	654170-002
HA-12 (0-0.5)	S	02-26-20 12:30	0 - 0.5 ft	654170-003
HA-13 (0-0.5)	S	02-26-20 13:13	0 - 0.5 ft	654170-004
HA-8 (5.5-6)	S	02-26-20 11:30	5.5 - 6 ft	654170-005
HA-9 (5.5-6	S	02-26-20 11:15	5.5 - 6 ft	654170-006

CASE NARRATIVE

Client Name: Terracon-Lubbock
Project Name: Caza Eagle Claw

Project ID: *AR197234*
Work Order Number(s): *654170*

Report Date: *04-MAR-20*
Date Received: *02/28/2020*

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3118436 DRO-ORO By SW8015B
Surrogate Tricosane recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 654170-003,654170-006,654170-005.

Batch: LBA-3118553 BTEX by EPA 8021B
Surrogate a,a,a-Trifluorotoluene recovered above QC limits Data confirmed by re-analysis. Samples affected are: 7698097-1-BKS,7698097-1-BLK,654170-001 S,654170-001 SD,654170-001,654170-002,654170-003,654170-005,654170-006.
Surrogate 4-Bromofluorobenzene recovered above QC limits Data confirmed by re-analysis. Samples affected are: 7698097-1-BKS,7698097-1-BSD,654170-001 S,654170-001 SD,654170-006.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3118554 TPH GRO by EPA 8015 Mod.
Surrogate 4-Bromofluorobenzene recovered above QC limits Data confirmed by re-analysis. Samples affected are: 7698099-1-BKS,654170-001 S.

Lab Sample ID 654170-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). TPH-GRO Relative Percent Difference (RPD) between matrix spike and duplicate was above quality control limits.
Samples in the analytical batch are: 654170-001, -002, -003, -004, -005, -006. RPD for Control Spikes within QC limits; therefore the data was accepted.

Outlier/s are due to possible matrix interference.

Certificate of Analytical Results 654170

Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id: **HA-10 (0-0.5)** Matrix: Soil Date Received:02.28.20 16.45

Lab Sample Id: 654170-001 Date Collected: 02.26.20 11.46 Sample Depth: 0 - 0.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: RNL % Moisture:

Analyst: RNL Date Prep: 03.03.20 08.15 Basis: Wet Weight

Seq Number: 3118423

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14.5**	25.0	0.572	mg/kg	03.03.20 10.07	J	1

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

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 03.02.20 13.30 Basis: Wet Weight

Seq Number: 3118436

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<7.45	24.9	7.45	mg/kg	03.03.20 16.46	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.45	24.9	7.45	mg/kg	03.03.20 16.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	69	%	65-144	03.03.20 16.46	
n-Triacontane	638-68-6	100	%	46-152	03.03.20 16.46	

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

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 03.03.20 13.00 Basis: Wet Weight

Seq Number: 3118553

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00817	0.0181	0.00817	mg/kg	03.03.20 23.07	U	1
Toluene	108-88-3	<0.00423	0.0181	0.00423	mg/kg	03.03.20 23.07	U	1
Ethylbenzene	100-41-4	<0.00557	0.0181	0.00557	mg/kg	03.03.20 23.07	U	1
m,p-Xylenes	179601-23-1	<0.00617	0.0362	0.00617	mg/kg	03.03.20 23.07	U	1
o-Xylene	95-47-6	<0.00617	0.0181	0.00617	mg/kg	03.03.20 23.07	U	1
Total Xylenes	1330-20-7	<0.00617	0.0181	0.00617	mg/kg	03.03.20 23.07	U	1
Total BTEX		<0.00423	0.0181	0.00423	mg/kg	03.03.20 23.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	117	%	68-120	03.03.20 23.07	
a,a,a-Trifluorotoluene	98-08-8	124	%	71-121	03.03.20 23.07	**

Certificate of Analytical Results 654170

Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id:	**HA-10 (0-0.5)**	Matrix:	Soil	Date Received:	02.28.20 16.45
Lab Sample Id:	654170-001	Date Collected:	02.26.20 11.46	Sample Depth:	0 - 0.5 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	JGR			% Moisture:	
Analyst:	MIT	Date Prep:	03.03.20 14.30	Basis:	Wet Weight
Seq Number:	3118554				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<0.245	3.62	0.245	mg/kg	03.03.20 23.07	UF	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	76-123	03.03.20 23.07	
a,a,a-Trifluorotoluene	98-08-8	101	%	69-120	03.03.20 23.07	

Certificate of Analytical Results 654170

Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id: **HA-11 (0-0.5)** Matrix: Soil Date Received:02.28.20 16.45

Lab Sample Id: 654170-002 Date Collected: 02.26.20 12.13 Sample Depth: 0 - 0.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: RNL % Moisture:

Analyst: RNL Date Prep: 03.04.20 08.30 Basis: Wet Weight

Seq Number: 3118502

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**58.6**	25.0	0.572	mg/kg	03.04.20 10.29		1

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

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 03.02.20 13.30 Basis: Wet Weight

Seq Number: 3118436

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<7.47	25.0	7.47	mg/kg	03.03.20 19.14	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.47	25.0	7.47	mg/kg	03.03.20 19.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	70	%	65-144	03.03.20 19.14	
n-Triacontane	638-68-6	100	%	46-152	03.03.20 19.14	

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

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 03.03.20 13.00 Basis: Wet Weight

Seq Number: 3118553

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00902	0.0200	0.00902	mg/kg	03.04.20 01.33	U	1
Toluene	108-88-3	<0.00467	0.0200	0.00467	mg/kg	03.04.20 01.33	U	1
Ethylbenzene	100-41-4	<0.00615	0.0200	0.00615	mg/kg	03.04.20 01.33	U	1
m,p-Xylenes	179601-23-1	<0.00681	0.0399	0.00681	mg/kg	03.04.20 01.33	U	1
o-Xylene	95-47-6	<0.00681	0.0200	0.00681	mg/kg	03.04.20 01.33	U	1
Total Xylenes	1330-20-7	<0.00681	0.0200	0.00681	mg/kg	03.04.20 01.33	U	1
Total BTEX		<0.00467	0.0200	0.00467	mg/kg	03.04.20 01.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	118	%	68-120	03.04.20 01.33	
a,a,a-Trifluorotoluene	98-08-8	125	%	71-121	03.04.20 01.33	**

Certificate of Analytical Results 654170

Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id:	**HA-11 (0-0.5)**	Matrix:	Soil	Date Received:	02.28.20 16.45
Lab Sample Id:	654170-002	Date Collected:	02.26.20 12.13	Sample Depth:	0 - 0.5 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	JGR			% Moisture:	
Analyst:	MIT	Date Prep:	03.03.20 14.30	Basis:	Wet Weight
Seq Number:	3118554				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<0.270	3.99	0.270	mg/kg	03.04.20 01.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	76-123	03.04.20 01.33	
a,a,a-Trifluorotoluene	98-08-8	102	%	69-120	03.04.20 01.33	

Certificate of Analytical Results 654170

Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id: **HA-12 (0-0.5)** Matrix: Soil Date Received:02.28.20 16.45

Lab Sample Id: 654170-003 Date Collected: 02.26.20 12.30 Sample Depth: 0 - 0.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: RNL % Moisture:

Analyst: RNL Date Prep: 03.04.20 08.30 Basis: Wet Weight

Seq Number: 3118502

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**15.1**	25.0	0.572	mg/kg	03.04.20 10.36	J	1

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

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 03.02.20 13.30 Basis: Wet Weight

Seq Number: 3118436

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<7.44	24.9	7.44	mg/kg	03.03.20 19.50	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.44	24.9	7.44	mg/kg	03.03.20 19.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	59	%	65-144	03.03.20 19.50	**
n-Triacontane	638-68-6	92	%	46-152	03.03.20 19.50	

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

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 03.03.20 13.00 Basis: Wet Weight

Seq Number: 3118553

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00781	0.0173	0.00781	mg/kg	03.04.20 01.57	U	1
Toluene	108-88-3	<0.00404	0.0173	0.00404	mg/kg	03.04.20 01.57	U	1
Ethylbenzene	100-41-4	<0.00532	0.0173	0.00532	mg/kg	03.04.20 01.57	U	1
m,p-Xylenes	179601-23-1	<0.00589	0.0345	0.00589	mg/kg	03.04.20 01.57	U	1
o-Xylene	95-47-6	<0.00589	0.0173	0.00589	mg/kg	03.04.20 01.57	U	1
Total Xylenes	1330-20-7	<0.00589	0.0173	0.00589	mg/kg	03.04.20 01.57	U	1
Total BTEX		<0.00404	0.0173	0.00404	mg/kg	03.04.20 01.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	117	%	68-120	03.04.20 01.57	
a,a,a-Trifluorotoluene	98-08-8	125	%	71-121	03.04.20 01.57	**

Certificate of Analytical Results 654170

Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id:	**HA-12 (0-0.5)**	Matrix:	Soil	Date Received:	02.28.20 16.45
Lab Sample Id:	654170-003	Date Collected:	02.26.20 12.30	Sample Depth:	0 - 0.5 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	JGR			% Moisture:	
Analyst:	MIT	Date Prep:	03.03.20 14.30	Basis:	Wet Weight
Seq Number:	3118554				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<0.234	3.45	0.234	mg/kg	03.04.20 01.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	76-123	03.04.20 01.57	
a,a,a-Trifluorotoluene	98-08-8	102	%	69-120	03.04.20 01.57	

Certificate of Analytical Results 654170

Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id: **HA-13 (0-0.5)** Matrix: Soil Date Received:02.28.20 16.45

Lab Sample Id: 654170-004 Date Collected: 02.26.20 13.13 Sample Depth: 0 - 0.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: RNL % Moisture:

Analyst: RNL Date Prep: 03.04.20 08.30 Basis: Wet Weight

Seq Number: 3118502

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**18.3**	25.0	0.572	mg/kg	03.04.20 10.43	J	1

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

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 03.02.20 13.30 Basis: Wet Weight

Seq Number: 3118436

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<7.47	25.0	7.47	mg/kg	03.03.20 20.25	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.47	25.0	7.47	mg/kg	03.03.20 20.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	65	%	65-144	03.03.20 20.25	
n-Triacontane	638-68-6	102	%	46-152	03.03.20 20.25	

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

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 03.03.20 13.00 Basis: Wet Weight

Seq Number: 3118553

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00779	0.0172	0.00779	mg/kg	03.04.20 02.21	U	1
Toluene	108-88-3	<0.00403	0.0172	0.00403	mg/kg	03.04.20 02.21	U	1
Ethylbenzene	100-41-4	<0.00531	0.0172	0.00531	mg/kg	03.04.20 02.21	U	1
m,p-Xylenes	179601-23-1	<0.00588	0.0345	0.00588	mg/kg	03.04.20 02.21	U	1
o-Xylene	95-47-6	<0.00588	0.0172	0.00588	mg/kg	03.04.20 02.21	U	1
Total Xylenes	1330-20-7	<0.00588	0.0172	0.00588	mg/kg	03.04.20 02.21	U	1
Total BTEX		<0.00403	0.0172	0.00403	mg/kg	03.04.20 02.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	68-120	03.04.20 02.21	
a,a,a-Trifluorotoluene	98-08-8	101	%	71-121	03.04.20 02.21	

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Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id:	**HA-13 (0-0.5)**	Matrix:	Soil	Date Received:	02.28.20 16.45
Lab Sample Id:	654170-004	Date Collected:	02.26.20 13.13	Sample Depth:	0 - 0.5 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	JGR			% Moisture:	
Analyst:	MIT	Date Prep:	03.03.20 14.30	Basis:	Wet Weight
Seq Number:	3118554				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<0.234	3.45	0.234	mg/kg	03.04.20 02.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	85	%	76-123	03.04.20 02.21	
a,a,a-Trifluorotoluene	98-08-8	82	%	69-120	03.04.20 02.21	

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Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id: **HA-8 (5.5-6)** Matrix: Soil Date Received:02.28.20 16.45

Lab Sample Id: 654170-005 Date Collected: 02.26.20 11.30 Sample Depth: 5.5 - 6 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: RNL % Moisture:

Analyst: RNL Date Prep: 03.04.20 08.30 Basis: Wet Weight

Seq Number: 3118502

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6910**	1250	28.6	mg/kg	03.04.20 10.50		50

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

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 03.02.20 13.30 Basis: Wet Weight

Seq Number: 3118436

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<7.55	25.2	7.55	mg/kg	03.03.20 21.04	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.55	25.2	7.55	mg/kg	03.03.20 21.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	58	%	65-144	03.03.20 21.04	**
n-Triacontane	638-68-6	89	%	46-152	03.03.20 21.04	

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

Tech: MIT % Moisture:

Analyst: MIT Date Prep: 03.03.20 13.00 Basis: Wet Weight

Seq Number: 3118553

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00869	0.0192	0.00869	mg/kg	03.04.20 02.45	U	1
Toluene	108-88-3	<0.00450	0.0192	0.00450	mg/kg	03.04.20 02.45	U	1
Ethylbenzene	100-41-4	<0.00592	0.0192	0.00592	mg/kg	03.04.20 02.45	U	1
m,p-Xylenes	179601-23-1	<0.00656	0.0385	0.00656	mg/kg	03.04.20 02.45	U	1
o-Xylene	95-47-6	<0.00656	0.0192	0.00656	mg/kg	03.04.20 02.45	U	1
Total Xylenes	1330-20-7	<0.00656	0.0192	0.00656	mg/kg	03.04.20 02.45	U	1
Total BTEX		<0.00450	0.0192	0.00450	mg/kg	03.04.20 02.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	120	%	68-120	03.04.20 02.45	
a,a,a-Trifluorotoluene	98-08-8	125	%	71-121	03.04.20 02.45	**

Certificate of Analytical Results 654170

Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id:	**HA-8 (5.5-6)**	Matrix:	Soil	Date Received:	02.28.20 16.45
Lab Sample Id:	654170-005	Date Collected:	02.26.20 11.30	Sample Depth:	5.5 - 6 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	JGR			% Moisture:	
Analyst:	MIT	Date Prep:	03.03.20 14.30	Basis:	Wet Weight
Seq Number:	3118554				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<0.261	3.85	0.261	mg/kg	03.04.20 02.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	76-123	03.04.20 02.45	
a,a,a-Trifluorotoluene	98-08-8	101	%	69-120	03.04.20 02.45	

Certificate of Analytical Results 654170

Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id:	**HA-9 (5.5-6**	Matrix:	Soil	Date Received:	02.28.20 16.45
Lab Sample Id:	654170-006	Date Collected:	02.26.20 11.15	Sample Depth:	5.5 - 6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	03.04.20 08.30	Basis:	Wet Weight
Seq Number:	3118502				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3900**	250	5.72	mg/kg	03.04.20 10.56		10

Analytical Method:	DRO-ORO By SW8015B			Prep Method:	SW8015P
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	03.02.20 13.30	Basis:	Wet Weight
Seq Number:	3118436				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<7.42	24.8	7.42	mg/kg	03.03.20 21.43	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.42	24.8	7.42	mg/kg	03.03.20 21.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	42	%	65-144	03.03.20 21.43	**
n-Triacontane	638-68-6	64	%	46-152	03.03.20 21.43	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	03.03.20 13.00	Basis:	Wet Weight
Seq Number:	3118553				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00892	0.0197	0.00892	mg/kg	03.04.20 03.09	U	1
Toluene	108-88-3	<0.00462	0.0197	0.00462	mg/kg	03.04.20 03.09	U	1
Ethylbenzene	100-41-4	<0.00607	0.0197	0.00607	mg/kg	03.04.20 03.09	U	1
m,p-Xylenes	179601-23-1	<0.00673	0.0394	0.00673	mg/kg	03.04.20 03.09	U	1
o-Xylene	95-47-6	<0.00673	0.0197	0.00673	mg/kg	03.04.20 03.09	U	1
Total Xylenes	1330-20-7	<0.00673	0.0197	0.00673	mg/kg	03.04.20 03.09	U	1
Total BTEX		<0.00462	0.0197	0.00462	mg/kg	03.04.20 03.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	123	%	68-120	03.04.20 03.09	**
a,a,a-Trifluorotoluene	98-08-8	125	%	71-121	03.04.20 03.09	**

Certificate of Analytical Results 654170

Terracon-Lubbock, Lubbock, TX

Caza Eagle Claw

Sample Id:	**HA-9 (5.5-6**	Matrix:	Soil	Date Received:	02.28.20 16.45
Lab Sample Id:	654170-006	Date Collected:	02.26.20 11.15	Sample Depth:	5.5 - 6 ft
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	JGR			% Moisture:	
Analyst:	MIT	Date Prep:	03.03.20 14.30	Basis:	Wet Weight
Seq Number:	3118554				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<0.267	3.94	0.267	mg/kg	03.04.20 03.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	76-123	03.04.20 03.09	
a,a,a-Trifluorotoluene	98-08-8	103	%	69-120	03.04.20 03.09	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 654170

Terracon-Lubbock

Caza Eagle Claw

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3118423 Matrix: Solid Date Prep: 03.03.20
MB Sample Id: 7698007-1-BLK LCS Sample Id: 7698007-1-BKS LCSD Sample Id: 7698007-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.572	250	246	98	238	95	90-110	3	20	mg/kg	03.03.20 09:43	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3118502 Matrix: Solid Date Prep: 03.04.20
MB Sample Id: 7698057-1-BLK LCS Sample Id: 7698057-1-BKS LCSD Sample Id: 7698057-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.572	250	253	101	253	101	90-110	0	20	mg/kg	03.04.20 10:15	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3118423 Matrix: Soil Date Prep: 03.03.20
Parent Sample Id: 654170-001 MS Sample Id: 654170-001 S MSD Sample Id: 654170-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	14.5	250	286	109	272	103	80-120	5	20	mg/kg	03.03.20 10:20	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3118423 Matrix: Soil Date Prep: 03.03.20
Parent Sample Id: 654312-010 MS Sample Id: 654312-010 S MSD Sample Id: 654312-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	220	250	470	100	447	91	80-120	5	20	mg/kg	03.03.20 13:14	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3118502 Matrix: Soil Date Prep: 03.04.20
Parent Sample Id: 654203-001 MS Sample Id: 654203-001 S MSD Sample Id: 654203-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6.09	250	273	107	278	109	80-120	2	20	mg/kg	03.04.20 11:10	

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

QC Summary 654170

Terracon-Lubbock

Caza Eagle Claw

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3118502 Matrix: Soil Date Prep: 03.04.20
Parent Sample Id: 654203-011 MS Sample Id: 654203-011 S MSD Sample Id: 654203-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2.10	250	249	99	250	99	80-120	0	20	mg/kg	03.04.20 12:40	

Analytical Method: **DRO-ORO By SW8015B** Prep Method: SW8015P
Seq Number: 3118436 Matrix: Solid Date Prep: 03.02.20
MB Sample Id: 7697922-1-BLK LCS Sample Id: 7697922-1-BKS LCSD Sample Id: 7697922-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<7.48	100	74.3	74	69.8	70	63-139	6	20	mg/kg	03.03.20 13:06	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
Tricosane	70		71		71		65-144	%	03.03.20 13:06
n-Triacontane	96		96		94		46-152	%	03.03.20 13:06

Analytical Method: **DRO-ORO By SW8015B** Prep Method: SW8015P
Seq Number: 3118436 Matrix: Solid Date Prep: 03.02.20
MB Sample Id: 7697922-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Oil Range Hydrocarbons (ORO)	<7.48	mg/kg	03.03.20 16:10	

Analytical Method: **DRO-ORO By SW8015B** Prep Method: SW8015P
Seq Number: 3118436 Matrix: Soil Date Prep: 03.02.20
Parent Sample Id: 654170-001 MS Sample Id: 654170-001 S MSD Sample Id: 654170-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<7.44	99.5	78.0	78	69.7	69	63-139	11	20	mg/kg	03.03.20 17:24	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Tricosane	70		69		65-144	%	03.03.20 17:24
n-Triacontane	100		102		46-152	%	03.03.20 17:24

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

QC Summary 654170

Terracon-Lubbock

Caza Eagle Claw

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3118553 Matrix: Solid Date Prep: 03.03.20
MB Sample Id: 7698097-1-BLK LCS Sample Id: 7698097-1-BKS LCSD Sample Id: 7698097-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00904	2.00	1.97	99	1.95	98	55-120	1	20	mg/kg	03.03.20 20:17	
Toluene	<0.00468	2.00	2.16	108	2.13	107	77-120	1	20	mg/kg	03.03.20 20:17	
Ethylbenzene	<0.00616	2.00	2.25	113	2.25	113	77-120	0	20	mg/kg	03.03.20 20:17	
m,p-Xylenes	<0.00682	4.00	4.47	112	4.47	112	78-120	0	20	mg/kg	03.03.20 20:17	
o-Xylene	<0.00682	2.00	2.19	110	2.20	110	78-120	0	20	mg/kg	03.03.20 20:17	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	117		125	**	125	**	68-120	%	03.03.20 20:17
a,a,a-Trifluorotoluene	122	**	122	**	121		71-121	%	03.03.20 20:17

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3118553 Matrix: Soil Date Prep: 03.03.20
Parent Sample Id: 654170-001 MS Sample Id: 654170-001 S MSD Sample Id: 654170-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00840	1.86	1.81	97	1.85	97	54-120	2	25	mg/kg	03.03.20 23:31	
Toluene	<0.00435	1.86	1.94	104	2.00	105	57-120	3	25	mg/kg	03.03.20 23:31	
Ethylbenzene	<0.00572	1.86	2.02	109	2.11	110	58-131	4	25	mg/kg	03.03.20 23:31	
m,p-Xylenes	<0.00634	3.72	4.00	108	4.18	109	62-124	4	25	mg/kg	03.03.20 23:31	
o-Xylene	<0.00634	1.86	1.95	105	2.04	107	62-124	5	25	mg/kg	03.03.20 23:31	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	121	**	122	**	68-120	%	03.03.20 23:31
a,a,a-Trifluorotoluene	126	**	127	**	71-121	%	03.03.20 23:31

Analytical Method: **TPH GRO by EPA 8015 Mod.** Prep Method: SW5030B
Seq Number: 3118554 Matrix: Solid Date Prep: 03.03.20
MB Sample Id: 7698099-1-BLK LCS Sample Id: 7698099-1-BKS LCSD Sample Id: 7698099-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<0.271	20.0	18.4	92	19.2	96	35-129	4	20	mg/kg	03.03.20 21:05	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	101		143	**	122		76-123	%	03.03.20 21:05
a,a,a-Trifluorotoluene	99		104		84		69-120	%	03.03.20 21:05

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

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

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

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

Final 1.000

QC Summary 654170

Terracon-Lubbock

Caza Eagle Claw

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

Seq Number: 3118554 Matrix: Soil Date Prep: 03.03.20

Parent Sample Id: 654170-001 MS Sample Id: 654170-001 S MSD Sample Id: 654170-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<0.239	17.7	16.8	95	20.9	105	35-129	22	20	mg/kg	03.04.20 00:20	F

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	138	**	119		76-123	%	03.04.20 00:20
a,a,a-Trifluorotoluene	106		79		69-120	%	03.04.20 00:20

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

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

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

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

654170

Terracon

CHAIN OF CUSTODY RECORD

Office Location	Lubbock	Laboratory:	Xenco
Project Manager	Joseph Guesnier	Address:	6701 Aberdeen, Lubbock, Texas 79424
Sampler's Name	Bryant McBrayer	Phone:	
		Contact:	Joseph Guesnier (806)544-9276
		SRS #:	
		Sampler's Signature	

ANALYSIS REQUESTED

LAB USE ONLY DUE DATE: 654170

TEMP OF COOLER WHEN RECEIVED (°C): 1.0 / 1.1

FR-4 +0.1

Page 1 of 1

Project Number: AR197234

Project Name: Caza Eagle Claw

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: 2 oz Glass	4 oz Glass	5035 kit	40 ml VOA	Chloride (EPA Method 300)	TPH Extended 8015	BTEX (EPA Method 8021B)	Hold	Lab Sample ID
S	2/26/2020	11:46		X	HA-10 - (0 - .5)	0	0.5		X			X	X	X		1
S	2/26/2020	~~11:58~~		X	~~HA-10 - (.5 - 1)~~	0.5	1		X			~~X~~	~~X~~	~~X~~	X	
S	2/26/2020	~~12:07~~		X	~~HA-10- (1.5 - 2)~~	1.5	2		X		56	~~X~~	~~X~~	~~X~~	X	
S	2/26/2020	12:13		X	HA-11 - (0 - .5)	0	0.5		X			X	X	X		2
S	2/26/2020	~~12:19~~		X	~~HA-11 - (.5 - 1)~~	0.5	1		X			~~X~~	~~X~~	~~X~~	X	
S	2/26/2020	~~12:25~~		X	~~HA-11- (1.5 - 2)~~	1.5	2		X		56	~~X~~	~~X~~	~~X~~	X	
S	2/26/2020	12:30		X	HA-12 - (0 - .5)	0	0.5		X			X	X	X		3
S	2/26/2020	~~12:37~~		X	~~HA-12 - (.5 - 1)~~	0.5	1		X			~~X~~	~~X~~	~~X~~	X	
S	2/26/2020	~~12:45~~		X	~~HA-12- (1.5 - 2)~~	1.5	2		X		56	~~X~~	~~X~~	~~X~~	X	
S	2/26/2020	13:13		X	HA-13 - (0 - .5)	0	0.5		X			X	X	X		4
S	2/26/2020	~~13:17~~		X	~~HA-13 - (.5 - 1)~~	0.5	1		X			~~X~~	~~X~~	~~X~~	X	
S	2/26/2020	~~13:25~~		X	~~HA-13- (1.5 - 2)~~	1.5	2		X		56	~~X~~	~~X~~	~~X~~	X	
S	2/26/2020	11:30		X	HA-8 - (5.5 - 6)	5.5	6		X			X	X	X		5
S	2/26/2020	~~11:39~~		X	~~HA-8 - (6.5 - 7)~~	6.5	7		X		56	~~X~~	~~X~~	~~X~~	X	
S	2/26/2020	11:15		X	HA-9 - (5.5 - 6)	5.5	6		X			X	X	X		6
S	2/26/2020	~~11:23~~		X	~~HA-9 - (6.5 - 7)~~	6.5	7		X		56	~~X~~	~~X~~	~~X~~	X	

TURNAROUND TIME: ☐ Normal X ~~☐~~ 48-Hour Rush ☐ 24-Hour Rush

TRRP Laboratory Review Checklist ☐ Yes ☐ No

	Date	Time		Date	Time
Relinquished by (Signature)	2/26/20	4:45	Received by (Signature) Brenda Ward		
Relinquished by (Signature)			Received by (Signature)		
Relinquished by (Signature)			Received by (Signature)		
Relinquished by (Signature)			Received by (Signature)		

NOTES: Client: Spur

e-mail results to:

bryant.mcbrayer@terracon.com
erin.loyd@terracon.com
jrguesnier@terracon.com

Matrix: W - Water; S - Soil; L - Liquid; A - Air Bag; C - Charcoal tube; SL - Sludge

Container: WW-Wastewater; VOA - 40 ml vial; A/G - Amber Glass 1L; 250 ml = Glass wide mouth; P/O - Plastic or other _____

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Terracon-Lubbock

Date/ Time Received: 02.28.2020 04.45.00 PM

Work Order #: 654170

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

Temperature Measuring device used : IR-4

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.1
#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: Brenda Ward Date: 03.02.2020
Brenda Ward

Checklist reviewed by: Jessica Kramer Date: 03.04.2020
Jessica Kramer

APPENDIX D – TERRACON STANDARD OF CARE, LIMITATION, AND RELIANCE

Standard of Care

Terracon's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time. Terracon makes no warranties, either express or implied, regarding the findings, conclusions, or recommendations. Please note that Terracon does not warrant the work of laboratories, regulatory agencies, or other third parties supplying information used in the preparation of the report. These services were performed in accordance with the scope of work agreed with you, Solaris Water Midstream, as reflected in our proposal (PA4197040).

Additional Scope Limitations

Development of this RAP is based upon information provided by the Client and Terracon's remediation and construction services line. Such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, nondetectable, or not present during these services. We cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those by information provided by the Client. The data, interpretations, findings, and our recommendations are based solely upon reformation executed within the scope of these services.

Reliance

This report has been prepared for the exclusive use of Solaris Water Midstream, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the site) is prohibited without the express written authorization of Solaris Water Midstream and Terracon. Any unauthorized distribution or reuse is at Solaris Water Midstream sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions, and limitations stated in the proposal and Solaris Water Midstream and Terracon's Master Services Agreement. The limitation of liability defined in the terms and conditions is the aggregate limit of Terracon's liability to Solaris Water Midstream and all relying parties unless otherwise agreed in writing.