No water found to 105 feet in Borehole

Rob Kirk

From: OCDOnline@state.nm.us
Sent: Tuesday, December 10, 2019 5:27 PM
To: Rob Kirk
Subject: New Mexico OCD Application Submission was Rejected by the OCD

The Oil Conservation Division (OCD) has rejected the application PO: EYW0C-190829-C-1410.
The original application was submitted by Rob Kirk for SOLARIS WATER MIDSTREAM, LLC.

The user added the additional comment:

> "Release Investigation and Remedial Action Plan for Zeus SWD Flowback Line Produced Water Release (1RP-5561). This Remediation Plan is denied for the following: • The Depth to Groundwater has been incorrectly assesses. There are no wells within a ½ mile radius of the release source. The OCD cannot accept the DWG of a well (CP-01701-POD1) that is over 1.5 miles from the release site. Per rule 19.15.29.11 (A)(2) NMAC: "The responsible party must determine the depth to ground water where the release occurred". If Solaris believes that Groundwater is >100', a borehole will need to be drilled onsite at 105' and leave it open for at least 72 hours. If there is no evidence of water after 72 hours, the OCD will accept this as evidence. We will need a copy of the driller's log. For further clarifications regarding the implementation of the spill rule, visit the OCD website: http://www.emnrd.state.nm.us/OCD/documents/OCDInternalPolicy-SpillRuleClarifications.pdf ".

If you are concerned about receiving this email or have any other questions,
please feel free to contact our Santa Fe OCD office.

New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Carlsbad Field Office
620 E. Greene St.
Carlsbad, NM 88220-6292

In Reply Refer To:
3162.4 (NM-080)

March 6, 2020

NM Office of the State Engineer
1900 W. Second St.
Roswell, NM 88201

Re: Solaris Zeus Boring
Section 36, NENE, T21S-R32E
Lea County, New Mexico

Gentlemen:

The above Right-of-Way location and the immediate area was impacted from a recent spill event. Solaris is being required determine the depth to ground water (as per NMOCD) in order to develop remediation plans for the site. In order to fully delineate the impacted site, a drilling unit will be needed to complete NMOCD requirements. The Bureau of Land Management (land owner) authorizes the use of a drilling unit to drill this well in order to determine depth to ground water.

If you have any questions contact Jim Amos, at 575-234-5909.

Sincerely,

James A. Amos
Supervisory EPS

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
CP-01834	none	CP-01834

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Solaris Water Midstream	469-978-5620

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
3305 Boyd Drive	Carlsbad	NM	88220

WELL LOCATION (FROM GPS)	DEGREES	MINUTES	SECONDS	
LATITUDE	32.439348			N
LONGITUDE	103.620688			W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE

5.8-miles south of Hwy 176 on dirt road. Located approximately 20-ft from Solaris Water Midstream produced water pipeline.

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD 1690	Jason Maley	Vision Resources, Inc.

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
6/3/2020	6/3/2020	no well constructed	105	dry hole,

COMPLETED WELL IS: ☐ ARTESIAN ☐ DRY HOLE ☐ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): no water measured 72-hours later

DRILLING FLUID: ☑ AIR ☐ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☑ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY:

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	105	6.25	no casing, or annular material installed				

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
0	105	6.25	no casing or annular material installed		

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/30/17)

FILE NO.	POD NO.	TRN NO.	
LOCATION		WELL TAG ID NO.	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES **(attach supplemental sheets to fully describe all units)**	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	3	3	SAND (SP), reddish, loose, dry	Y ✓ N	
3	4	1	Caliche, white	Y ✓ N	
4	5	1	SAND (SP), reddish, firm, dry	Y ✓ N	
5	30	25	SAND W/ SILT (SW-SM), reddish, very fine grain, angular, firm, dry.	Y ✓ N	
30	60	30	CLAYEY SAND/SILTY SAND (SP-SM/SP-SC), reddish, firm, dry.	Y ✓ N	
85	105	20	CLAYEY SAND (SP-SC), reddish to purplish, mottled gray and white, firm, dry	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☑ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

WELL TEST — TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION: Boring drilled to evaluate the absense or presence of groundwater within the upper105-ft. No water was found.

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

Jason Fine

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:

SIGNATURE OF DRILLER / PRINT SIGNEE NAME DATE

FOR OSE INTERNAL USE WR-20 WELL RECORD & LOG (Version 06/30/2017)

FILE NO.	POD NO.	TRN NO.
LOCATION	WELL TAG ID NO.	PAGE 2 OF 2

State of New Mexico
Oil Conservation Division

Incident ID	NDHR 1917159396
District RP	1RP-5561
Facility ID	fDHR 1917159219
Application ID	pDHR 1917158937

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?	435 (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.

State of New Mexico
Oil Conservation Division

Incident ID	NDHR 1917159396
District RP	1RP-5561
Facility ID	fDHR 1917159219
Application ID	pDHR 1917158937

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: August 29, 2019

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

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	NDHR 1917159396
District RP	1RP-5561
Facility ID	fDHR 1917159219
Application ID	pDHR 1917158937

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: Date: August 29, 2019

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

OCD Only

Received by: Chad Hensley Date: 04/20/2021

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

Signature: Date: 04/20/2021

Release Investigation and Remedial Action Plan

General Site Information:
Zeus SWD Flowback Line (NMOCD Reference #: 1RP-5561)

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

Depth to Ground Water
Greater than 100 feet below grade surface

Distance to Nearest Surface Water
Laguna Gatuna (West-Central Lea County), approximately 9.71 miles to the Northwest

Driving Directions
From Hwy 62, South on HWY 176 6.5 mi, South on Delaware Basin Road 7.10 mi., West 0.05 mi. to Pipe location

Legal Description
Unit A Section 36, T21S, R32E, N.M.P.M., Lea County, New Mexico

August 19, 2019
Terracon Project No. AR197210

Prepared for:
Solaris Water Midstream LLC
Midland, Texas

Prepared by:
Terracon Consultants, Inc.
Lubbock, Texas

August 19, 2019

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**
Zeus SWD Flowback Line Produced Water Release (1RP-5561)
Unit A Section 36, T21S, R32E, N.M.P.M., Lea County, New Mexico
Terracon Project No. AR197210

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 findigs 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 (PAR197210) dated February 1, 2019.

- Based on the magnitude of chloride concentrations detected within the release margins to depths subject to NMOCD Reclamation requirements, approximately 9,000 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 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.
- If chloride concentrations are observed at greater than 20,000 mg/kg during vertical delineation activities, Terracon recommends the installation of a 40-millimeter liner as an engineering control to prevent the further migration of the chloride impacts to groundwater. A variance will be sought for the implementation

of this engineering control, if implementation and installation of the liner appears warranted.

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
Zeus SWD Flowback Line Produced Water Release
Unit A Section 36, Township 21 South, Range 32 East, N.M.P.M.
Lea County, New Mexico
NMOCD Reference No. 1RP-5561
Terracon Project No. AR197210
August 19, 2019

1.0 SITE DESCRIPTION

The Site is comprised of an approximate 3-acre tract of land within the Unit A Section 36, Township 21 South, Range 32 East, N.M.P.M., Lea County, New Mexico (hereinafter, the site). The site consists primarily of undeveloped range land except for a pipeline utilized to transfer produced water to a saltwater disposal (SWD) facility operated by Solaris Water Midstream (Solaris) to the West. 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) requirements that detail site closure activities to be completed. This RAP addresses the June 7, 2019 release of approximately 500 barrels (bbls) of produced water which contained an estimated 2 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 June 7, 2019 produced water release at the Zeus SWD Flowback Line 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 the NMOCD District 1 Hobbs Office by Rob Kirk (Solaris) on June 7, 2019.	
Facility description	The facility is comprised of a flowback line associated with the Zeus SWD and surrounding impacted soils which are located in	

Required Information	Site and Release information	
	Lea County, New Mexico. More specifically, the Site is an approximate 3-acre area comprised of undeveloped range land utilized as a pipeline rights-of-way located within the Unit A Section 36, Township 21 South, Range 32 East, N.M.P.M., approximately 27 miles west of Eunice, New Mexico.	
Time of incident	June 6, 2019, discovered at 7:00 a.m.	
Discharge event	Release of produced water containing crude oil originating from a malfunctioning joint on a pipeline connection of a Solaris transfer flowback line. The release origin occurred east of the facility pad, under development at the time of the release. The release area, near the origin of the release, was limited to an approximately 1-acre area; however, a portion of the release traveled along the surface for approximately 600 ft. to the west and approximately 600 ft. the the south at a width ranging from approximately 115 ft. west of the release point down to 8 ft. 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.	
Quantity of spilled material	Total Fluids: 500 bbls	Produced Water: 500 bbls containing approximately 2 bbls of crude oil
	Total Fluids Recovered: 11 bbls	Produced Water: 10 bbls Crude Oil: 1 bbls
Site characteristics	Relatively flat with drainage following the native ground surface; very gently sloping to the south and west.	
Immediate corrective actions	Pipeline was shut-in, and Terracon Remediation Construction Services (RCS) consolidated affected materials into a stockpile proximate to the release origin.	

4.0 INITIAL RESPONSE ACTIONS

4.1 Source Elimination

Initial source elimination was accomplished by the Solaris foreman shutting in the leaking line and replacing the failed pipe connection.

4.2 Containment and Site Stabilization

Terracon RCS members consolidated and stockpiled affected soils proximate to the release origin to prevent further horizontal migration of the release. The immediate response actions measured approximately 500-square-feet (sf) resulting in a stockpile totaling an estimated 20-cubic yards (cy). Following consolidation of these materials, Terracon RCS members fenced off the stockpile to deter inadvertent contact with the materials.

5.0 GENERAL SITE CHARACTERISTICS

5.1 Depth to Groundwater

A water well record search of the New Mexico Office of the State Engineer (NMOSE) Potable Water Well (POD) Geographic Information System (GIS) data portal identified no registered wells within one mile of the site. One registered well (CP-01701-POD1) was identified within 3.5 miles of the site with a stated depth of 457 ft. below grade surface (bgs). NMOSE registered wells within 6.5 miles of the site have an average depth to groundwater of 435 feet bgs, with a maximum reported depth of 824 feet bgs. Based on the review of NMOSE available documentation, the depth to groundwater at the site is anticipated to be deeper than 100 feet bgs.

5.2 Distance to Nearest Potable Water Well

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

5.3 Distance to Nearest Surface Water

The Laguna Gatuna (playa) is located approximately 9.71 miles northwest of the site.

5.4 Soil / Waste Characteristics

Soils at the site are mapped as Pyote and Maljamar fine sands, 0 to 3 percent slopes. This soil has a surface layer of fine sand 0 to 24 inches, sandy clay loam 24 to 50 inches and cemented material 50 to 60 inches. Resulting in the formation being categorized with a very low runoff, with a natural drainage class of well drained.

5.5 Groundwater Quality

Groundwater quality is unknown at the site. As stated previously, there are no wells registered with the NMSEO 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 New Mexico Oil Conservation Division (NMOCD). The NMOCD has issued the *Closure Criteria for Soils Impacted by a Release, June 21, 2018* and *Restoration, Reclamation, and Re-vegetation (19.15.29.13) NMAC – D (Reclamation of areas no longer in use)* as guidance documents for the remediation and reclamation of sites impacted by releases from oil and gas exploration and production activities. Sections 6.1 and 6.2 below detail applicability of these guidance documents to the site-specific characteristics associated with the Zeus SWD Flowback 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	Remediation 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	20,000 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 sample to the lab for analysis following chain of custody procedures.
- All samples must be analyzed within the holding times for the laboratory analytical method specified by EPA.

Analytical Methods

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

- Chloride – EPA Method 300.0
- Total Petroleum Hydrocarbons – TPH (GRO+DRO+MRO) – EPA Method 8015M

- Benzene, toluene, ethylbenzene and total xylenes (BTEX) – EPA Method 8021B
- Benzene – EPA Method 8021B

8.0 RELEASE INVESTIGATION DATA EVALUATION

During Terracon's June 12, 2019 release investigation activities, a total of 70 soil samples were collected from the site and analyzed for BTEX, chloride, and/or TPH. A total of 60 samples were collected from within the release margins, and 10 samples were collected outside of the impacted area to evaluate background concentrations.

8.1 Background Data Evaluation

A total of 10 discrete soil samples were collected from two background locations in up-gradient positions relative to the release extent. Four of the 10 samples were analyzed for the presence of BTEX and TPH. The four analyzed samples did not exhibit concentrations of BTEX or TPH constituents above applicable laboratory SDLs, as summarized in Table 1.

Each of the 10 background samples collected were analyzed for the presence of chloride. The detected chloride concentrations ranged from 10.5 mg/kg in soil sample HA-14 (3 ft bgs to 3.5 ft bgs) to 55.7 mg/kg in soil sample HA-13 (4.5 ft bgs to 5 ft bgs), as summarized in 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

Benzene was not detected above applicable laboratory SDLs in the 24 soil samples analyzed within Reclamation Assessment target depths, as summarized in Table 1.

Total BTEX was detected above applicable laboratory SDLs in one of the 24 soil samples analyzed within Reclamation Assessment target depths. The Total BTEX concentration was 0.0141 mg/kg in HA-11 (0 ft. bgs to 0.5 ft. bgs). The detected Total BTEX concentrations did not exceed the applicable NMOCD RAL for Total BTEX of 50 mg/kg, as summarized in Table 1.

Total TPH was detected above applicable laboratory SDLs in one of the 24 soil samples analyzed within the Reclamation Assessment target depths. The Total TPH concentration was 11.2 mg/kg in HA-9 (0 ft bgs to 0.5 ft bgs) The samples collected within the release margins did not exhibit

Total TPH concentrations above the NMOCD RAL of 2,500 mg/kg for Total TPH, as summarized in Table 1.

Chloride was detected above applicable laboratory SDLs in each of the 48 soil samples analyzed within the Reclamation Assessment target depths. The chloride concentrations ranged from 53.9 mg/kg in soil sample HA-2 (0.5 to 1 ft bgs) to 8,890 mg/kg in soil sample HA-1 (3 to 3.5 ft bgs). Of the 48 soil samples analyzed, 43 soil samples exhibited chloride concentrations above the applicable NMOCD Reclamation Assessment Limit of 600 mg/kg, as summarized in Table 1.

8.2.2 Remediation Assessment Data Evaluation

At each of the soil boring locations, a soil sample was collected and analyzed a soil sample 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 due to the constituents' lack of presence in shallower intervals.

The detected chloride concentrations ranged in concentrations from 1,330 mg/kg in soil sample HA-3 (4.5 to 5 ft. bgs) to 12,800 mg/kg in soil sample HA-7 (4.5 to 5 ft. bgs). The detected chloride concentrations at depths greater than 4 ft. bgs did not exceed the applicable NMOCD Remediation Action Limit of 20,000 mg/kg, as summarized in Table 1.

It should be noted that soil borings were terminated due auger refusal upon encountered a cemented caliche layer.

8.3 Release Investigation Data Summary

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

Of the 48 soil samples analyzed, 43 soil samples exhibited chloride concentrations above the applicable NMOCD Reclamation Action Limit of 600 mg/kg. None of the soil samples analyzed for chlorides exceeded the NMOCD Remediation Action Limit for samples collected deeper than 4 ft. bgs. While the bottom-of-hole samples did not exhibit chloride concentrations above an actionable limit, seven of the 12 soil boring locations exhibited increasing chloride concentration trends and did not achieve vertical delineation to below the Reclamation Action Limit of 600 mg/kg.

It is anticipated that released produced water associated chlorides consolidated upon the cemented layer of the Maljamar formation at 50 to 60 inches bgs. Based on the proximity of the analyzed samples to this restrictive layer and the magnitude of the concentrations being elevated above 600 mg/kg but below 20,000 mg/kg, Terracon recommends additional vertical delineation samples be collected and analyzed for the presence of chlorides at this restrictive zone to ensure that concentrations are not elevated further at this restrictive interphase.

he areas of soil borings HA-1 and HA-7 to ensure that the NMOCD Remediation Action Limit of 20,000 mg/kg is not exceeded in deeper horizons.

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 9,000 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.

If chloride concentrations at greater than 20,000 mg/kg during vertical delineation activities, Terracon recommends the installation of a 40-millimeter liner as an engineering control to prevent the further migration of the chloride impacts to groundwater. A variance will be sought for the implementation of this engineering control, if implementation and installation of the liner appears warrented.

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.

10.0 TERMINATION OF REMEDIAL ACTIONS, FINAL 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.

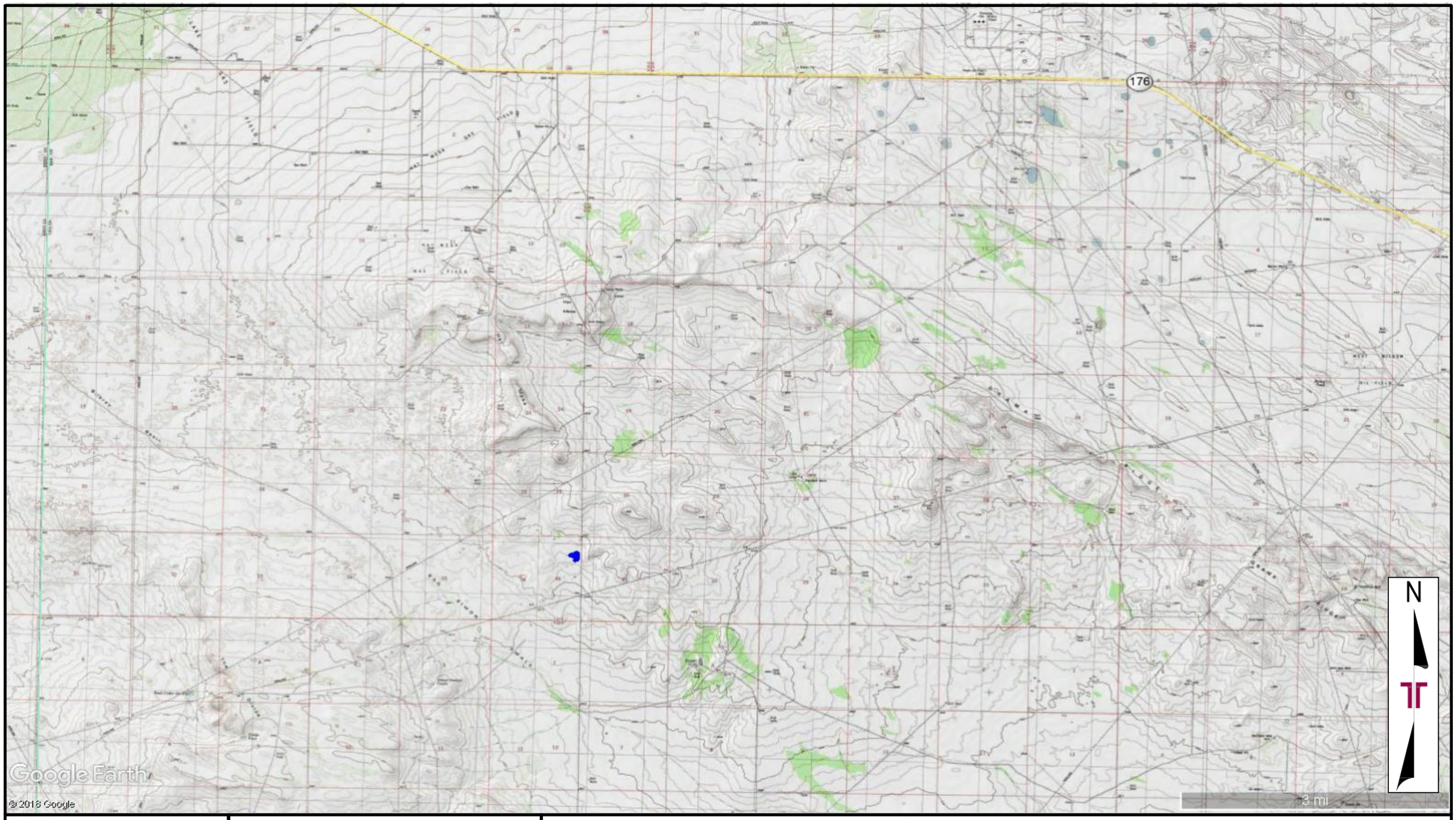
APPENDIX A – FIGURES AND TABLES

Figure 1 – Topographic Map

Figure 2 – Chloride Concentration Map

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

Table 1 – Soil Sample Analytical Results

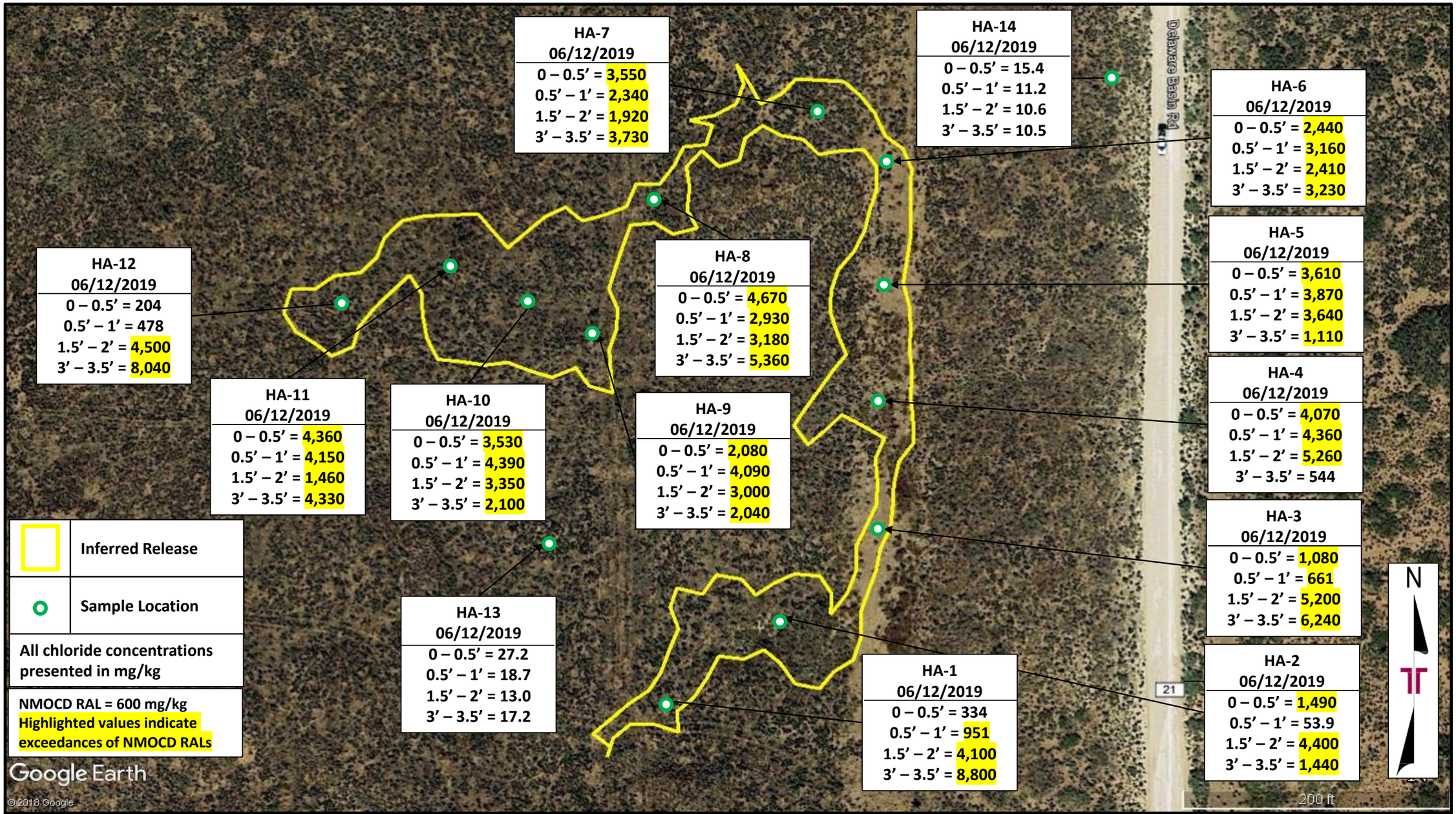


Project No.	AR197210
Scale:	As Shown
Source:	USGS
Date:	2014

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

Figure 1 – Topo Map

Solaris Zeus
32.439115°, -103.62100°
Lea County, New Mexico



Project No.	AR197210
Scale:	As Shown
Source:	Google Earth
Image Date:	4/1/2016

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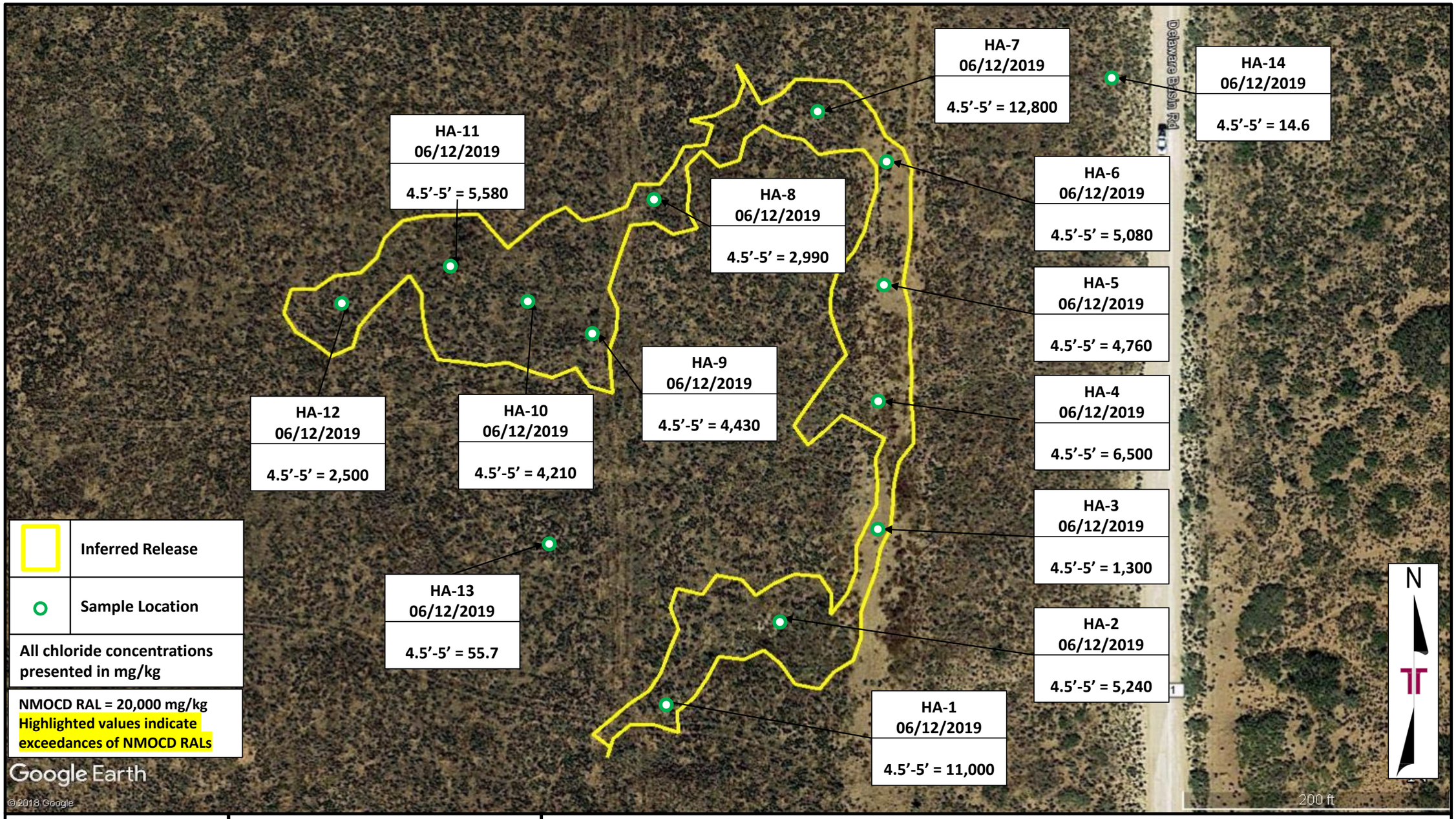
Figure 2 – Chloride Concentration Map (Soils within Reclamation Depths)

Solaris Zeus
32.439115°, -103.621000°
Lea County, New Mexico



Project No.	AR197210
Scale:	As Shown
Source:	Google Earth
Image Date:	4/1/2016

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

Solaris Zeus
32.439115°, -103.621000°
Lea County, New Mexico

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS - BTEX[1], Chloride[2], and TPH[3]
Zeus SWD Release
Terracon Project No. AR197210

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									
HA-1	0 - 0.5	Grab	06/12/19	Benzene - <0.00893 Toluene - <0.00462 Ethylbenzene - <0.00609 Total Xylenes - <0.00674 Total BTEX - <0.00462	334	<9.92	<9.92	<9.92	<9.92
	0.5 - 1	Grab	06/12/19	Benzene - <0.00900 Toluene - <0.00466 Ethylbenzene - <0.00614 Total Xylenes - <0.00679 Total BTEX - <0.00466	**951**	<9.93	<9.93	<9.93	<9.93
	1.5 - 2	Grab	03/25/19	BTEX - NA	**4,100**	NA			
	3 - 3.5	Grab	03/25/19	BTEX - NA	**8,890**	NA			
	4.5 - 5	Grab	06/12/19	BTEX - NA	11,000	NA			
HA-2	0 - 0.5	Grab	06/12/19	Benzene - <0.00893 Toluene - <0.00462 Ethylbenzene - <0.00609 Total Xylenes - <0.00674 Total BTEX - <0.00462	**1,490**	<9.92	<9.92	<9.92	<9.92
	0.5 - 1	Grab	03/25/19	Benzene - <0.00886 Toluene - <0.00459 Ethylbenzene - <0.00604 Total Xylenes - <0.00669 Total BTEX - <0.00459	53.9	<9.92	<9.92	<9.92	<9.92
	1.5 - 2	Grab	03/25/19	BTEX - NA	**4,400**	NA			
	3 - 3.5	Grab	06/12/19	BTEX - NA	**1,440**	NA			
	4.5 - 5	Grab	06/12/19	BTEX - NA	5,240	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**	**20,000**	**1,000**		**N/A**	**2,500**

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

< = Constituent not detected above the indicated laboratory SDL

NA = Not Analyzed

N/A = Not Applicable

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

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS - BTEX[1], Chloride[2], and TPH[3]
Zeus SWD Release
Terracon Project No. AR197210

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									
HA-3	0 - 0.5	Grab	06/12/19	Benzene - <0.00893 Toluene - <0.00462 Ethylbenzene - <0.00609 Total Xylenes - <0.00674 Total BTEX - <0.00462	**1,080**	<9.99	<9.99	<9.99	<9.99
	0.5 - 1	Grab	06/12/19	Benzene - <0.00895 Toluene - <0.00463 Ethylbenzene - <0.00610 Total Xylenes - <0.00675 Total BTEX - <0.00463	**661**	<9.98	<9.98	<9.98	<9.98
	1.5 - 2	Grab	06/12/19	BTEX - NA	**5,200**	NA			
	3 - 3.5	Grab	06/12/19	BTEX - NA	**6,240**	NA			
	4.5 - 5	Grab	06/12/19	BTEX - NA	1,330	NA			
HA-4	0 - 0.5	Grab	06/12/19	Benzene - <0.00911 Toluene - <0.00472 Ethylbenzene - <0.00621 Total Xylenes - <0.00688 Total BTEX - <0.00472	**4,070**	<9.90	<9.90	<9.90	<9.90
	0.5 - 1	Grab	06/12/19	Benzene - <0.00883 Toluene - <0.00457 Ethylbenzene - <0.00602 Total Xylenes - <0.00666 Total BTEX - <0.00457	**4,360**	<9.90	<9.90	<9.90	<9.90
	1.5 - 2	Grab	06/12/19	BTEX - NA	**5,260**	NA			
	3 - 3.5	Grab	06/12/19	BTEX - NA	544	NA			
	4.5 - 5	Grab	06/12/19	BTEX - NA	6,500	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**	**20,000**	**1,000**		**N/A**	**2,500**

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

< = Constituent not detected above the indicated laboratory SDL

NA = Not Analyzed

N/A = Not Applicable

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

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS - BTEX[1], Chloride[2], and TPH[3]
Zeus SWD Release
Terracon Project No. AR197210

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									
HA-5	0 - 0.5	Grab	06/12/19	Benzene - <0.00904 Toluene - <0.00468 Ethylbenzene - <0.00616 Total Xylenes - <0.00682 Total BTEX - <0.00468	**3,610**	<9.91	<9.91	<9.91	<9.91
	0.5 - 1	Grab	06/12/19	Benzene - <0.00890 Toluene - <0.00461 Ethylbenzene - <0.00606 Total Xylenes - <0.00671 Total BTEX - <0.00461	**3,870**	<9.92	<9.92	<9.92	<9.92
	1.5 - 2	Grab	06/12/19	BTEX - NA	**3,640**	NA			
	3 - 3.5	Grab	06/12/19	BTEX - NA	**1,110**	NA			
	4.5 - 5	Grab	06/12/19	BTEX - NA	4,760	NA			
HA-6	0 - 0.5	Grab	06/12/19	Benzene - <0.00897 Toluene - <0.00464 Ethylbenzene - <0.00611 Total Xylenes - <0.00677 Total BTEX - <0.00464	**2,440**	<9.90	<9.90	<9.90	<9.90
	0.5 - 1	Grab	06/12/19	Benzene - <0.00869 Toluene - <0.00450 Ethylbenzene - <0.00592 Total Xylenes - <0.00656 Total BTEX - <0.00450	**3,160**	<9.93	<9.93	<9.93	<9.93
	1.5 - 2	Grab	06/12/19	BTEX - NA	**2,410**	NA			
	3 - 3.5	Grab	06/12/19	BTEX - NA	**3,230**	NA			
	4.5 - 5	Grab	06/12/19	BTEX - NA	5,080	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**	**20,000**	**1,000**		**N/A**	**2,500**

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

< = Constituent not detected above the indicated laboratory SDL

NA = Not Analyzed

N/A = Not Applicable

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

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS - BTEX[1], Chloride[2], and TPH[3]
Zeus SWD Release
Terracon Project No. AR197210

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									
HA-7	0 - 0.5	Grab	06/12/19	Benzene - <0.00908 Toluene - <0.00470 Ethylbenzene - <0.00618 Total Xylenes - <0.00685 Total BTEX - <0.00470	**3,550**	<9.96	<9.96	<9.96	<9.96
	0.5 - 1	Grab	06/12/19	Benzene - <0.00886 Toluene - <0.00459 Ethylbenzene - <0.00604 Total Xylenes - <0.00669 Total BTEX - <0.00459	**2,340**	<9.96	<9.96	<9.96	<9.96
	1.5 - 2	Grab	06/12/19	BTEX - NA	**1,920**	NA			
	3 - 3.5	Grab	06/12/19	BTEX - NA	**3,730**	NA			
	4.5 - 5	Grab	06/12/19	BTEX - NA	12,800	NA			
HA-8	0 - 0.5	Grab	06/12/19	Benzene - <0.00904 Toluene - <0.00468 Ethylbenzene - <0.00616 Total Xylenes - <0.00682 Total BTEX - <0.00468	**4,670**	<9.99	<9.99	<9.99	<9.99
	0.5 - 1	Grab	06/12/19	Benzene - <0.00863 Toluene - <0.00447 Ethylbenzene - <0.00588 Total Xylenes - <0.00651 Total BTEX - <0.00447	**2,930**	<9.91	<9.91	<9.91	<9.91
	1.5 - 2	Grab	06/12/19	BTEX - NA	**3,180**	NA			
	3 - 3.5	Grab	06/12/19	BTEX - NA	**5,360**	NA			
	4.5 - 5	Grab	06/12/19	BTEX - NA	2,990	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**	**20,000**	**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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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS - BTEX[1], Chloride[2], and TPH[3]
Zeus SWD Release
Terracon Project No. AR197210

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									
HA-9	0 - 0.5	Grab	06/12/19	Benzene - <0.00915 Toluene - <0.00474 Ethylbenzene - <0.00623 Total Xylenes - <0.00690 Total BTEX - <0.00474	**2,080**	<9.95	11.2	<9.95	11.2
	0.5 - 1	Grab	06/12/19	Benzene - <0.00873 Toluene - <0.00452 Ethylbenzene - <0.00595 Total Xylenes - <0.00658 Total BTEX - <0.00452	**4,090**	<10.0	<10.0	<10.0	<10.0
	1.5 - 2	Grab	06/12/19	BTEX - NA	**3,000**	NA			
	3 - 3.5	Grab	06/12/19	BTEX - NA	**2,040**	NA			
	4.5 - 5	Grab	06/12/19	BTEX - NA	4,430	NA			
HA-10	0 - 0.5	Grab	06/12/19	Benzene - <0.00911 Toluene - <0.00472 Ethylbenzene - <0.00621 Total Xylenes - <0.00688 Total BTEX - <0.00472	**3,530**	<9.91	<9.91	<9.91	<9.91
	0.5 - 1	Grab	06/12/19	Benzene - <0.00897 Toluene - <0.00464 Ethylbenzene - <0.00611 Total Xylenes - <0.00677 Total BTEX - <0.00464	**4,390**	<9.93	<9.93	<9.93	<9.93
	1.5 - 2	Grab	06/12/19	BTEX - NA	**3,350**	NA			
	3 - 3.5	Grab	06/12/19	BTEX - NA	**2,100**	NA			
	4.5 - 5	Grab	06/12/19	BTEX - NA	4,210	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**	**20,000**	**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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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS - BTEX[1], Chloride[2], and TPH[3]
Zeus SWD Release
Terracon Project No. AR197210

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									
HA-11	0 - 0.5	Grab	06/12/19	Benzene - <0.00908 Toluene - 0.0141 Ethylbenzene - <0.00618 Total Xylenes - <0.00685 Total BTEX - 0.0141	**4,360**	<9.99	<9.99	<9.99	<9.99
	0.5 - 1	Grab	06/12/19	Benzene - <0.00869 Toluene - <0.00450 Ethylbenzene - <0.00592 Total Xylenes - <0.00656 Total BTEX - <0.00450	**4,150**	<9.96	<9.96	<9.96	<9.96
	1.5 - 2	Grab	06/12/19	BTEX - NA	**1,460**	NA			
	3 - 3.5	Grab	06/12/19	BTEX - NA	**4,330**	NA			
	4.5 - 5	Grab	06/12/19	BTEX - NA	5,580	NA			
HA-12	0 - 0.5	Grab	06/12/19	Benzene - <0.00915 Toluene - <0.00474 Ethylbenzene - <0.00623 Total Xylenes - <0.00690 Total BTEX - <0.00474	204	<9.92	<9.92	<9.92	<9.92
	0.5 - 1	Grab	06/12/19	Benzene - <0.00900 Toluene - <0.00466 Ethylbenzene - <0.00614 Total Xylenes - <0.00679 Total BTEX - <0.00466	478	<9.90	<9.90	<9.90	<9.90
	1.5 - 2	Grab	06/12/19	BTEX - NA	**4,500**	NA			
	3 - 3.5	Grab	06/12/19	BTEX - NA	**8,040**	NA			
	4.5 - 5	Grab	06/12/19	BTEX - NA	2,500	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**	**20,000**	**1,000**		**N/A**	**2,500**

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

< = Constituent not detected above the indicated laboratory SDL

NA = Not Analyzed

N/A = Not Applicable

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

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS - BTEX[1], Chloride[2], and TPH[3]
Zeus SWD Release
Terracon Project No. AR197210

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-13	0 - 0.5	Grab	06/12/19	Benzene - <0.00908 Toluene - <0.00470 Ethylbenzene - <0.00618 Total Xylenes - <0.00685 Total BTEX - <0.00470	27.2	<9.90	<9.90	<9.90	<9.90
	0.5 - 1	Grab	06/12/19	Benzene - <0.00886 Toluene - <0.00459 Ethylbenzene - <0.00604 Total Xylenes - <0.00669 Total BTEX - <0.00459	18.7	<9.91	<9.91	<9.91	<9.91
	1.5 - 2	Grab	06/12/19	BTEX - NA	13.0	NA			
	3 - 3.5	Grab	06/12/19	BTEX - NA	17.2	NA			
	4.5 - 5	Grab	06/12/19	BTEX - NA	55.7	NA			
HA-14	0 - 0.5	Grab	06/12/19	Benzene - <0.00893 Toluene - <0.00462 Ethylbenzene - <0.00609 Total Xylenes - <0.00674 Total BTEX - <0.00462	15.4	<9.90	<9.90	<9.90	<9.90
	0.5 - 1	Grab	06/12/19	Benzene - <0.00904 Toluene - <0.00468 Ethylbenzene - <0.00616 Total Xylenes - <0.00682 Total BTEX - <0.00468	11.2	<9.90	<9.90	<9.90	<9.90
	1.5 - 2	Grab	06/12/19	BTEX - NA	10.6	NA			
	3 - 3.5	Grab		BTEX - NA	10.5	NA			
	4.5 - 5	Grab	06/12/19	BTEX - NA	14.6	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**	**20,000**	**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 – ANALYTICAL REPORT AND CHAIN OF CUSTODY

Certificate of Analysis Summary 627588

Terracon-Lubbock, Lubbock, TX

Project Name: Solaris Zeus

Project Id: AR197210
Contact: John Fergerson
Project Location:

Date Received in Lab: Thu Jun-13-19 09:10 am
Report Date: 28-JUN-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	627588-001		627588-002		627588-003		627588-004		627588-005		627588-006	
	Field Id:	HA-1 (0-0.5)		HA-1 (0.5-1)		HA-1 (1.5-2)		HA-1 (3.5-4)		HA-1 (4.5-5)		HA-2 (0-0.5)	
	Depth:	0-0.5 ft		0.5-1 ft		1.5-2 ft		3.5-4 ft		4.5-5 ft		0-0.5 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-12-19 11:46		Jun-12-19 11:48		Jun-12-19 11:50		Jun-12-19 11:51		Jun-12-19 11:53		Jun-12-19 11:57	
BTEX by EPA 8021B	***Extracted:***	Jun-17-19 13:00		Jun-14-19 16:00								Jun-14-19 16:00	
	Analyzed:	Jun-17-19 22:52		Jun-14-19 18:51								Jun-14-19 19:15	
	Units/RL:	mg/kg	RL	mg/kg	RL							mg/kg	RL
Benzene		<0.00893	0.0198	<0.00900	0.0199							<0.00904	0.0200
Toluene		<0.00462	0.0198	<0.00466	0.0199							<0.00468	0.0200
Ethylbenzene		<0.00609	0.0198	<0.00614	0.0199							<0.00616	0.0200
m,p-Xylenes		<0.00674	0.0395	<0.00679	0.0398							<0.00682	0.0400
o-Xylene		<0.00674	0.0198	<0.00679	0.0199							<0.00682	0.0200
Total Xylenes		<0.00674	0.0198	<0.00679	0.0199							<0.00682	0.0200
Total BTEX		<0.00462	0.0198	<0.00466	0.0199							<0.00468	0.0200
Chloride by EPA 300 SUB: T104704215-19-29	***Extracted:***	Jun-14-19 15:27		Jun-14-19 15:27		Jun-19-19 16:22		Jun-19-19 16:22		Jun-19-19 16:22		Jun-14-19 15:27	
	Analyzed:	Jun-14-19 18:14		Jun-14-19 18:41		Jun-19-19 20:53		Jun-19-19 21:05		Jun-19-19 21:17		Jun-14-19 18:50	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		334	10.0	951	10.0	4100	10.0	8890	99.6	11000	100	1490	10.0
TPH By SW8015 Mod SUB: T104704215-19-29	***Extracted:***	Jun-26-19 15:59		Jun-26-19 16:08								Jun-26-19 16:11	
	Analyzed:	Jun-27-19 05:16		Jun-27-19 06:12								Jun-27-19 06:30	
	Units/RL:	mg/kg	RL	mg/kg	RL							mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<9.92	49.6	<9.93	49.7							<9.92	49.6
Diesel Range Organics (DRO)		<9.92	49.6	<9.93	49.7							<9.92	49.6
Motor Oil Range Hydrocarbons (MRO)		<9.92	49.6	<9.93	49.7							<9.92	49.6
Total TPH		<9.92	49.6	<9.93	49.7							<9.92	49.6

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Version: 1.%

Jessica Kramer
Project Assistant

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Certificate of Analysis Summary 627588

Terracon-Lubbock, Lubbock, TX

Project Name: Solaris Zeus

Project Id: AR197210
Contact: John Fergerson
Project Location:

Date Received in Lab: Thu Jun-13-19 09:10 am
Report Date: 28-JUN-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	627588-007		627588-008		627588-009		627588-010		627588-011		627588-012	
	Field Id:	HA-2 (0.5-1)		HA-2 (1.5-2)		HA-2 (3-3.5)		HA-2 (4.5-5)		HA-3 (0-0.-5)		HA-3 (0.5-1)	
	Depth:	0.5-1 ft		1.5-2 ft		3-3.5 ft		4.5-5 ft		0-0.5 ft		0.5-1 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-12-19 11:59		Jun-12-19 12:01		Jun-12-19 12:03		Jun-12-19 12:05		Jun-12-19 12:30		Jun-12-19 12:32	
BTEX by EPA 8021B	***Extracted:***	Jun-14-19 16:00								Jun-14-19 16:00		Jun-14-19 16:00	
	Analyzed:	Jun-14-19 19:39								Jun-14-19 20:03		Jun-14-19 20:27	
	Units/RL:	mg/kg	RL							mg/kg	RL	mg/kg	RL
Benzene		<0.00886	0.0196							<0.00893	0.0198	<0.00895	0.0198
Toluene		<0.00459	0.0196							<0.00462	0.0198	<0.00463	0.0198
Ethylbenzene		<0.00604	0.0196							<0.00609	0.0198	<0.00610	0.0198
m,p-Xylenes		<0.00669	0.0392							<0.00674	0.0395	<0.00675	0.0396
o-Xylene		<0.00669	0.0196							<0.00674	0.0198	<0.00675	0.0198
Total Xylenes		<0.00669	0.0196							<0.00674	0.0198	<0.00675	0.0198
Total BTEX		<0.00459	0.0196							<0.00462	0.0198	<0.00463	0.0198
Chloride by EPA 300 **SUB: T104704215-19-29**	***Extracted:***	Jun-14-19 15:27		Jun-19-19 16:22		Jun-19-19 16:22		Jun-19-19 16:22		Jun-14-19 15:27		Jun-14-19 15:27	
	Analyzed:	Jun-14-19 18:59		Jun-19-19 21:29		Jun-19-19 21:41		Jun-19-19 22:17		Jun-14-19 19:08		Jun-14-19 19:34	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		53.9	10.0	4400	10.0	1440	10.0	5240	99.4	1080	10.0	661	10.0
TPH By SW8015 Mod **SUB: T104704215-19-29**	***Extracted:***	Jun-26-19 16:14								Jun-26-19 16:17		Jun-26-19 16:20	
	Analyzed:	Jun-27-19 06:49								Jun-27-19 07:07		Jun-27-19 04:19	
	Units/RL:	mg/kg	RL							mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<9.92	49.6							<9.99	50.0	<9.98	49.9
Diesel Range Organics (DRO)		<9.92	49.6							<9.99	50.0	<9.98	49.9
Motor Oil Range Hydrocarbons (MRO)		<9.92	49.6							<9.99	50.0	<9.98	49.9
Total TPH		<9.92	49.6							<9.99	50.0	<9.98	49.9

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Jessica Kramer
Project Assistant

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Terracon-Lubbock, Lubbock, TX

Project Name: Solaris Zeus

Project Id: AR197210
Contact: John Fergerson
Project Location:

Date Received in Lab: Thu Jun-13-19 09:10 am
Report Date: 28-JUN-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	627588-013		627588-014		627588-015		627588-016		627588-017		627588-018	
	Field Id:	HA-3 (1.5-2)		HA-3 (3-3.5)		HA-3 (4.5-5)		HA-4 (0-0.5)		HA-4 (0.5-1)		HA-4 (1.5-2)	
	Depth:	1.5-2 ft		3-3.5 ft		4-4.5 ft		0-0.5 ft		0.5-1 ft		1.5-2 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-12-19 12:34		Jun-12-19 12:36		Jun-12-19 12:38		Jun-12-19 12:45		Jun-12-19 12:47		Jun-12-19 12:49	
BTEX by EPA 8021B	***Extracted:***							Jun-14-19 16:00		Jun-14-19 16:00			
	Analyzed:							Jun-14-19 20:51		Jun-14-19 21:15			
	Units/RL:							mg/kg	RL	mg/kg	RL		
Benzene								<0.00911	0.0202	<0.00883	0.0195		
Toluene								<0.00472	0.0202	<0.00457	0.0195		
Ethylbenzene								<0.00621	0.0202	<0.00602	0.0195		
m,p-Xylenes								<0.00688	0.0403	<0.00666	0.0391		
o-Xylene								<0.00688	0.0202	<0.00666	0.0195		
Total Xylenes								<0.00688	0.0202	<0.00666	0.0195		
Total BTEX								<0.00472	0.0202	<0.00457	0.0195		
Chloride by EPA 300 SUB: T104704215-19-29	***Extracted:***	Jun-19-19 17:20		Jun-19-19 17:20		Jun-14-19 15:27		Jun-20-19 10:35		Jun-14-19 15:27		Jun-19-19 17:20	
	Analyzed:	Jun-19-19 20:51		Jun-19-19 21:09		Jun-14-19 19:43		Jun-20-19 18:11		Jun-14-19 19:52		Jun-19-19 21:27	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		5200	100	6240	99.6	1330	10.0	4070	10.0	4360	10.0	5260	99.4
TPH By SW8015 Mod SUB: T104704215-19-29	***Extracted:***							Jun-26-19 16:23		Jun-26-19 16:26			
	Analyzed:							Jun-27-19 04:38		Jun-27-19 04:57			
	Units/RL:							mg/kg	RL	mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)								<9.90	49.5	<9.90	49.5		
Diesel Range Organics (DRO)								<9.90	49.5	<9.90	49.5		
Motor Oil Range Hydrocarbons (MRO)								<9.90	49.5	<9.90	49.5		
Total TPH								<9.90	49.5	<9.90	49.5		

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Project Assistant

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Terracon-Lubbock, Lubbock, TX

Project Name: Solaris Zeus

Project Id: AR197210
Contact: John Fergerson
Project Location:

Date Received in Lab: Thu Jun-13-19 09:10 am
Report Date: 28-JUN-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	627588-019		627588-020		627588-021		627588-022		627588-023		627588-024	
	Field Id:	HA-4 (3-3.5)		HA-4 (4.5-5)		HA-5 (0-0.5)		HA-5 (0.5-1)		HA-5 (1.5-2)		HA-5 (3-3.5)	
	Depth:	3-3.5 ft		4.5-5 ft		0-0.5 ft		0.5-1 ft		1.5-2 ft		3-3.5 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-12-19 12:51		Jun-12-19 12:53		Jun-12-19 12:58		Jun-12-19 13:00		Jun-12-19 13:02		Jun-12-19 13:04	
BTEX by EPA 8021B	***Extracted:***					Jun-14-19 16:00		Jun-14-19 16:00					
	Analyzed:					Jun-14-19 21:39		Jun-14-19 22:04					
	Units/RL:					mg/kg	RL	mg/kg	RL				
Benzene						<0.00904	0.0200	<0.00890	0.0197				
Toluene						<0.00468	0.0200	<0.00461	0.0197				
Ethylbenzene						<0.00616	0.0200	<0.00606	0.0197				
m,p-Xylenes						<0.00682	0.0400	<0.00671	0.0394				
o-Xylene						<0.00682	0.0200	<0.00671	0.0197				
Total Xylenes						<0.00682	0.0200	<0.00671	0.0197				
Total BTEX						<0.00468	0.0200	<0.00461	0.0197				
Chloride by EPA 300 **SUB: T104704215-19-29**	***Extracted:***	Jun-19-19 17:20		Jun-19-19 17:20		Jun-14-19 15:27		Jun-14-19 15:27		Jun-19-19 17:20		Jun-19-19 17:20	
	Analyzed:	Jun-19-19 21:45		Jun-19-19 22:12		Jun-14-19 20:01		Jun-14-19 20:10		Jun-19-19 22:30		Jun-19-19 22:39	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		544	9.98	6500	100	3610	10.0	3870	10.0	3640	10.0	1110 X	10.0
TPH By SW8015 Mod **SUB: T104704215-19-29**	***Extracted:***					Jun-26-19 16:29		Jun-26-19 16:32					
	Analyzed:					Jun-27-19 05:16		Jun-27-19 05:34					
	Units/RL:					mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)						<9.91	49.6	<9.92	49.6				
Diesel Range Organics (DRO)						<9.91	49.6	<9.92	49.6				
Motor Oil Range Hydrocarbons (MRO)						<9.91	49.6	<9.92	49.6				
Total TPH						<9.91	49.6	<9.92	49.6				

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Project Assistant

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Terracon-Lubbock, Lubbock, TX

Project Name: Solaris Zeus

Project Id: AR197210
Contact: John Fergerson
Project Location:

Date Received in Lab: Thu Jun-13-19 09:10 am
Report Date: 28-JUN-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	627588-025		627588-026		627588-027		627588-028		627588-029		627588-030	
	Field Id:	HA-5 (4.5-5)		HA-6 (0-0.5)		HA-6 (O.5-1)		HA-6 (1.5-2)		HA-6 (3-3.5)		HA-6 (4.5-5)	
	Depth:	4.5-5 ft		0-0.5 ft		0.5-1 ft		1.5-2 ft		3-3.5 ft		4.5-5 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-12-19 13:06		Jun-12-19 13:20		Jun-12-19 13:22		Jun-12-19 13:24		Jun-12-19 13:26		Jun-12-19 13:28	
BTEX by EPA 8021B	***Extracted:***			Jun-17-19 13:00		Jun-14-19 16:00							
	Analyzed:			Jun-18-19 02:05		Jun-15-19 00:30							
	Units/RL:			mg/kg	RL	mg/kg	RL						
Benzene				<0.00897	0.0198	<0.00869	0.0192						
Toluene				<0.00464	0.0198	<0.00450	0.0192						
Ethylbenzene				<0.00611	0.0198	<0.00592	0.0192						
m,p-Xylenes				<0.00677	0.0397	<0.00656	0.0385						
o-Xylene				<0.00677	0.0198	<0.00656	0.0192						
Total Xylenes				<0.00677	0.0198	<0.00656	0.0192						
Total BTEX				<0.00464	0.0198	<0.00450	0.0192						
Chloride by EPA 300 **SUB: T104704215-19-29**	***Extracted:***	Jun-19-19 17:20		Jun-18-19 09:55		Jun-18-19 09:55		Jun-19-19 17:20		Jun-19-19 17:20		Jun-19-19 17:20	
	Analyzed:	Jun-19-19 23:06		Jun-18-19 11:48		Jun-18-19 12:15		Jun-19-19 23:15		Jun-19-19 23:24		Jun-19-19 23:33	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		4760	9.96	2440 X	10.0	3160	9.96	2410	9.94	3230	9.98	5080	10.0
TPH By SW8015 Mod **SUB: T104704215-19-29**	***Extracted:***			Jun-26-19 16:53		Jun-26-19 16:56							
	Analyzed:			Jun-27-19 22:20		Jun-27-19 22:39							
	Units/RL:			mg/kg	RL	mg/kg	RL						
Gasoline Range Hydrocarbons (GRO)				<9.90	49.5	<9.93	49.7						
Diesel Range Organics (DRO)				<9.90	49.5	<9.93	49.7						
Motor Oil Range Hydrocarbons (MRO)				<9.90	49.5	<9.93	49.7						
Total TPH				<9.90	49.5	<9.93	49.7						

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Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 627588

Terracon-Lubbock, Lubbock, TX

Project Name: Solaris Zeus

Project Id: AR197210
Contact: John Fergerson
Project Location:

Date Received in Lab: Thu Jun-13-19 09:10 am
Report Date: 28-JUN-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	627588-031		627588-032		627588-033		627588-034		627588-035		627588-036	
	Field Id:	HA-7 (0-0.5)		HA-7 (0-5-1)		HA-7 (1.5-2)		HA-7 (3-3-5)		HA-7 (4.5-5)		HA-8 (0-0.5)	
	Depth:	0-0.5 ft		0.5-1 ft		1.5-2 ft		3-3.5 ft		4.5-5 ft		0-0.5 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-12-19 13:32		Jun-12-19 13:34		Jun-12-19 13:36		Jun-12-19 13:38		Jun-12-19 13:40		Jun-12-19 13:45	
BTEX by EPA 8021B	***Extracted:***	Jun-14-19 16:00		Jun-14-19 16:00								Jun-14-19 16:00	
	Analyzed:	Jun-15-19 00:54		Jun-15-19 01:19								Jun-15-19 01:43	
	Units/RL:	mg/kg	RL	mg/kg	RL							mg/kg	RL
Benzene		<0.00908	0.0201	<0.00886	0.0196							<0.00904	0.0200
Toluene		<0.00470	0.0201	<0.00459	0.0196							<0.00468	0.0200
Ethylbenzene		<0.00618	0.0201	<0.00604	0.0196							<0.00616	0.0200
m,p-Xylenes		<0.00685	0.0402	<0.00669	0.0392							<0.00682	0.0400
o-Xylene		<0.00685	0.0201	<0.00669	0.0196							<0.00682	0.0200
Total Xylenes		<0.00685	0.0201	<0.00669	0.0196							<0.00682	0.0200
Total BTEX		<0.00470	0.0201	<0.00459	0.0196							<0.00468	0.0200
Chloride by EPA 300 **SUB: T104704215-19-29**	***Extracted:***	Jun-18-19 09:55		Jun-18-19 09:55		Jun-19-19 17:20		Jun-19-19 17:20		Jun-19-19 17:20		Jun-18-19 09:55	
	Analyzed:	Jun-18-19 12:24		Jun-18-19 12:33		Jun-20-19 00:00		Jun-20-19 00:27		Jun-20-19 00:36		Jun-18-19 12:42	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		3550	10.1	2340	9.94	1920 X	10.0	3730	9.94	12800	99.2	4670	9.96
TPH By SW8015 Mod **SUB: T104704215-19-29**	***Extracted:***	Jun-26-19 16:59		Jun-26-19 17:02								Jun-26-19 18:39	
	Analyzed:	Jun-28-19 10:18		Jun-27-19 16:18								Jun-27-19 18:37	
	Units/RL:	mg/kg	RL	mg/kg	RL							mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<9.96	49.8	<9.96	49.8							<9.99	50.0
Diesel Range Organics (DRO)		<9.96	49.8	<9.96	49.8							<9.99	50.0
Motor Oil Range Hydrocarbons (MRO)		<9.96	49.8	<9.96	49.8							<9.99	50.0
Total TPH		<9.96	49.8	<9.96	49.8							<9.99	50.0

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Project Assistant

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Certificate of Analysis Summary 627588

Terracon-Lubbock, Lubbock, TX

Project Name: Solaris Zeus

Project Id: AR197210
Contact: John Fergerson
Project Location:

Date Received in Lab: Thu Jun-13-19 09:10 am
Report Date: 28-JUN-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	627588-037		627588-038		627588-039		627588-040		627588-041		627588-042	
	Field Id:	HA-8 (0.5-1)		HA-8 (1.5-2)		HA-8 (3-3.5)		HA-8 (4.5-5)		HA-9 (0-0.5)		HA-9 (0.5-1)	
	Depth:	0.5-1 ft		1.5-2 ft		3-3.5 ft		4.5-5 ft		0-0.5 ft		0.5-1 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-12-19 13:47		Jun-12-19 13:49		Jun-12-19 13:51		Jun-12-19 13:53		Jun-12-19 14:00		Jun-12-19 14:02	
BTEX by EPA 8021B	***Extracted:***	Jun-14-19 16:00								Jun-14-19 16:00		Jun-14-19 16:00	
	Analyzed:	Jun-15-19 02:07								Jun-15-19 02:31		Jun-15-19 02:56	
	Units/RL:	mg/kg	RL							mg/kg	RL	mg/kg	RL
Benzene		<0.00863	0.0191							<0.00915	0.0202	<0.00873	0.0193
Toluene		<0.00447	0.0191							<0.00474	0.0202	<0.00452	0.0193
Ethylbenzene		<0.00588	0.0191							<0.00623	0.0202	<0.00595	0.0193
m,p-Xylenes		<0.00651	0.0382							<0.00690	0.0405	<0.00658	0.0386
o-Xylene		<0.00651	0.0191							<0.00690	0.0202	<0.00658	0.0193
Total Xylenes		<0.00651	0.0191							<0.00690	0.0202	<0.00658	0.0193
Total BTEX		<0.00447	0.0191							<0.00474	0.0202	<0.00452	0.0193
Chloride by EPA 300 **SUB: T104704215-19-29**	***Extracted:***	Jun-18-19 09:55		Jun-19-19 17:20		Jun-19-19 17:20		Jun-19-19 17:20		Jun-18-19 09:55		Jun-18-19 09:55	
	Analyzed:	Jun-18-19 12:51		Jun-20-19 00:54		Jun-20-19 01:03		Jun-20-19 01:21		Jun-18-19 13:00		Jun-18-19 13:09	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		2930	10.0	3180	9.98	5360	100	2990	10.0	2080	10.0	4090	9.84
TPH By SW8015 Mod **SUB: T104704215-19-29**	***Extracted:***	Jun-26-19 18:48								Jun-26-19 18:51		Jun-26-19 19:33	
	Analyzed:	Jun-27-19 19:32								Jun-27-19 19:51		Jun-27-19 20:10	
	Units/RL:	mg/kg	RL							mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<9.91	49.6							<9.95	49.8	<10.0	50.0
Diesel Range Organics (DRO)		<9.91	49.6							11.2 J	49.8	<10.0	50.0
Motor Oil Range Hydrocarbons (MRO)		<9.91	49.6							<9.95	49.8	<10.0	50.0
Total TPH		<9.91	49.6							11.2 J	49.8	<10.0	50.0

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Jessica Kramer
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Terracon-Lubbock, Lubbock, TX

Project Name: Solaris Zeus

Project Id: AR197210
Contact: John Fergerson
Project Location:

Date Received in Lab: Thu Jun-13-19 09:10 am
Report Date: 28-JUN-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	627588-043		627588-044		627588-045		627588-046		627588-047		627588-048	
	Field Id:	HA-9 (1.5-2)		HA-9 (3-3.5)		HA-9 (4.5-5)		HA-10 (0-0.5)		HA-10 (0.5-1)		HA-10 (1.5-2)	
	Depth:	1.5-2 ft		3-3.5 ft		4.5-5 ft		0-0.5 ft		0.5-1 ft		1.5-2 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-12-19 14:04		Jun-12-19 14:06		Jun-12-19 14:08		Jun-12-19 14:12		Jun-12-19 14:14		Jun-12-19 14:16	
BTEX by EPA 8021B	***Extracted:***							Jun-14-19 16:00		Jun-14-19 16:00			
	Analyzed:							Jun-15-19 03:20		Jun-15-19 03:45			
	Units/RL:							mg/kg	RL	mg/kg	RL		
Benzene								<0.00911	0.0202	<0.00897	0.0198		
Toluene								<0.00472	0.0202	<0.00464	0.0198		
Ethylbenzene								<0.00621	0.0202	<0.00611	0.0198		
m,p-Xylenes								<0.00688	0.0403	<0.00677	0.0397		
o-Xylene								<0.00688	0.0202	<0.00677	0.0198		
Total Xylenes								<0.00688	0.0202	<0.00677	0.0198		
Total BTEX								<0.00472	0.0202	<0.00464	0.0198		
Chloride by EPA 300 **SUB: T104704215-19-29**	***Extracted:***	Jun-19-19 17:20		Jun-19-19 17:20		Jun-19-19 17:20		Jun-18-19 09:55		Jun-18-19 09:55		Jun-20-19 10:35	
	Analyzed:	Jun-20-19 01:48		Jun-20-19 01:57		Jun-20-19 02:06		Jun-18-19 13:36		Jun-18-19 13:45		Jun-20-19 10:46	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		3000	9.96	2040	10.1	4430	9.96	3530	9.90	4390	9.96	3350	200
TPH By SW8015 Mod **SUB: T104704215-19-29**	***Extracted:***							Jun-26-19 18:54		Jun-26-19 18:57			
	Analyzed:							Jun-27-19 20:28		Jun-27-19 21:06			
	Units/RL:							mg/kg	RL	mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)								<9.91	49.6	<9.93	49.7		
Diesel Range Organics (DRO)								<9.91	49.6	<9.93	49.7		
Motor Oil Range Hydrocarbons (MRO)								<9.91	49.6	<9.93	49.7		
Total TPH								<9.91	49.6	<9.93	49.7		

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Terracon-Lubbock, Lubbock, TX

Project Name: Solaris Zeus

Project Id: AR197210
Contact: John Fergerson
Project Location:

Date Received in Lab: Thu Jun-13-19 09:10 am
Report Date: 28-JUN-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	627588-049		627588-050		627588-051		627588-052		627588-053		627588-054	
	Field Id:	HA-10 (3-3.5)		HA-10 (4.5-5)		HA-11 (0-0.5)		HA-11 (0.5-1)		HA-11 (1.5-2)		HA-11 (3-3.5)	
	Depth:	3-3.5 ft		4.5-5 ft		0-0.5 ft		0.5-1 ft		1.5-1 ft		3-3.5 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-12-19 14:18		Jun-12-19 14:20		Jun-12-19 14:24		Jun-12-19 14:26		Jun-12-19 14:28		Jun-12-19 14:30	
BTEX by EPA 8021B	***Extracted:***					Jun-17-19 13:00		Jun-17-19 13:00					
	Analyzed:					Jun-17-19 21:15		Jun-17-19 23:16					
	Units/RL:					mg/kg	RL	mg/kg	RL				
Benzene						<0.00908	0.0201	<0.00869	0.0192				
Toluene						0.0141 J	0.0201	<0.00450	0.0192				
Ethylbenzene						<0.00618	0.0201	<0.00592	0.0192				
m,p-Xylenes						<0.00685	0.0402	<0.00656	0.0385				
o-Xylene						<0.00685	0.0201	<0.00656	0.0192				
Total Xylenes						<0.00685	0.0201	<0.00656	0.0192				
Total BTEX						0.0141 J	0.0201	<0.00450	0.0192				
Chloride by EPA 300 **SUB: T104704215-19-29**	***Extracted:***	Jun-20-19 10:35		Jun-20-19 10:35		Jun-18-19 09:55		Jun-18-19 09:55		Jun-20-19 10:35		Jun-20-19 10:35	
	Analyzed:	Jun-20-19 11:22		Jun-20-19 12:10		Jun-18-19 13:54		Jun-18-19 14:03		Jun-20-19 12:22		Jun-20-19 12:34	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		2100	9.96	4210	10.1	4360	10.0	4150	9.98	1460	9.92	4330	10.0
TPH By SW8015 Mod **SUB: T104704215-19-29**	***Extracted:***					Jun-26-19 19:00		Jun-26-19 19:03					
	Analyzed:					Jun-27-19 21:24		Jun-27-19 21:43					
	Units/RL:					mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)						<9.99	50.0	<9.96	49.8				
Diesel Range Organics (DRO)						<9.99	50.0	<9.96	49.8				
Motor Oil Range Hydrocarbons (MRO)						<9.99	50.0	<9.96	49.8				
Total TPH						<9.99	50.0	<9.96	49.8				

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Terracon-Lubbock, Lubbock, TX

Project Name: Solaris Zeus

Project Id: AR197210
Contact: John Fergerson
Project Location:

Date Received in Lab: Thu Jun-13-19 09:10 am
Report Date: 28-JUN-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	627588-055		627588-056		627588-057		627588-058		627588-059		627588-060	
	Field Id:	HA-11 (4.5-5)		HA-12 (0-0.5)		HA-12 (0.5-1)		HA-12 (1.5-2)		HA-12 (3-3.5)		HA-12 (4.5-5)	
	Depth:	4.5-5 ft		0-0.5 ft		0.5-1 ft		1.5-2 ft		3-3.5 ft		4.5-5 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-12-19 14:32		Jun-12-19 14:36		Jun-12-19 14:38		Jun-12-19 14:40		Jun-12-19 14:42		Jun-12-19 14:44	
BTEX by EPA 8021B	***Extracted:***			Jun-17-19 13:00		Jun-17-19 13:00							
	Analyzed:			Jun-17-19 23:40		Jun-18-19 00:04							
	Units/RL:			mg/kg	RL	mg/kg	RL						
Benzene				<0.00915	0.0202	<0.00900	0.0199						
Toluene				<0.00474	0.0202	<0.00466	0.0199						
Ethylbenzene				<0.00623	0.0202	<0.00614	0.0199						
m,p-Xylenes				<0.00690	0.0405	<0.00679	0.0398						
o-Xylene				<0.00690	0.0202	<0.00679	0.0199						
Total Xylenes				<0.00690	0.0202	<0.00679	0.0199						
Total BTEX				<0.00474	0.0202	<0.00466	0.0199						
Chloride by EPA 300 **SUB: T104704215-19-29**	***Extracted:***	Jun-20-19 10:35		Jun-14-19 15:27		Jun-14-19 15:27		Jun-20-19 10:35		Jun-20-19 10:35		Jun-20-19 10:35	
	Analyzed:	Jun-20-19 13:10		Jun-14-19 20:19		Jun-14-19 20:46		Jun-20-19 13:34		Jun-20-19 13:46		Jun-20-19 14:10	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		5580	99.8	204	10.0	478	10.0	4500	10.0	8040	99.6	2500	200
TPH By SW8015 Mod **SUB: T104704215-19-29**	***Extracted:***			Jun-26-19 16:35		Jun-26-19 16:38							
	Analyzed:			Jun-27-19 05:53		Jun-27-19 06:12							
	Units/RL:			mg/kg	RL	mg/kg	RL						
Gasoline Range Hydrocarbons (GRO)				<9.92	49.6	<9.90	49.5						
Diesel Range Organics (DRO)				<9.92	49.6	<9.90	49.5						
Motor Oil Range Hydrocarbons (MRO)				<9.92	49.6	<9.90	49.5						
Total TPH				<9.92	49.6	<9.90	49.5						

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Jessica Kramer
Project Assistant

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Terracon-Lubbock, Lubbock, TX

Project Name: Solaris Zeus

Project Id: AR197210
Contact: John Fergerson
Project Location:

Date Received in Lab: Thu Jun-13-19 09:10 am
Report Date: 28-JUN-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	627588-061		627588-062		627588-063		627588-064		627588-065		627588-066	
	Field Id:	HA-13 (0-0.5)		HA-13 (0.5-1)		HA-13 (1.5-2)		HA-13 (3-3.5)		HA-13 (4.5-5)		HA-14 (0-0.5)	
	Depth:	0-0.5 ft		0.5-1 ft		1.5-2 ft		3-3.5 ft		4.5-5 ft		0-0.5 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-12-19 14:50		Jun-12-19 14:52		Jun-12-19 14:54		Jun-12-19 14:56		Jun-12-19 14:58		Jun-12-19 15:00	
BTEX by EPA 8021B	***Extracted:***	Jun-17-19 13:00		Jun-17-19 13:00								Jun-17-19 13:00	
	Analyzed:	Jun-18-19 00:28		Jun-18-19 00:52								Jun-18-19 01:16	
	Units/RL:	mg/kg	RL	mg/kg	RL							mg/kg	RL
Benzene		<0.00908	0.0201	<0.00886	0.0196							<0.00893	0.0198
Toluene		<0.00470	0.0201	<0.00459	0.0196							<0.00462	0.0198
Ethylbenzene		<0.00618	0.0201	<0.00604	0.0196							<0.00609	0.0198
m,p-Xylenes		<0.00685	0.0402	<0.00669	0.0392							<0.00674	0.0395
o-Xylene		<0.00685	0.0201	<0.00669	0.0196							<0.00674	0.0198
Total Xylenes		<0.00685	0.0201	<0.00669	0.0196							<0.00674	0.0198
Total BTEX		<0.00470	0.0201	<0.00459	0.0196							<0.00462	0.0198
Chloride by EPA 300 **SUB: T104704215-19-29**	***Extracted:***	Jun-14-19 15:27		Jun-14-19 15:27		Jun-20-19 10:35		Jun-20-19 10:35		Jun-20-19 10:35		Jun-14-19 15:27	
	Analyzed:	Jun-14-19 20:55		Jun-14-19 21:21		Jun-20-19 15:46		Jun-20-19 15:58		Jun-20-19 16:10		Jun-14-19 21:30	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		27.2	10.0	18.1	10.0	13.0	9.96	17.2	9.92	55.7	10.0	15.4	10.0
TPH By SW8015 Mod **SUB: T104704215-19-29**	***Extracted:***	Jun-26-19 16:41		Jun-26-19 16:44								Jun-26-19 16:47	
	Analyzed:	Jun-27-19 06:30		Jun-27-19 06:49								Jun-27-19 07:07	
	Units/RL:	mg/kg	RL	mg/kg	RL							mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<9.90	49.5	<9.91	49.6							<9.90	49.5
Diesel Range Organics (DRO)		<9.90	49.5	<9.91	49.6							<9.90	49.5
Motor Oil Range Hydrocarbons (MRO)		<9.90	49.5	<9.91	49.6							<9.90	49.5
Total TPH		<9.90	49.5	<9.91	49.6							<9.90	49.5

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Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 627588

Terracon-Lubbock, Lubbock, TX

Project Name: Solaris Zeus

Project Id: AR197210
Contact: John Fergerson
Project Location:

Date Received in Lab: Thu Jun-13-19 09:10 am
Report Date: 28-JUN-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	627588-067		627588-068		627588-069		627588-070					
	Field Id:	HA-14 (0.5-1)		HA-14 (1.5-2)		HA-14 (3.3-5)		HA-14 (4.5-5)					
	Depth:	0.5-1 ft		1.5-2 ft		3-3.5 ft		4.5-5 ft					
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Jun-12-19 15:02		Jun-12-19 15:04		Jun-12-19 15:06		Jun-12-19 15:08					
BTEX by EPA 8021B	***Extracted:***	Jun-17-19 13:00											
	Analyzed:	Jun-18-19 01:40											
	Units/RL:	mg/kg	RL										
Benzene		<0.00904	0.0200										
Toluene		<0.00468	0.0200										
Ethylbenzene		<0.00616	0.0200										
m,p-Xylenes		<0.00682	0.0400										
o-Xylene		<0.00682	0.0200										
Total Xylenes		<0.00682	0.0200										
Total BTEX		<0.00468	0.0200										
Chloride by EPA 300 SUB: T104704215-19-29	***Extracted:***	Jun-14-19 15:27		Jun-20-19 10:35		Jun-20-19 10:35		Jun-20-19 10:35					
	Analyzed:	Jun-14-19 21:39		Jun-20-19 16:22		Jun-20-19 16:34		Jun-20-19 16:46					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		11.2	10.0	10.6	10.1	10.5	9.94	14.6	9.90				
TPH By SW8015 Mod SUB: T104704215-19-29	***Extracted:***	Jun-26-19 16:50											
	Analyzed:	Jun-27-19 22:02											
	Units/RL:	mg/kg	RL										
Gasoline Range Hydrocarbons (GRO)		<9.90	49.5										
Diesel Range Organics (DRO)		<9.90	49.5										
Motor Oil Range Hydrocarbons (MRO)		<9.90	49.5										
Total TPH		<9.90	49.5										

Jessica Kramer
Project Assistant

Analytical Report 627588

for

Terracon-Lubbock

Project Manager: John Fergerson

Solaris Zeus

AR197210

28-JUN-19

Collected By: Client

6701 Aberdeen, Suite 9 Lubbock, TX 79424

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)

28-JUN-19

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

Reference: XENCO Report No(s): **627588**
Solaris Zeus
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) 627588. 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. 627588 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.
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Sample Cross Reference 627588

Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
HA-1 (0-0.5)	S	06-12-19 11:46	0 - 0.5 ft	627588-001
HA-1 (0.5-1)	S	06-12-19 11:48	0.5 - 1 ft	627588-002
HA-1 (1.5-2)	S	06-12-19 11:50	1.5 - 2 ft	627588-003
HA-1 (3.5-4)	S	06-12-19 11:51	3.5 - 4 ft	627588-004
HA-1 (4.5-5)	S	06-12-19 11:53	4.5 - 5 ft	627588-005
HA-2 (0-0.5)	S	06-12-19 11:57	0 - 0.5 ft	627588-006
HA-2 (0.5-1)	S	06-12-19 11:59	0.5 - 1 ft	627588-007
HA-2 (1.5-2)	S	06-12-19 12:01	1.5 - 2 ft	627588-008
HA-2 (3-3.5)	S	06-12-19 12:03	3 - 3.5 ft	627588-009
HA-2 (4.5-5)	S	06-12-19 12:05	4.5 - 5 ft	627588-010
HA-3 (0-0.-5)	S	06-12-19 12:30	0 - 0.5 ft	627588-011
HA-3 (0.5-1)	S	06-12-19 12:32	0.5 - 1 ft	627588-012
HA-3 (1.5-2)	S	06-12-19 12:34	1.5 - 2 ft	627588-013
HA-3 (3-3.5)	S	06-12-19 12:36	3 - 3.5 ft	627588-014
HA-3 (4.5-5)	S	06-12-19 12:38	4 - 4.5 ft	627588-015
HA-4 (0-0.5)	S	06-12-19 12:45	0 - 0.5 ft	627588-016
HA-4 (0.5-1)	S	06-12-19 12:47	0.5 - 1 ft	627588-017
HA-4 (1.5-2)	S	06-12-19 12:49	1.5 - 2 ft	627588-018
HA-4 (3-3.5)	S	06-12-19 12:51	3 - 3.5 ft	627588-019
HA-4 (4.5-5)	S	06-12-19 12:53	4.5 - 5 ft	627588-020
HA-5 (0-0.5)	S	06-12-19 12:58	0 - 0.5 ft	627588-021
HA-5 (0.5-1)	S	06-12-19 13:00	0.5 - 1 ft	627588-022
HA-5 (1.5-2)	S	06-12-19 13:02	1.5 - 2 ft	627588-023
HA-5 (3-3.5)	S	06-12-19 13:04	3 - 3.5 ft	627588-024
HA-5 (4.5-5)	S	06-12-19 13:06	4.5 - 5 ft	627588-025
HA-6 (0-0.5)	S	06-12-19 13:20	0 - 0.5 ft	627588-026
HA-6 (O.5-1)	S	06-12-19 13:22	0.5 - 1 ft	627588-027
HA-6 (1.5-2)	S	06-12-19 13:24	1.5 - 2 ft	627588-028
HA-6 (3-3.5)	S	06-12-19 13:26	3 - 3.5 ft	627588-029
HA-6 (4.5-5)	S	06-12-19 13:28	4.5 - 5 ft	627588-030
HA-7 (0-0.5)	S	06-12-19 13:32	0 - 0.5 ft	627588-031
HA-7 (0-5-1)	S	06-12-19 13:34	0.5 - 1 ft	627588-032
HA-7 (1.5-2)	S	06-12-19 13:36	1.5 - 2 ft	627588-033
HA-7 (3-3-5)	S	06-12-19 13:38	3 - 3.5 ft	627588-034
HA-7 (4.5-5)	S	06-12-19 13:40	4.5 - 5 ft	627588-035
HA-8 (0-0.5)	S	06-12-19 13:45	0 - 0.5 ft	627588-036
HA-8 (0.5-1)	S	06-12-19 13:47	0.5 - 1 ft	627588-037
HA-8 (1.5-2)	S	06-12-19 13:49	1.5 - 2 ft	627588-038
HA-8 (3-3.5)	S	06-12-19 13:51	3 - 3.5 ft	627588-039
HA-8 (4.5-5)	S	06-12-19 13:53	4.5 - 5 ft	627588-040
HA-9 (0-0.5)	S	06-12-19 14:00	0 - 0.5 ft	627588-041
HA-9 (0.5-1)	S	06-12-19 14:02	0.5 - 1 ft	627588-042
HA-9 (1.5-2)	S	06-12-19 14:04	1.5 - 2 ft	627588-043

Version: 1.%

Sample Cross Reference 627588

Terracon-Lubbock, Lubbock, TX

Solaris Zeus

HA-9 (3-3.5)	S	06-12-19 14:06	3 - 3.5 ft	627588-044
HA-9 (4.5-5)	S	06-12-19 14:08	4.5 - 5 ft	627588-045
HA-10 (0-0.5)	S	06-12-19 14:12	0 - 0.5 ft	627588-046
HA-10 (0.5-1)	S	06-12-19 14:14	0.5 - 1 ft	627588-047
HA-10 (1.5-2)	S	06-12-19 14:16	1.5 - 2 ft	627588-048
HA-10 (3-3.5)	S	06-12-19 14:18	3 - 3.5 ft	627588-049
HA-10 (4.5-5)	S	06-12-19 14:20	4.5 - 5 ft	627588-050
HA-11 (0-0.5)	S	06-12-19 14:24	0 - 0.5 ft	627588-051
HA-11 (0.5-1)	S	06-12-19 14:26	0.5 - 1 ft	627588-052
HA-11 (1.5-2)	S	06-12-19 14:28	1.5 - 1 ft	627588-053
HA-11 (3-3.5)	S	06-12-19 14:30	3 - 3.5 ft	627588-054
HA-11 (4.5-5)	S	06-12-19 14:32	4.5 - 5 ft	627588-055
HA-12 (0-0.5)	S	06-12-19 14:36	0 - 0.5 ft	627588-056
HA-12 (0.5-1)	S	06-12-19 14:38	0.5 - 1 ft	627588-057
HA-12 (1.5-2)	S	06-12-19 14:40	1.5 - 2 ft	627588-058
HA-12 (3-3.5)	S	06-12-19 14:42	3 - 3.5 ft	627588-059
HA-12 (4.5-5)	S	06-12-19 14:44	4.5 - 5 ft	627588-060
HA-13 (0-0.5)	S	06-12-19 14:50	0 - 0.5 ft	627588-061
HA-13 (0.5-1)	S	06-12-19 14:52	0.5 - 1 ft	627588-062
HA-13 (1.5-2)	S	06-12-19 14:54	1.5 - 2 ft	627588-063
HA-13 (3-3.5)	S	06-12-19 14:56	3 - 3.5 ft	627588-064
HA-13 (4.5-5)	S	06-12-19 14:58	4.5 - 5 ft	627588-065
HA-14 (0-0.5)	S	06-12-19 15:00	0 - 0.5 ft	627588-066
HA-14 (0.5-1)	S	06-12-19 15:02	0.5 - 1 ft	627588-067
HA-14 (1.5-2)	S	06-12-19 15:04	1.5 - 2 ft	627588-068
HA-14 (3.3-5)	S	06-12-19 15:06	3 - 3.5 ft	627588-069
HA-14 (4.5-5)	S	06-12-19 15:08	4.5 - 5 ft	627588-070

CASE NARRATIVE

Client Name: Terracon-Lubbock

Project Name: Solaris Zeus

Project ID: *AR197210*
Work Order Number(s): *627588*

Report Date: *28-JUN-19*
Date Received: *06/13/2019*

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-3092478 BTEX by EPA 8021B
Surrogate 4-Bromofluorobenzene recovered above QC limits Data confirmed by re-analysis. Samples affected are: 7680054-1-BLK,627588-026,627588-047,627588-046,627588-042,627588-041,627588-037,627588-027,627588-031,627588-032,627588-036.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
m,p-Xylenes, o-Xylene recovered above QC limits in the Blank Spike and Duplicate. Samples in the analytical batch are: 627588-001, -002, -006, -007, -011, -012, -016, -017, -021, -022, -026, -027, -031, -032, -036, -037, -041, -042, -046, -047. All samples reported were non-detect, therefore the data was accepted.

Lab Sample ID 627588-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene 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: 627588-001, -002, -006, -007, -011, -012, -016, -017, -021, -022, -026, -027, -031, -032, -036, -037, -041, -042, -046, -047.
The Laboratory Control Sample for Toluene, Benzene, Ethylbenzene is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3092567 BTEX by EPA 8021B
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 627588-061,627588-056.
Surrogate a,a,a-Trifluorotoluene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 627588-067,627588-026,627588-061.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

CASE NARRATIVE

Client Name: Terracon-Lubbock

Project Name: Solaris Zeus

Project ID: *AR197210*
Work Order Number(s): *627588*

Report Date: *28-JUN-19*
Date Received: *06/13/2019*

Batch: LBA-3092641 Inorganic Anions by SW 9056
Lab Sample ID 627588-026 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 627588-026, -027, -031, -032, -036, -037, -041, -042, -046, -047, -051, -052.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3092852 Chloride by EPA 300
Lab Sample ID 627588-033 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 627588-013, -014, -018, -019, -020, -023, -024, -025, -028, -029, -030, -033, -034, -035, -038, -039, -040, -043, -044, -045.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3093833 TPH by SW8015 Mod
Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 627588-031.

Certificate of Analytical Results 627588

Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-1 (0-0.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-001	Date Collected:	06.12.19 11.46	Sample Depth:	0 - 0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.14.19 15.27	Basis:	Wet Weight
Seq Number:	3092370			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**334**	10.0	0.354	mg/kg	06.14.19 18.14		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.26.19 15.59	Basis:	Wet Weight
Seq Number:	3093833			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.92	49.6	9.92	mg/kg	06.27.19 05.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<9.92	49.6	9.92	mg/kg	06.27.19 05.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.92	49.6	9.92	mg/kg	06.27.19 05.16	U	1
Total TPH	PHC635	<9.92	49.6	9.92	mg/kg	06.27.19 05.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	06.27.19 05.16	
o-Terphenyl	84-15-1	117	%	70-135	06.27.19 05.16	

Certificate of Analytical Results 627588

Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-1 (0-0.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-001	Date Collected:	06.12.19 11.46	Sample Depth:	0 - 0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.17.19 13.00	Basis:	Wet Weight
Seq Number:	3092567				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00893	0.0198	0.00893	mg/kg	06.17.19 22.52	U	1
Toluene	108-88-3	<0.00462	0.0198	0.00462	mg/kg	06.17.19 22.52	U	1
Ethylbenzene	100-41-4	<0.00609	0.0198	0.00609	mg/kg	06.17.19 22.52	U	1
m,p-Xylenes	179601-23-1	<0.00674	0.0395	0.00674	mg/kg	06.17.19 22.52	U	1
o-Xylene	95-47-6	<0.00674	0.0198	0.00674	mg/kg	06.17.19 22.52	U	1
Total Xylenes	1330-20-7	<0.00674	0.0198	0.00674	mg/kg	06.17.19 22.52	U	1
Total BTEX		<0.00462	0.0198	0.00462	mg/kg	06.17.19 22.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	114	%	68-120	06.17.19 22.52	
a,a,a-Trifluorotoluene	98-08-8	117	%	71-121	06.17.19 22.52	

Certificate of Analytical Results 627588

Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-1 (0.5-1)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-002	Date Collected:	06.12.19 11.48	Sample Depth:	0.5 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.14.19 15.27	Basis:	Wet Weight
Seq Number:	3092370			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**951**	10.0	0.354	mg/kg	06.14.19 18.41		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.26.19 16.08	Basis:	Wet Weight
Seq Number:	3093833			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.93	49.7	9.93	mg/kg	06.27.19 06.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<9.93	49.7	9.93	mg/kg	06.27.19 06.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.93	49.7	9.93	mg/kg	06.27.19 06.12	U	1
Total TPH	PHC635	<9.93	49.7	9.93	mg/kg	06.27.19 06.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	06.27.19 06.12	
o-Terphenyl	84-15-1	122	%	70-135	06.27.19 06.12	

Certificate of Analytical Results 627588

Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-1 (0.5-1)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-002	Date Collected:	06.12.19 11.48	Sample Depth:	0.5 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.14.19 16.00	Basis:	Wet Weight
Seq Number:	3092478				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00900	0.0199	0.00900	mg/kg	06.14.19 18.51	U	1
Toluene	108-88-3	<0.00466	0.0199	0.00466	mg/kg	06.14.19 18.51	U	1
Ethylbenzene	100-41-4	<0.00614	0.0199	0.00614	mg/kg	06.14.19 18.51	U	1
m,p-Xylenes	179601-23-1	<0.00679	0.0398	0.00679	mg/kg	06.14.19 18.51	UH	1
o-Xylene	95-47-6	<0.00679	0.0199	0.00679	mg/kg	06.14.19 18.51	UH	1
Total Xylenes	1330-20-7	<0.00679	0.0199	0.00679	mg/kg	06.14.19 18.51	U	1
Total BTEX		<0.00466	0.0199	0.00466	mg/kg	06.14.19 18.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	82	%	68-120	06.14.19 18.51	
a,a,a-Trifluorotoluene	98-08-8	73	%	71-121	06.14.19 18.51	

Certificate of Analytical Results 627588

Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-1 (1.5-2)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-003	Date Collected:	06.12.19 11.50	Sample Depth:	1.5 - 2 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.19.19 16.22	Basis:	Wet Weight
Seq Number:	3092857			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4100**	10.0	0.354	mg/kg	06.19.19 20.53		1

Certificate of Analytical Results 627588

Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-1 (3.5-4)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-004	Date Collected:	06.12.19 11.51	Sample Depth:	3.5 - 4 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.19.19 16.22	Basis:	Wet Weight
Seq Number:	3092857			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8890**	99.6	3.53	mg/kg	06.19.19 21.05		10

Certificate of Analytical Results 627588

Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-1 (4.5-5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-005	Date Collected:	06.12.19 11.53	Sample Depth:	4.5 - 5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.19.19 16.22	Basis:	Wet Weight
Seq Number:	3092857			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11000**	100	3.55	mg/kg	06.19.19 21.17		10

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-2 (0-0.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-006	Date Collected:	06.12.19 11.57	Sample Depth:	0 - 0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.14.19 15.27	Basis:	Wet Weight
Seq Number:	3092370			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1490**	10.0	0.354	mg/kg	06.14.19 18.50		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.26.19 16.11	Basis:	Wet Weight
Seq Number:	3093833			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.92	49.6	9.92	mg/kg	06.27.19 06.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<9.92	49.6	9.92	mg/kg	06.27.19 06.30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.92	49.6	9.92	mg/kg	06.27.19 06.30	U	1
Total TPH	PHC635	<9.92	49.6	9.92	mg/kg	06.27.19 06.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	06.27.19 06.30	
o-Terphenyl	84-15-1	120	%	70-135	06.27.19 06.30	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-2 (0-0.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-006	Date Collected:	06.12.19 11.57	Sample Depth:	0 - 0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.14.19 16.00	Basis:	Wet Weight
Seq Number:	3092478				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00904	0.0200	0.00904	mg/kg	06.14.19 19.15	U	1
Toluene	108-88-3	<0.00468	0.0200	0.00468	mg/kg	06.14.19 19.15	U	1
Ethylbenzene	100-41-4	<0.00616	0.0200	0.00616	mg/kg	06.14.19 19.15	U	1
m,p-Xylenes	179601-23-1	<0.00682	0.0400	0.00682	mg/kg	06.14.19 19.15	UH	1
o-Xylene	95-47-6	<0.00682	0.0200	0.00682	mg/kg	06.14.19 19.15	UH	1
Total Xylenes	1330-20-7	<0.00682	0.0200	0.00682	mg/kg	06.14.19 19.15	U	1
Total BTEX		<0.00468	0.0200	0.00468	mg/kg	06.14.19 19.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	170	%	68-120	06.14.19 19.15	**
a,a,a-Trifluorotoluene	98-08-8	151	%	71-121	06.14.19 19.15	**

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-2 (0.5-1)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-007	Date Collected:	06.12.19 11.59	Sample Depth:	0.5 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.14.19 15.27	Basis:	Wet Weight
Seq Number:	3092370			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**53.9**	10.0	0.354	mg/kg	06.14.19 18.59		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.26.19 16.14	Basis:	Wet Weight
Seq Number:	3093833			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.92	49.6	9.92	mg/kg	06.27.19 06.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<9.92	49.6	9.92	mg/kg	06.27.19 06.49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.92	49.6	9.92	mg/kg	06.27.19 06.49	U	1
Total TPH	PHC635	<9.92	49.6	9.92	mg/kg	06.27.19 06.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	06.27.19 06.49	
o-Terphenyl	84-15-1	124	%	70-135	06.27.19 06.49	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-2 (0.5-1)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-007	Date Collected:	06.12.19 11.59	Sample Depth:	0.5 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.14.19 16.00	Basis:	Wet Weight
Seq Number:	3092478				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00886	0.0196	0.00886	mg/kg	06.14.19 19.39	U	1
Toluene	108-88-3	<0.00459	0.0196	0.00459	mg/kg	06.14.19 19.39	U	1
Ethylbenzene	100-41-4	<0.00604	0.0196	0.00604	mg/kg	06.14.19 19.39	U	1
m,p-Xylenes	179601-23-1	<0.00669	0.0392	0.00669	mg/kg	06.14.19 19.39	UH	1
o-Xylene	95-47-6	<0.00669	0.0196	0.00669	mg/kg	06.14.19 19.39	UH	1
Total Xylenes	1330-20-7	<0.00669	0.0196	0.00669	mg/kg	06.14.19 19.39	U	1
Total BTEX		<0.00459	0.0196	0.00459	mg/kg	06.14.19 19.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	83	%	68-120	06.14.19 19.39	
a,a,a-Trifluorotoluene	98-08-8	77	%	71-121	06.14.19 19.39	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-2 (1.5-2)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-008	Date Collected:	06.12.19 12.01	Sample Depth:	1.5 - 2 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.19.19 16.22	Basis:	Wet Weight
Seq Number:	3092857			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4400**	10.0	0.355	mg/kg	06.19.19 21.29		1

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-2 (3-3.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-009	Date Collected:	06.12.19 12.03	Sample Depth:	3 - 3.5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.19.19 16.22	Basis:	Wet Weight
Seq Number:	3092857			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1440**	10.0	0.354	mg/kg	06.19.19 21.41		1

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-2 (4.5-5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-010	Date Collected:	06.12.19 12.05	Sample Depth:	4.5 - 5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.19.19 16.22	Basis:	Wet Weight
Seq Number:	3092857			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5240**	99.4	3.52	mg/kg	06.19.19 22.29		10

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-3 (0-0.-5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-011	Date Collected:	06.12.19 12.30	Sample Depth:	0 - 0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.14.19 15.27	Basis:	Wet Weight
Seq Number:	3092370			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1080**	10.0	0.354	mg/kg	06.14.19 19.08		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.26.19 16.17	Basis:	Wet Weight
Seq Number:	3093833			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.99	50.0	9.99	mg/kg	06.27.19 07.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<9.99	50.0	9.99	mg/kg	06.27.19 07.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.99	50.0	9.99	mg/kg	06.27.19 07.07	U	1
Total TPH	PHC635	<9.99	50.0	9.99	mg/kg	06.27.19 07.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	06.27.19 07.07	
o-Terphenyl	84-15-1	128	%	70-135	06.27.19 07.07	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-3 (0-0.-5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-011	Date Collected:	06.12.19 12.30	Sample Depth:	0 - 0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.14.19 16.00	Basis:	Wet Weight
Seq Number:	3092478				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00893	0.0198	0.00893	mg/kg	06.14.19 20.03	U	1
Toluene	108-88-3	<0.00462	0.0198	0.00462	mg/kg	06.14.19 20.03	U	1
Ethylbenzene	100-41-4	<0.00609	0.0198	0.00609	mg/kg	06.14.19 20.03	U	1
m,p-Xylenes	179601-23-1	<0.00674	0.0395	0.00674	mg/kg	06.14.19 20.03	UH	1
o-Xylene	95-47-6	<0.00674	0.0198	0.00674	mg/kg	06.14.19 20.03	UH	1
Total Xylenes	1330-20-7	<0.00674	0.0198	0.00674	mg/kg	06.14.19 20.03	U	1
Total BTEX		<0.00462	0.0198	0.00462	mg/kg	06.14.19 20.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	68-120	06.14.19 20.03	
a,a,a-Trifluorotoluene	98-08-8	79	%	71-121	06.14.19 20.03	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-3 (0.5-1)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-012	Date Collected:	06.12.19 12.32	Sample Depth:	0.5 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.14.19 15.27	Basis:	Wet Weight
Seq Number:	3092370			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**661**	10.0	0.354	mg/kg	06.14.19 19.34		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.26.19 16.20	Basis:	Wet Weight
Seq Number:	3093833			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.98	49.9	9.98	mg/kg	06.27.19 04.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<9.98	49.9	9.98	mg/kg	06.27.19 04.19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.98	49.9	9.98	mg/kg	06.27.19 04.19	U	1
Total TPH	PHC635	<9.98	49.9	9.98	mg/kg	06.27.19 04.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	06.27.19 04.19	
o-Terphenyl	84-15-1	122	%	70-135	06.27.19 04.19	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-3 (0.5-1)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-012	Date Collected:	06.12.19 12.32	Sample Depth:	0.5 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.14.19 16.00	Basis:	Wet Weight
Seq Number:	3092478				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00895	0.0198	0.00895	mg/kg	06.14.19 20.27	U	1
Toluene	108-88-3	<0.00463	0.0198	0.00463	mg/kg	06.14.19 20.27	U	1
Ethylbenzene	100-41-4	<0.00610	0.0198	0.00610	mg/kg	06.14.19 20.27	U	1
m,p-Xylenes	179601-23-1	<0.00675	0.0396	0.00675	mg/kg	06.14.19 20.27	UH	1
o-Xylene	95-47-6	<0.00675	0.0198	0.00675	mg/kg	06.14.19 20.27	UH	1
Total Xylenes	1330-20-7	<0.00675	0.0198	0.00675	mg/kg	06.14.19 20.27	U	1
Total BTEX		<0.00463	0.0198	0.00463	mg/kg	06.14.19 20.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	68-120	06.14.19 20.27	
a,a,a-Trifluorotoluene	98-08-8	82	%	71-121	06.14.19 20.27	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-3 (1.5-2)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-013	Date Collected:	06.12.19 12.34	Sample Depth:	1.5 - 2 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.19.19 17.20	Basis:	Wet Weight
Seq Number:	3092852			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5200**	100	3.54	mg/kg	06.19.19 21.00		10

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-3 (3-3.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-014	Date Collected:	06.12.19 12.36	Sample Depth:	3 - 3.5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.19.19 17.20	Basis:	Wet Weight
Seq Number:	3092852			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6240**	99.6	3.53	mg/kg	06.19.19 21.18		10

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-3 (4.5-5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-015	Date Collected:	06.12.19 12.38	Sample Depth:	4 - 4.5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.14.19 15.27	Basis:	Wet Weight
Seq Number:	3092370			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1330**	10.0	0.354	mg/kg	06.14.19 19.43		1

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-4 (0-0.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-016	Date Collected:	06.12.19 12.45	Sample Depth:	0 - 0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.20.19 10.35	Basis:	Wet Weight
Seq Number:	3093025			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4070**	10.0	0.354	mg/kg	06.20.19 18.11		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.26.19 16.23	Basis:	Wet Weight
Seq Number:	3093833			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.90	49.5	9.90	mg/kg	06.27.19 04.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<9.90	49.5	9.90	mg/kg	06.27.19 04.38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.90	49.5	9.90	mg/kg	06.27.19 04.38	U	1
Total TPH	PHC635	<9.90	49.5	9.90	mg/kg	06.27.19 04.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	06.27.19 04.38	
o-Terphenyl	84-15-1	117	%	70-135	06.27.19 04.38	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-4 (0-0.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-016	Date Collected:	06.12.19 12.45	Sample Depth:	0 - 0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.14.19 16.00	Basis:	Wet Weight
Seq Number:	3092478				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00911	0.0202	0.00911	mg/kg	06.14.19 20.51	U	1
Toluene	108-88-3	<0.00472	0.0202	0.00472	mg/kg	06.14.19 20.51	U	1
Ethylbenzene	100-41-4	<0.00621	0.0202	0.00621	mg/kg	06.14.19 20.51	U	1
m,p-Xylenes	179601-23-1	<0.00688	0.0403	0.00688	mg/kg	06.14.19 20.51	UH	1
o-Xylene	95-47-6	<0.00688	0.0202	0.00688	mg/kg	06.14.19 20.51	UH	1
Total Xylenes	1330-20-7	<0.00688	0.0202	0.00688	mg/kg	06.14.19 20.51	U	1
Total BTEX		<0.00472	0.0202	0.00472	mg/kg	06.14.19 20.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	68-120	06.14.19 20.51	
a,a,a-Trifluorotoluene	98-08-8	86	%	71-121	06.14.19 20.51	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-4 (0.5-1)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-017	Date Collected:	06.12.19 12.47	Sample Depth:	0.5 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.14.19 15.27	Basis:	Wet Weight
Seq Number:	3092370			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4360**	10.0	0.354	mg/kg	06.14.19 19.52		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.26.19 16.26	Basis:	Wet Weight
Seq Number:	3093833			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.90	49.5	9.90	mg/kg	06.27.19 04.57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<9.90	49.5	9.90	mg/kg	06.27.19 04.57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.90	49.5	9.90	mg/kg	06.27.19 04.57	U	1
Total TPH	PHC635	<9.90	49.5	9.90	mg/kg	06.27.19 04.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	06.27.19 04.57	
o-Terphenyl	84-15-1	121	%	70-135	06.27.19 04.57	

Certificate of Analytical Results 627588

Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-4 (0.5-1)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-017	Date Collected:	06.12.19 12.47	Sample Depth:	0.5 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.14.19 16.00	Basis:	Wet Weight
Seq Number:	3092478				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00883	0.0195	0.00883	mg/kg	06.14.19 21.15	U	1
Toluene	108-88-3	<0.00457	0.0195	0.00457	mg/kg	06.14.19 21.15	U	1
Ethylbenzene	100-41-4	<0.00602	0.0195	0.00602	mg/kg	06.14.19 21.15	U	1
m,p-Xylenes	179601-23-1	<0.00666	0.0391	0.00666	mg/kg	06.14.19 21.15	UH	1
o-Xylene	95-47-6	<0.00666	0.0195	0.00666	mg/kg	06.14.19 21.15	UH	1
Total Xylenes	1330-20-7	<0.00666	0.0195	0.00666	mg/kg	06.14.19 21.15	U	1
Total BTEX		<0.00457	0.0195	0.00457	mg/kg	06.14.19 21.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	68-120	06.14.19 21.15	
a,a,a-Trifluorotoluene	98-08-8	87	%	71-121	06.14.19 21.15	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-4 (1.5-2)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-018	Date Collected:	06.12.19 12.49	Sample Depth:	1.5 - 2 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.19.19 17.20	Basis:	Wet Weight
Seq Number:	3092852			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5260**	99.4	3.52	mg/kg	06.19.19 21.36		10

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-4 (3-3.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-019	Date Collected:	06.12.19 12.51	Sample Depth:	3 - 3.5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.19.19 17.20	Basis:	Wet Weight
Seq Number:	3092852			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**544**	9.98	0.353	mg/kg	06.19.19 21.45		1

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-4 (4.5-5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-020	Date Collected:	06.12.19 12.53	Sample Depth:	4.5 - 5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.19.19 17.20	Basis:	Wet Weight
Seq Number:	3092852			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6500**	100	3.55	mg/kg	06.19.19 22.21		10

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-5 (0-0.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-021	Date Collected:	06.12.19 12.58	Sample Depth:	0 - 0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.14.19 15.27	Basis:	Wet Weight
Seq Number:	3092370			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3610**	10.0	0.354	mg/kg	06.14.19 20.01		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.26.19 16.29	Basis:	Wet Weight
Seq Number:	3093833			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.91	49.6	9.91	mg/kg	06.27.19 05.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<9.91	49.6	9.91	mg/kg	06.27.19 05.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.91	49.6	9.91	mg/kg	06.27.19 05.16	U	1
Total TPH	PHC635	<9.91	49.6	9.91	mg/kg	06.27.19 05.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	06.27.19 05.16	
o-Terphenyl	84-15-1	110	%	70-135	06.27.19 05.16	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-5 (0-0.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-021	Date Collected:	06.12.19 12.58	Sample Depth:	0 - 0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.14.19 16.00	Basis:	Wet Weight
Seq Number:	3092478				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00904	0.0200	0.00904	mg/kg	06.14.19 21.39	U	1
Toluene	108-88-3	<0.00468	0.0200	0.00468	mg/kg	06.14.19 21.39	U	1
Ethylbenzene	100-41-4	<0.00616	0.0200	0.00616	mg/kg	06.14.19 21.39	U	1
m,p-Xylenes	179601-23-1	<0.00682	0.0400	0.00682	mg/kg	06.14.19 21.39	UH	1
o-Xylene	95-47-6	<0.00682	0.0200	0.00682	mg/kg	06.14.19 21.39	UH	1
Total Xylenes	1330-20-7	<0.00682	0.0200	0.00682	mg/kg	06.14.19 21.39	U	1
Total BTEX		<0.00468	0.0200	0.00468	mg/kg	06.14.19 21.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	68-120	06.14.19 21.39	
a,a,a-Trifluorotoluene	98-08-8	89	%	71-121	06.14.19 21.39	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-5 (0.5-1)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-022	Date Collected:	06.12.19 13.00	Sample Depth:	0.5 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.14.19 15.27	Basis:	Wet Weight
Seq Number:	3092370			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3870**	10.0	0.354	mg/kg	06.14.19 20.10		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.26.19 16.32	Basis:	Wet Weight
Seq Number:	3093833			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.92	49.6	9.92	mg/kg	06.27.19 05.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<9.92	49.6	9.92	mg/kg	06.27.19 05.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.92	49.6	9.92	mg/kg	06.27.19 05.34	U	1
Total TPH	PHC635	<9.92	49.6	9.92	mg/kg	06.27.19 05.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	06.27.19 05.34	
o-Terphenyl	84-15-1	120	%	70-135	06.27.19 05.34	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-5 (0.5-1)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-022	Date Collected:	06.12.19 13.00	Sample Depth:	0.5 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.14.19 16.00	Basis:	Wet Weight
Seq Number:	3092478				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00890	0.0197	0.00890	mg/kg	06.14.19 22.04	U	1
Toluene	108-88-3	<0.00461	0.0197	0.00461	mg/kg	06.14.19 22.04	U	1
Ethylbenzene	100-41-4	<0.00606	0.0197	0.00606	mg/kg	06.14.19 22.04	U	1
m,p-Xylenes	179601-23-1	<0.00671	0.0394	0.00671	mg/kg	06.14.19 22.04	UH	1
o-Xylene	95-47-6	<0.00671	0.0197	0.00671	mg/kg	06.14.19 22.04	UH	1
Total Xylenes	1330-20-7	<0.00671	0.0197	0.00671	mg/kg	06.14.19 22.04	U	1
Total BTEX		<0.00461	0.0197	0.00461	mg/kg	06.14.19 22.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	68-120	06.14.19 22.04	
a,a,a-Trifluorotoluene	98-08-8	96	%	71-121	06.14.19 22.04	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-5 (1.5-2)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-023	Date Collected:	06.12.19 13.02	Sample Depth:	1.5 - 2 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.19.19 17.20	Basis:	Wet Weight
Seq Number:	3092852			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3640**	10.0	0.355	mg/kg	06.19.19 22.30		1

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-5 (3-3.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-024	Date Collected:	06.12.19 13.04	Sample Depth:	3 - 3.5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.19.19 17.20	Basis:	Wet Weight
Seq Number:	3092852			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1110**	10.0	0.354	mg/kg	06.19.19 22.39	X	1

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-5 (4.5-5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-025	Date Collected:	06.12.19 13.06	Sample Depth:	4.5 - 5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.19.19 17.20	Basis:	Wet Weight
Seq Number:	3092852			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4760**	9.96	0.353	mg/kg	06.19.19 23.06		1

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id: **HA-6 (0-0.5)** Matrix: Soil Date Received:06.13.19 09.10

Lab Sample Id: 627588-026 Date Collected: 06.12.19 13.20 Sample Depth: 0 - 0.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: JYM % Moisture:

Analyst: JYM Date Prep: 06.18.19 09.55 Basis: Wet Weight

Seq Number: 3092641 SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2440**	10.0	0.354	mg/kg	06.18.19 11.48	X	1

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P

Tech: ISU % Moisture:

Analyst: ISU Date Prep: 06.26.19 16.53 Basis: Wet Weight

Seq Number: 3093833 SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.90	49.5	9.90	mg/kg	06.27.19 22.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<9.90	49.5	9.90	mg/kg	06.27.19 22.20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.90	49.5	9.90	mg/kg	06.27.19 22.20	U	1
Total TPH	PHC635	<9.90	49.5	9.90	mg/kg	06.27.19 22.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	122	%	70-135	06.27.19 22.20	
o-Terphenyl	84-15-1	131	%	70-135	06.27.19 22.20	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-6 (0-0.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-026	Date Collected:	06.12.19 13.20	Sample Depth:	0 - 0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.17.19 13.00	Basis:	Wet Weight
Seq Number:	3092567				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00897	0.0198	0.00897	mg/kg	06.18.19 02.05	U	1
Toluene	108-88-3	<0.00464	0.0198	0.00464	mg/kg	06.18.19 02.05	U	1
Ethylbenzene	100-41-4	<0.00611	0.0198	0.00611	mg/kg	06.18.19 02.05	U	1
m,p-Xylenes	179601-23-1	<0.00677	0.0397	0.00677	mg/kg	06.18.19 02.05	U	1
o-Xylene	95-47-6	<0.00677	0.0198	0.00677	mg/kg	06.18.19 02.05	U	1
Total Xylenes	1330-20-7	<0.00677	0.0198	0.00677	mg/kg	06.18.19 02.05	U	1
Total BTEX		<0.00464	0.0198	0.00464	mg/kg	06.18.19 02.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	118	%	68-120	06.18.19 02.05	
a,a,a-Trifluorotoluene	98-08-8	122	%	71-121	06.18.19 02.05	**

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-6 (O.5-1)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-027	Date Collected:	06.12.19 13.22	Sample Depth:	0.5 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.18.19 09.55	Basis:	Wet Weight
Seq Number:	3092641			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3160**	9.96	0.353	mg/kg	06.18.19 12.15		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.26.19 16.56	Basis:	Wet Weight
Seq Number:	3093833			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.93	49.7	9.93	mg/kg	06.27.19 22.39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<9.93	49.7	9.93	mg/kg	06.27.19 22.39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.93	49.7	9.93	mg/kg	06.27.19 22.39	U	1
Total TPH	PHC635	<9.93	49.7	9.93	mg/kg	06.27.19 22.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	06.27.19 22.39	
o-Terphenyl	84-15-1	116	%	70-135	06.27.19 22.39	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-6 (O.5-1)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-027	Date Collected:	06.12.19 13.22	Sample Depth:	0.5 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.14.19 16.00	Basis:	Wet Weight
Seq Number:	3092478				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00869	0.0192	0.00869	mg/kg	06.15.19 00.30	U	1
Toluene	108-88-3	<0.00450	0.0192	0.00450	mg/kg	06.15.19 00.30	U	1
Ethylbenzene	100-41-4	<0.00592	0.0192	0.00592	mg/kg	06.15.19 00.30	U	1
m,p-Xylenes	179601-23-1	<0.00656	0.0385	0.00656	mg/kg	06.15.19 00.30	UH	1
o-Xylene	95-47-6	<0.00656	0.0192	0.00656	mg/kg	06.15.19 00.30	UH	1
Total Xylenes	1330-20-7	<0.00656	0.0192	0.00656	mg/kg	06.15.19 00.30	U	1
Total BTEX		<0.00450	0.0192	0.00450	mg/kg	06.15.19 00.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	134	%	68-120	06.15.19 00.30	**
a,a,a-Trifluorotoluene	98-08-8	109	%	71-121	06.15.19 00.30	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-6 (1.5-2)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-028	Date Collected:	06.12.19 13.24	Sample Depth:	1.5 - 2 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.19.19 17.20	Basis:	Wet Weight
Seq Number:	3092852			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2410**	9.94	0.352	mg/kg	06.19.19 23.15		1

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-6 (3-3.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-029	Date Collected:	06.12.19 13.26	Sample Depth:	3 - 3.5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.19.19 17.20	Basis:	Wet Weight
Seq Number:	3092852			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3230**	9.98	0.353	mg/kg	06.19.19 23.24		1

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-6 (4.5-5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-030	Date Collected:	06.12.19 13.28	Sample Depth:	4.5 - 5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.19.19 17.20	Basis:	Wet Weight
Seq Number:	3092852			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5080**	10.0	0.355	mg/kg	06.19.19 23.33		1

Certificate of Analytical Results 627588

Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-7 (0-0.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-031	Date Collected:	06.12.19 13.32	Sample Depth:	0 - 0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.18.19 09.55	Basis:	Wet Weight
Seq Number:	3092641			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3550**	10.1	0.356	mg/kg	06.18.19 12.24		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.26.19 16.59	Basis:	Wet Weight
Seq Number:	3093833			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.96	49.8	9.96	mg/kg	06.28.19 10.18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<9.96	49.8	9.96	mg/kg	06.28.19 10.18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.96	49.8	9.96	mg/kg	06.28.19 10.18	U	1
Total TPH	PHC635	<9.96	49.8	9.96	mg/kg	06.28.19 10.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	132	%	70-135	06.28.19 10.18	
o-Terphenyl	84-15-1	140	%	70-135	06.28.19 10.18	**

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-7 (0-0.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-031	Date Collected:	06.12.19 13.32	Sample Depth:	0 - 0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.14.19 16.00	Basis:	Wet Weight
Seq Number:	3092478				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00908	0.0201	0.00908	mg/kg	06.15.19 00.54	U	1
Toluene	108-88-3	<0.00470	0.0201	0.00470	mg/kg	06.15.19 00.54	U	1
Ethylbenzene	100-41-4	<0.00618	0.0201	0.00618	mg/kg	06.15.19 00.54	U	1
m,p-Xylenes	179601-23-1	<0.00685	0.0402	0.00685	mg/kg	06.15.19 00.54	UH	1
o-Xylene	95-47-6	<0.00685	0.0201	0.00685	mg/kg	06.15.19 00.54	UH	1
Total Xylenes	1330-20-7	<0.00685	0.0201	0.00685	mg/kg	06.15.19 00.54	U	1
Total BTEX		<0.00470	0.0201	0.00470	mg/kg	06.15.19 00.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	139	%	68-120	06.15.19 00.54	**
a,a,a-Trifluorotoluene	98-08-8	114	%	71-121	06.15.19 00.54	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-7 (0-5-1)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-032	Date Collected:	06.12.19 13.34	Sample Depth:	0.5 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.18.19 09.55	Basis:	Wet Weight
Seq Number:	3092641			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2340**	9.94	0.352	mg/kg	06.18.19 12.33		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.26.19 17.02	Basis:	Wet Weight
Seq Number:	3093833			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.96	49.8	9.96	mg/kg	06.27.19 16.18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<9.96	49.8	9.96	mg/kg	06.27.19 16.18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.96	49.8	9.96	mg/kg	06.27.19 16.18	U	1
Total TPH	PHC635	<9.96	49.8	9.96	mg/kg	06.27.19 16.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	06.27.19 16.18	
o-Terphenyl	84-15-1	134	%	70-135	06.27.19 16.18	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-7 (0-5-1)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-032	Date Collected:	06.12.19 13.34	Sample Depth:	0.5 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.14.19 16.00	Basis:	Wet Weight
Seq Number:	3092478				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00886	0.0196	0.00886	mg/kg	06.15.19 01.19	U	1
Toluene	108-88-3	<0.00459	0.0196	0.00459	mg/kg	06.15.19 01.19	U	1
Ethylbenzene	100-41-4	<0.00604	0.0196	0.00604	mg/kg	06.15.19 01.19	U	1
m,p-Xylenes	179601-23-1	<0.00669	0.0392	0.00669	mg/kg	06.15.19 01.19	UH	1
o-Xylene	95-47-6	<0.00669	0.0196	0.00669	mg/kg	06.15.19 01.19	UH	1
Total Xylenes	1330-20-7	<0.00669	0.0196	0.00669	mg/kg	06.15.19 01.19	U	1
Total BTEX		<0.00459	0.0196	0.00459	mg/kg	06.15.19 01.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	154	%	68-120	06.15.19 01.19	**
a,a,a-Trifluorotoluene	98-08-8	120	%	71-121	06.15.19 01.19	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-7 (1.5-2)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-033	Date Collected:	06.12.19 13.36	Sample Depth:	1.5 - 2 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.19.19 17.20	Basis:	Wet Weight
Seq Number:	3092852			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1920**	10.0	0.354	mg/kg	06.20.19 00.00	X	1

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-7 (3-3-5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-034	Date Collected:	06.12.19 13.38	Sample Depth:	3 - 3.5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.19.19 17.20	Basis:	Wet Weight
Seq Number:	3092852			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3730**	9.94	0.352	mg/kg	06.20.19 00.27		1

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-7 (4.5-5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-035	Date Collected:	06.12.19 13.40	Sample Depth:	4.5 - 5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.19.19 17.20	Basis:	Wet Weight
Seq Number:	3092852			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**12800**	99.2	3.51	mg/kg	06.20.19 00.45		10

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-8 (0-0.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-036	Date Collected:	06.12.19 13.45	Sample Depth:	0 - 0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.18.19 09.55	Basis:	Wet Weight
Seq Number:	3092641			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4670**	9.96	0.353	mg/kg	06.18.19 12.42		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.26.19 18.39	Basis:	Wet Weight
Seq Number:	3093839			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.99	50.0	9.99	mg/kg	06.27.19 18.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<9.99	50.0	9.99	mg/kg	06.27.19 18.37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.99	50.0	9.99	mg/kg	06.27.19 18.37	U	1
Total TPH	PHC635	<9.99	50.0	9.99	mg/kg	06.27.19 18.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	06.27.19 18.37	
o-Terphenyl	84-15-1	111	%	70-135	06.27.19 18.37	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-8 (0-0.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-036	Date Collected:	06.12.19 13.45	Sample Depth:	0 - 0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.14.19 16.00	Basis:	Wet Weight
Seq Number:	3092478				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00904	0.0200	0.00904	mg/kg	06.15.19 01.43	U	1
Toluene	108-88-3	<0.00468	0.0200	0.00468	mg/kg	06.15.19 01.43	U	1
Ethylbenzene	100-41-4	<0.00616	0.0200	0.00616	mg/kg	06.15.19 01.43	U	1
m,p-Xylenes	179601-23-1	<0.00682	0.0400	0.00682	mg/kg	06.15.19 01.43	UH	1
o-Xylene	95-47-6	<0.00682	0.0200	0.00682	mg/kg	06.15.19 01.43	UH	1
Total Xylenes	1330-20-7	<0.00682	0.0200	0.00682	mg/kg	06.15.19 01.43	U	1
Total BTEX		<0.00468	0.0200	0.00468	mg/kg	06.15.19 01.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	154	%	68-120	06.15.19 01.43	**
a,a,a-Trifluorotoluene	98-08-8	120	%	71-121	06.15.19 01.43	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-8 (0.5-1)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-037	Date Collected:	06.12.19 13.47	Sample Depth:	0.5 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.18.19 09.55	Basis:	Wet Weight
Seq Number:	3092641			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2930**	10.0	0.355	mg/kg	06.18.19 12.51		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.26.19 18.48	Basis:	Wet Weight
Seq Number:	3093839			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.91	49.6	9.91	mg/kg	06.27.19 19.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<9.91	49.6	9.91	mg/kg	06.27.19 19.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.91	49.6	9.91	mg/kg	06.27.19 19.32	U	1
Total TPH	PHC635	<9.91	49.6	9.91	mg/kg	06.27.19 19.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	06.27.19 19.32	
o-Terphenyl	84-15-1	115	%	70-135	06.27.19 19.32	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-8 (0.5-1)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-037	Date Collected:	06.12.19 13.47	Sample Depth:	0.5 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.14.19 16.00	Basis:	Wet Weight
Seq Number:	3092478				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00863	0.0191	0.00863	mg/kg	06.15.19 02.07	U	1
Toluene	108-88-3	<0.00447	0.0191	0.00447	mg/kg	06.15.19 02.07	U	1
Ethylbenzene	100-41-4	<0.00588	0.0191	0.00588	mg/kg	06.15.19 02.07	U	1
m,p-Xylenes	179601-23-1	<0.00651	0.0382	0.00651	mg/kg	06.15.19 02.07	UH	1
o-Xylene	95-47-6	<0.00651	0.0191	0.00651	mg/kg	06.15.19 02.07	UH	1
Total Xylenes	1330-20-7	<0.00651	0.0191	0.00651	mg/kg	06.15.19 02.07	U	1
Total BTEX		<0.00447	0.0191	0.00447	mg/kg	06.15.19 02.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	157	%	68-120	06.15.19 02.07	**
a,a,a-Trifluorotoluene	98-08-8	123	%	71-121	06.15.19 02.07	**

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-8 (1.5-2)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-038	Date Collected:	06.12.19 13.49	Sample Depth:	1.5 - 2 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.19.19 17.20	Basis:	Wet Weight
Seq Number:	3092852			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3180**	9.98	0.353	mg/kg	06.20.19 00.54		1

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-8 (3-3.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-039	Date Collected:	06.12.19 13.51	Sample Depth:	3 - 3.5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.19.19 17.20	Basis:	Wet Weight
Seq Number:	3092852			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5360**	100	3.55	mg/kg	06.20.19 01.12		10

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-8 (4.5-5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-040	Date Collected:	06.12.19 13.53	Sample Depth:	4.5 - 5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.19.19 17.20	Basis:	Wet Weight
Seq Number:	3092852			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2990**	10.0	0.354	mg/kg	06.20.19 01.21		1

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-9 (0-0.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-041	Date Collected:	06.12.19 14.00	Sample Depth:	0 - 0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.18.19 09.55	Basis:	Wet Weight
Seq Number:	3092641			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2080**	10.0	0.354	mg/kg	06.18.19 13.00		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.26.19 18.51	Basis:	Wet Weight
Seq Number:	3093839			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.95	49.8	9.95	mg/kg	06.27.19 19.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	**11.2**	49.8	9.95	mg/kg	06.27.19 19.51	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.95	49.8	9.95	mg/kg	06.27.19 19.51	U	1
Total TPH	PHC635	**11.2**	49.8	9.95	mg/kg	06.27.19 19.51	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-135	06.27.19 19.51	
o-Terphenyl	84-15-1	132	%	70-135	06.27.19 19.51	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-9 (0-0.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-041	Date Collected:	06.12.19 14.00	Sample Depth:	0 - 0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.14.19 16.00	Basis:	Wet Weight
Seq Number:	3092478				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00915	0.0202	0.00915	mg/kg	06.15.19 02.31	U	1
Toluene	108-88-3	<0.00474	0.0202	0.00474	mg/kg	06.15.19 02.31	U	1
Ethylbenzene	100-41-4	<0.00623	0.0202	0.00623	mg/kg	06.15.19 02.31	U	1
m,p-Xylenes	179601-23-1	<0.00690	0.0405	0.00690	mg/kg	06.15.19 02.31	UH	1
o-Xylene	95-47-6	<0.00690	0.0202	0.00690	mg/kg	06.15.19 02.31	UH	1
Total Xylenes	1330-20-7	<0.00690	0.0202	0.00690	mg/kg	06.15.19 02.31	U	1
Total BTEX		<0.00474	0.0202	0.00474	mg/kg	06.15.19 02.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	164	%	68-120	06.15.19 02.31	**
a,a,a-Trifluorotoluene	98-08-8	124	%	71-121	06.15.19 02.31	**

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-9 (0.5-1)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-042	Date Collected:	06.12.19 14.02	Sample Depth:	0.5 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.18.19 09.55	Basis:	Wet Weight
Seq Number:	3092641			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4090**	9.84	0.348	mg/kg	06.18.19 13.09		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.26.19 19.33	Basis:	Wet Weight
Seq Number:	3093839			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<10.0	50.0	10.0	mg/kg	06.27.19 20.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<10.0	50.0	10.0	mg/kg	06.27.19 20.10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<10.0	50.0	10.0	mg/kg	06.27.19 20.10	U	1
Total TPH	PHC635	<10.0	50.0	10.0	mg/kg	06.27.19 20.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	06.27.19 20.10	
o-Terphenyl	84-15-1	121	%	70-135	06.27.19 20.10	

Certificate of Analytical Results 627588

Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-9 (0.5-1)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-042	Date Collected:	06.12.19 14.02	Sample Depth:	0.5 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.14.19 16.00	Basis:	Wet Weight
Seq Number:	3092478				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00873	0.0193	0.00873	mg/kg	06.15.19 02.56	U	1
Toluene	108-88-3	<0.00452	0.0193	0.00452	mg/kg	06.15.19 02.56	U	1
Ethylbenzene	100-41-4	<0.00595	0.0193	0.00595	mg/kg	06.15.19 02.56	U	1
m,p-Xylenes	179601-23-1	<0.00658	0.0386	0.00658	mg/kg	06.15.19 02.56	UH	1
o-Xylene	95-47-6	<0.00658	0.0193	0.00658	mg/kg	06.15.19 02.56	UH	1
Total Xylenes	1330-20-7	<0.00658	0.0193	0.00658	mg/kg	06.15.19 02.56	U	1
Total BTEX		<0.00452	0.0193	0.00452	mg/kg	06.15.19 02.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	184	%	68-120	06.15.19 02.56	**
a,a,a-Trifluorotoluene	98-08-8	134	%	71-121	06.15.19 02.56	**

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-9 (1.5-2)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-043	Date Collected:	06.12.19 14.04	Sample Depth:	1.5 - 2 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.19.19 17.20	Basis:	Wet Weight
Seq Number:	3092852			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3000**	9.96	0.353	mg/kg	06.20.19 01.48		1

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-9 (3-3.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-044	Date Collected:	06.12.19 14.06	Sample Depth:	3 - 3.5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.19.19 17.20	Basis:	Wet Weight
Seq Number:	3092852			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2040**	10.1	0.356	mg/kg	06.20.19 01.57		1

Certificate of Analytical Results 627588

Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-9 (4.5-5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-045	Date Collected:	06.12.19 14.08	Sample Depth:	4.5 - 5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.19.19 17.20	Basis:	Wet Weight
Seq Number:	3092852			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4430**	9.96	0.353	mg/kg	06.20.19 02.06		1

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-10 (0-0.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-046	Date Collected:	06.12.19 14.12	Sample Depth:	0 - 0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.18.19 09.55	Basis:	Wet Weight
Seq Number:	3092641			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3530**	9.90	0.350	mg/kg	06.18.19 13.36		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.26.19 18.54	Basis:	Wet Weight
Seq Number:	3093839			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.91	49.6	9.91	mg/kg	06.27.19 20.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<9.91	49.6	9.91	mg/kg	06.27.19 20.28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.91	49.6	9.91	mg/kg	06.27.19 20.28	U	1
Total TPH	PHC635	<9.91	49.6	9.91	mg/kg	06.27.19 20.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	06.27.19 20.28	
o-Terphenyl	84-15-1	122	%	70-135	06.27.19 20.28	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-10 (0-0.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-046	Date Collected:	06.12.19 14.12	Sample Depth:	0 - 0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.14.19 16.00	Basis:	Wet Weight
Seq Number:	3092478				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00911	0.0202	0.00911	mg/kg	06.15.19 03.20	U	1
Toluene	108-88-3	<0.00472	0.0202	0.00472	mg/kg	06.15.19 03.20	U	1
Ethylbenzene	100-41-4	<0.00621	0.0202	0.00621	mg/kg	06.15.19 03.20	U	1
m,p-Xylenes	179601-23-1	<0.00688	0.0403	0.00688	mg/kg	06.15.19 03.20	UH	1
o-Xylene	95-47-6	<0.00688	0.0202	0.00688	mg/kg	06.15.19 03.20	UH	1
Total Xylenes	1330-20-7	<0.00688	0.0202	0.00688	mg/kg	06.15.19 03.20	U	1
Total BTEX		<0.00472	0.0202	0.00472	mg/kg	06.15.19 03.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	182	%	68-120	06.15.19 03.20	**
a,a,a-Trifluorotoluene	98-08-8	131	%	71-121	06.15.19 03.20	**

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-10 (0.5-1)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-047	Date Collected:	06.12.19 14.14	Sample Depth:	0.5 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.18.19 09.55	Basis:	Wet Weight
Seq Number:	3092641			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4390**	9.96	0.353	mg/kg	06.18.19 13.45		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.26.19 18.57	Basis:	Wet Weight
Seq Number:	3093839			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.93	49.7	9.93	mg/kg	06.27.19 21.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<9.93	49.7	9.93	mg/kg	06.27.19 21.06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.93	49.7	9.93	mg/kg	06.27.19 21.06	U	1
Total TPH	PHC635	<9.93	49.7	9.93	mg/kg	06.27.19 21.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	06.27.19 21.06	
o-Terphenyl	84-15-1	125	%	70-135	06.27.19 21.06	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-10 (0.5-1)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-047	Date Collected:	06.12.19 14.14	Sample Depth:	0.5 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.14.19 16.00	Basis:	Wet Weight
Seq Number:	3092478				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00897	0.0198	0.00897	mg/kg	06.15.19 03.45	U	1
Toluene	108-88-3	<0.00464	0.0198	0.00464	mg/kg	06.15.19 03.45	U	1
Ethylbenzene	100-41-4	<0.00611	0.0198	0.00611	mg/kg	06.15.19 03.45	U	1
m,p-Xylenes	179601-23-1	<0.00677	0.0397	0.00677	mg/kg	06.15.19 03.45	UH	1
o-Xylene	95-47-6	<0.00677	0.0198	0.00677	mg/kg	06.15.19 03.45	UH	1
Total Xylenes	1330-20-7	<0.00677	0.0198	0.00677	mg/kg	06.15.19 03.45	U	1
Total BTEX		<0.00464	0.0198	0.00464	mg/kg	06.15.19 03.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	191	%	68-120	06.15.19 03.45	**
a,a,a-Trifluorotoluene	98-08-8	134	%	71-121	06.15.19 03.45	**

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-10 (1.5-2)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-048	Date Collected:	06.12.19 14.16	Sample Depth:	1.5 - 2 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.20.19 10.35	Basis:	Wet Weight
Seq Number:	3093025			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3350**	200	7.08	mg/kg	06.20.19 11.34		20

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-10 (3-3.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-049	Date Collected:	06.12.19 14.18	Sample Depth:	3 - 3.5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.20.19 10.35	Basis:	Wet Weight
Seq Number:	3093025			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2100**	9.96	0.353	mg/kg	06.20.19 11.22		1

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-10 (4.5-5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-050	Date Collected:	06.12.19 14.20	Sample Depth:	4.5 - 5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.20.19 10.35	Basis:	Wet Weight
Seq Number:	3093025			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4210**	10.1	0.357	mg/kg	06.20.19 12.10		1

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-11 (0-0.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-051	Date Collected:	06.12.19 14.24	Sample Depth:	0 - 0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.18.19 09.55	Basis:	Wet Weight
Seq Number:	3092641			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4360**	10.0	0.354	mg/kg	06.18.19 13.54		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.26.19 19.00	Basis:	Wet Weight
Seq Number:	3093839			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.99	50.0	9.99	mg/kg	06.27.19 21.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<9.99	50.0	9.99	mg/kg	06.27.19 21.24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.99	50.0	9.99	mg/kg	06.27.19 21.24	U	1
Total TPH	PHC635	<9.99	50.0	9.99	mg/kg	06.27.19 21.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	06.27.19 21.24	
o-Terphenyl	84-15-1	118	%	70-135	06.27.19 21.24	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-11 (0-0.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-051	Date Collected:	06.12.19 14.24	Sample Depth:	0 - 0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.17.19 13.00	Basis:	Wet Weight
Seq Number:	3092567				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00908	0.0201	0.00908	mg/kg	06.17.19 21.15	U	1
Toluene	108-88-3	**0.0141**	0.0201	0.00470	mg/kg	06.17.19 21.15	J	1
Ethylbenzene	100-41-4	<0.00618	0.0201	0.00618	mg/kg	06.17.19 21.15	U	1
m,p-Xylenes	179601-23-1	<0.00685	0.0402	0.00685	mg/kg	06.17.19 21.15	U	1
o-Xylene	95-47-6	<0.00685	0.0201	0.00685	mg/kg	06.17.19 21.15	U	1
Total Xylenes	1330-20-7	<0.00685	0.0201	0.00685	mg/kg	06.17.19 21.15	U	1
Total BTEX		**0.0141**	0.0201	0.00470	mg/kg	06.17.19 21.15	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	114	%	68-120	06.17.19 21.15	
a,a,a-Trifluorotoluene	98-08-8	114	%	71-121	06.17.19 21.15	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-11 (0.5-1)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-052	Date Collected:	06.12.19 14.26	Sample Depth:	0.5 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.18.19 09.55	Basis:	Wet Weight
Seq Number:	3092641			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4150**	9.98	0.353	mg/kg	06.18.19 14.03		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.26.19 19.03	Basis:	Wet Weight
Seq Number:	3093839			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.96	49.8	9.96	mg/kg	06.27.19 21.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<9.96	49.8	9.96	mg/kg	06.27.19 21.43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.96	49.8	9.96	mg/kg	06.27.19 21.43	U	1
Total TPH	PHC635	<9.96	49.8	9.96	mg/kg	06.27.19 21.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	121	%	70-135	06.27.19 21.43	
o-Terphenyl	84-15-1	129	%	70-135	06.27.19 21.43	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-11 (0.5-1)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-052	Date Collected:	06.12.19 14.26	Sample Depth:	0.5 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.17.19 13.00	Basis:	Wet Weight
Seq Number:	3092567				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00869	0.0192	0.00869	mg/kg	06.17.19 23.16	U	1
Toluene	108-88-3	<0.00450	0.0192	0.00450	mg/kg	06.17.19 23.16	U	1
Ethylbenzene	100-41-4	<0.00592	0.0192	0.00592	mg/kg	06.17.19 23.16	U	1
m,p-Xylenes	179601-23-1	<0.00656	0.0385	0.00656	mg/kg	06.17.19 23.16	U	1
o-Xylene	95-47-6	<0.00656	0.0192	0.00656	mg/kg	06.17.19 23.16	U	1
Total Xylenes	1330-20-7	<0.00656	0.0192	0.00656	mg/kg	06.17.19 23.16	U	1
Total BTEX		<0.00450	0.0192	0.00450	mg/kg	06.17.19 23.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	118	%	68-120	06.17.19 23.16	
a,a,a-Trifluorotoluene	98-08-8	120	%	71-121	06.17.19 23.16	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-11 (1.5-2)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-053	Date Collected:	06.12.19 14.28	Sample Depth:	1.5 - 1 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.20.19 10.35	Basis:	Wet Weight
Seq Number:	3093025			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1460**	9.92	0.351	mg/kg	06.20.19 12.22		1

Certificate of Analytical Results 627588

Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-11 (3-3.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-054	Date Collected:	06.12.19 14.30	Sample Depth:	3 - 3.5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.20.19 10.35	Basis:	Wet Weight
Seq Number:	3093025			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4330**	10.0	0.354	mg/kg	06.20.19 12.34		1

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-11 (4.5-5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-055	Date Collected:	06.12.19 14.32	Sample Depth:	4.5 - 5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.20.19 10.35	Basis:	Wet Weight
Seq Number:	3093025			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5580**	99.8	3.53	mg/kg	06.20.19 13.22		10

Certificate of Analytical Results 627588

Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-12 (0-0.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-056	Date Collected:	06.12.19 14.36	Sample Depth:	0 - 0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.14.19 15.27	Basis:	Wet Weight
Seq Number:	3092370			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**204**	10.0	0.354	mg/kg	06.14.19 20.19		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.26.19 16.35	Basis:	Wet Weight
Seq Number:	3093833			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.92	49.6	9.92	mg/kg	06.27.19 05.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<9.92	49.6	9.92	mg/kg	06.27.19 05.53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.92	49.6	9.92	mg/kg	06.27.19 05.53	U	1
Total TPH	PHC635	<9.92	49.6	9.92	mg/kg	06.27.19 05.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	06.27.19 05.53	
o-Terphenyl	84-15-1	116	%	70-135	06.27.19 05.53	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-12 (0-0.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-056	Date Collected:	06.12.19 14.36	Sample Depth:	0 - 0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.17.19 13.00	Basis:	Wet Weight
Seq Number:	3092567				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00915	0.0202	0.00915	mg/kg	06.17.19 23.40	U	1
Toluene	108-88-3	<0.00474	0.0202	0.00474	mg/kg	06.17.19 23.40	U	1
Ethylbenzene	100-41-4	<0.00623	0.0202	0.00623	mg/kg	06.17.19 23.40	U	1
m,p-Xylenes	179601-23-1	<0.00690	0.0405	0.00690	mg/kg	06.17.19 23.40	U	1
o-Xylene	95-47-6	<0.00690	0.0202	0.00690	mg/kg	06.17.19 23.40	U	1
Total Xylenes	1330-20-7	<0.00690	0.0202	0.00690	mg/kg	06.17.19 23.40	U	1
Total BTEX		<0.00474	0.0202	0.00474	mg/kg	06.17.19 23.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	122	%	68-120	06.17.19 23.40	**
a,a,a-Trifluorotoluene	98-08-8	121	%	71-121	06.17.19 23.40	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-12 (0.5-1)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-057	Date Collected:	06.12.19 14.38	Sample Depth:	0.5 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.14.19 15.27	Basis:	Wet Weight
Seq Number:	3092370			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**478**	10.0	0.354	mg/kg	06.14.19 20.46		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.26.19 16.38	Basis:	Wet Weight
Seq Number:	3093833			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.90	49.5	9.90	mg/kg	06.27.19 06.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<9.90	49.5	9.90	mg/kg	06.27.19 06.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.90	49.5	9.90	mg/kg	06.27.19 06.12	U	1
Total TPH	PHC635	<9.90	49.5	9.90	mg/kg	06.27.19 06.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	06.27.19 06.12	
o-Terphenyl	84-15-1	117	%	70-135	06.27.19 06.12	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-12 (0.5-1)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-057	Date Collected:	06.12.19 14.38	Sample Depth:	0.5 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.17.19 13.00	Basis:	Wet Weight
Seq Number:	3092567				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00900	0.0199	0.00900	mg/kg	06.18.19 00.04	U	1
Toluene	108-88-3	<0.00466	0.0199	0.00466	mg/kg	06.18.19 00.04	U	1
Ethylbenzene	100-41-4	<0.00614	0.0199	0.00614	mg/kg	06.18.19 00.04	U	1
m,p-Xylenes	179601-23-1	<0.00679	0.0398	0.00679	mg/kg	06.18.19 00.04	U	1
o-Xylene	95-47-6	<0.00679	0.0199	0.00679	mg/kg	06.18.19 00.04	U	1
Total Xylenes	1330-20-7	<0.00679	0.0199	0.00679	mg/kg	06.18.19 00.04	U	1
Total BTEX		<0.00466	0.0199	0.00466	mg/kg	06.18.19 00.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	68-120	06.18.19 00.04	
a,a,a-Trifluorotoluene	98-08-8	117	%	71-121	06.18.19 00.04	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-12 (1.5-2)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-058	Date Collected:	06.12.19 14.40	Sample Depth:	1.5 - 2 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.20.19 10.35	Basis:	Wet Weight
Seq Number:	3093025			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4500**	10.0	0.355	mg/kg	06.20.19 13.34		1

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-12 (3-3.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-059	Date Collected:	06.12.19 14.42	Sample Depth:	3 - 3.5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.20.19 10.35	Basis:	Wet Weight
Seq Number:	3093025			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8040**	99.6	3.53	mg/kg	06.20.19 13.58		10

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-12 (4.5-5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-060	Date Collected:	06.12.19 14.44	Sample Depth:	4.5 - 5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.20.19 10.35	Basis:	Wet Weight
Seq Number:	3093025			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2500**	200	7.08	mg/kg	06.20.19 14.46		20

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-13 (0-0.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-061	Date Collected:	06.12.19 14.50	Sample Depth:	0 - 0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.14.19 15.27	Basis:	Wet Weight
Seq Number:	3092370			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**27.2**	10.0	0.354	mg/kg	06.14.19 20.55		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.26.19 16.41	Basis:	Wet Weight
Seq Number:	3093833			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.90	49.5	9.90	mg/kg	06.27.19 06.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<9.90	49.5	9.90	mg/kg	06.27.19 06.30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.90	49.5	9.90	mg/kg	06.27.19 06.30	U	1
Total TPH	PHC635	<9.90	49.5	9.90	mg/kg	06.27.19 06.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	06.27.19 06.30	
o-Terphenyl	84-15-1	120	%	70-135	06.27.19 06.30	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-13 (0-0.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-061	Date Collected:	06.12.19 14.50	Sample Depth:	0 - 0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.17.19 13.00	Basis:	Wet Weight
Seq Number:	3092567				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00908	0.0201	0.00908	mg/kg	06.18.19 00.28	U	1
Toluene	108-88-3	<0.00470	0.0201	0.00470	mg/kg	06.18.19 00.28	U	1
Ethylbenzene	100-41-4	<0.00618	0.0201	0.00618	mg/kg	06.18.19 00.28	U	1
m,p-Xylenes	179601-23-1	<0.00685	0.0402	0.00685	mg/kg	06.18.19 00.28	U	1
o-Xylene	95-47-6	<0.00685	0.0201	0.00685	mg/kg	06.18.19 00.28	U	1
Total Xylenes	1330-20-7	<0.00685	0.0201	0.00685	mg/kg	06.18.19 00.28	U	1
Total BTEX		<0.00470	0.0201	0.00470	mg/kg	06.18.19 00.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	123	%	68-120	06.18.19 00.28	**
a,a,a-Trifluorotoluene	98-08-8	122	%	71-121	06.18.19 00.28	**

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-13 (0.5-1)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-062	Date Collected:	06.12.19 14.52	Sample Depth:	0.5 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.14.19 15.27	Basis:	Wet Weight
Seq Number:	3092370			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**18.1**	10.0	0.354	mg/kg	06.14.19 21.21		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.26.19 16.44	Basis:	Wet Weight
Seq Number:	3093833			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.91	49.6	9.91	mg/kg	06.27.19 06.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<9.91	49.6	9.91	mg/kg	06.27.19 06.49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.91	49.6	9.91	mg/kg	06.27.19 06.49	U	1
Total TPH	PHC635	<9.91	49.6	9.91	mg/kg	06.27.19 06.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	06.27.19 06.49	
o-Terphenyl	84-15-1	113	%	70-135	06.27.19 06.49	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-13 (0.5-1)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-062	Date Collected:	06.12.19 14.52	Sample Depth:	0.5 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.17.19 13.00	Basis:	Wet Weight
Seq Number:	3092567				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00886	0.0196	0.00886	mg/kg	06.18.19 00.52	U	1
Toluene	108-88-3	<0.00459	0.0196	0.00459	mg/kg	06.18.19 00.52	U	1
Ethylbenzene	100-41-4	<0.00604	0.0196	0.00604	mg/kg	06.18.19 00.52	U	1
m,p-Xylenes	179601-23-1	<0.00669	0.0392	0.00669	mg/kg	06.18.19 00.52	U	1
o-Xylene	95-47-6	<0.00669	0.0196	0.00669	mg/kg	06.18.19 00.52	U	1
Total Xylenes	1330-20-7	<0.00669	0.0196	0.00669	mg/kg	06.18.19 00.52	U	1
Total BTEX		<0.00459	0.0196	0.00459	mg/kg	06.18.19 00.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	68-120	06.18.19 00.52	
a,a,a-Trifluorotoluene	98-08-8	117	%	71-121	06.18.19 00.52	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-13 (1.5-2)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-063	Date Collected:	06.12.19 14.54	Sample Depth:	1.5 - 2 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.20.19 10.35	Basis:	Wet Weight
Seq Number:	3093025			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**13.0**	9.96	0.353	mg/kg	06.20.19 15.46		1

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-13 (3-3.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-064	Date Collected:	06.12.19 14.56	Sample Depth:	3 - 3.5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.20.19 10.35	Basis:	Wet Weight
Seq Number:	3093025			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**17.2**	9.92	0.351	mg/kg	06.20.19 15.58		1

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-13 (4.5-5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-065	Date Collected:	06.12.19 14.58	Sample Depth:	4.5 - 5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.20.19 10.35	Basis:	Wet Weight
Seq Number:	3093025			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**55.7**	10.0	0.355	mg/kg	06.20.19 16.10		1

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-14 (0-0.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-066	Date Collected:	06.12.19 15.00	Sample Depth:	0 - 0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.14.19 15.27	Basis:	Wet Weight
Seq Number:	3092370			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**15.4**	10.0	0.354	mg/kg	06.14.19 21.30		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.26.19 16.47	Basis:	Wet Weight
Seq Number:	3093833			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.90	49.5	9.90	mg/kg	06.27.19 07.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<9.90	49.5	9.90	mg/kg	06.27.19 07.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.90	49.5	9.90	mg/kg	06.27.19 07.07	U	1
Total TPH	PHC635	<9.90	49.5	9.90	mg/kg	06.27.19 07.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	06.27.19 07.07	
o-Terphenyl	84-15-1	120	%	70-135	06.27.19 07.07	

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Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-14 (0-0.5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-066	Date Collected:	06.12.19 15.00	Sample Depth:	0 - 0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.17.19 13.00	Basis:	Wet Weight
Seq Number:	3092567				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00893	0.0198	0.00893	mg/kg	06.18.19 01.16	U	1
Toluene	108-88-3	<0.00462	0.0198	0.00462	mg/kg	06.18.19 01.16	U	1
Ethylbenzene	100-41-4	<0.00609	0.0198	0.00609	mg/kg	06.18.19 01.16	U	1
m,p-Xylenes	179601-23-1	<0.00674	0.0395	0.00674	mg/kg	06.18.19 01.16	U	1
o-Xylene	95-47-6	<0.00674	0.0198	0.00674	mg/kg	06.18.19 01.16	U	1
Total Xylenes	1330-20-7	<0.00674	0.0198	0.00674	mg/kg	06.18.19 01.16	U	1
Total BTEX		<0.00462	0.0198	0.00462	mg/kg	06.18.19 01.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	117	%	68-120	06.18.19 01.16	
a,a,a-Trifluorotoluene	98-08-8	120	%	71-121	06.18.19 01.16	

Certificate of Analytical Results 627588

Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-14 (0.5-1)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-067	Date Collected:	06.12.19 15.02	Sample Depth:	0.5 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.14.19 15.27	Basis:	Wet Weight
Seq Number:	3092370			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11.2**	10.0	0.354	mg/kg	06.14.19 21.39		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.26.19 16.50	Basis:	Wet Weight
Seq Number:	3093833			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.90	49.5	9.90	mg/kg	06.27.19 22.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<9.90	49.5	9.90	mg/kg	06.27.19 22.02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.90	49.5	9.90	mg/kg	06.27.19 22.02	U	1
Total TPH	PHC635	<9.90	49.5	9.90	mg/kg	06.27.19 22.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	06.27.19 22.02	
o-Terphenyl	84-15-1	109	%	70-135	06.27.19 22.02	

Certificate of Analytical Results 627588

Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-14 (0.5-1)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-067	Date Collected:	06.12.19 15.02	Sample Depth:	0.5 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.17.19 13.00	Basis:	Wet Weight
Seq Number:	3092567				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00904	0.0200	0.00904	mg/kg	06.18.19 01.40	U	1
Toluene	108-88-3	<0.00468	0.0200	0.00468	mg/kg	06.18.19 01.40	U	1
Ethylbenzene	100-41-4	<0.00616	0.0200	0.00616	mg/kg	06.18.19 01.40	U	1
m,p-Xylenes	179601-23-1	<0.00682	0.0400	0.00682	mg/kg	06.18.19 01.40	U	1
o-Xylene	95-47-6	<0.00682	0.0200	0.00682	mg/kg	06.18.19 01.40	U	1
Total Xylenes	1330-20-7	<0.00682	0.0200	0.00682	mg/kg	06.18.19 01.40	U	1
Total BTEX		<0.00468	0.0200	0.00468	mg/kg	06.18.19 01.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	117	%	68-120	06.18.19 01.40	
a,a,a-Trifluorotoluene	98-08-8	122	%	71-121	06.18.19 01.40	**

Certificate of Analytical Results 627588

Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-14 (1.5-2)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-068	Date Collected:	06.12.19 15.04	Sample Depth:	1.5 - 2 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.20.19 10.35	Basis:	Wet Weight
Seq Number:	3093025			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**10.6**	10.1	0.356	mg/kg	06.20.19 16.22		1

Certificate of Analytical Results 627588

Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-14 (3.3-5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-069	Date Collected:	06.12.19 15.06	Sample Depth:	3 - 3.5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.20.19 10.35	Basis:	Wet Weight
Seq Number:	3093025			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**10.5**	9.94	0.352	mg/kg	06.20.19 16.34		1

Certificate of Analytical Results 627588

Terracon-Lubbock, Lubbock, TX

Solaris Zeus

Sample Id:	**HA-14 (4.5-5)**	Matrix:	Soil	Date Received:	06.13.19 09.10
Lab Sample Id:	627588-070	Date Collected:	06.12.19 15.08	Sample Depth:	4.5 - 5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.20.19 10.35	Basis:	Wet Weight
Seq Number:	3093025			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14.6**	9.90	0.350	mg/kg	06.20.19 16.46		1

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

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 627588

Terracon-Lubbock

Solaris Zeus

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3092370 — Matrix: Solid — Date Prep: 06.14.19
MB Sample Id: 7679943-1-BLK — LCS Sample Id: 7679943-1-BKS — LCSD Sample Id: 7679943-1-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	100	100	101	101	80-120	1	20	mg/kg	06.14.19 17:56	

Analytical Method: Chloride by EPA 300 — Prep Method: SW9056P
Seq Number: 3092641 — Matrix: Solid — Date Prep: 06.18.19
MB Sample Id: 7680104-1-BLK — LCS Sample Id: 7680104-1-BKS — LCSD Sample Id: 7680104-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	0.608	100	99.5	100	99.5	100	80-120	0	20	mg/kg	06.18.19 09:42	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3092857 — Matrix: Solid — Date Prep: 06.19.19
MB Sample Id: 7680259-1-BLK — LCS Sample Id: 7680259-1-BKS — LCSD Sample Id: 7680259-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	0.383	100	99.4	99	99.4	99	80-120	0	20	mg/kg	06.19.19 16:16	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3092852 — Matrix: Solid — Date Prep: 06.19.19
MB Sample Id: 7680261-1-BLK — LCS Sample Id: 7680261-1-BKS — LCSD Sample Id: 7680261-1-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	98.9	99	98.3	98	80-120	1	20	mg/kg	06.19.19 20:33	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3093025 — Matrix: Solid — Date Prep: 06.20.19
MB Sample Id: 7680301-1-BLK — LCS Sample Id: 7680301-1-BKS — LCSD Sample Id: 7680301-1-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	98.3	98	98.1	98	80-120	0	20	mg/kg	06.20.19 09:35	

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

Final 1.000

QC Summary 627588

Terracon-Lubbock

Solaris Zeus

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3092370 — Matrix: Soil — Date Prep: 06.14.19
Parent Sample Id: 627588-001 — MS Sample Id: 627588-001 S — MSD Sample Id: 627588-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	334	100	423	89	423	89	80-120	0	20	mg/kg	06.14.19 18:23	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3092370 — Matrix: Soil — Date Prep: 06.14.19
Parent Sample Id: 627588-056 — MS Sample Id: 627588-056 S — MSD Sample Id: 627588-056 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	204	100	298	94	299	95	80-120	0	20	mg/kg	06.14.19 20:28	

Analytical Method: Chloride by EPA 300 — Prep Method: SW9056P
Seq Number: 3092641 — Matrix: Soil — Date Prep: 06.18.19
Parent Sample Id: 627002-001 — MS Sample Id: 627002-001 S — MSD Sample Id: 627002-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	21.5	100	116	95	117	96	80-120	1	20	mg/kg	06.18.19 10:09	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3092641 — Matrix: Soil — Date Prep: 06.18.19
Parent Sample Id: 627588-026 — MS Sample Id: 627588-026 S — MSD Sample Id: 627588-026 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2440	100	2510	70	2510	70	80-120	0	20	mg/kg	06.18.19 11:57	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3092857 — Matrix: Soil — Date Prep: 06.19.19
Parent Sample Id: 627588-009 — MS Sample Id: 627588-009 S — MSD Sample Id: 627588-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1440	100	1530	90	1530	90	80-120	0	20	mg/kg	06.19.19 21:53	

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

Final 1.000

QC Summary 627588

Terracon-Lubbock

Solaris Zeus

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3092857 — Matrix: Soil — Date Prep: 06.19.19
Parent Sample Id: 628041-008 — MS Sample Id: 628041-008 S — MSD Sample Id: 628041-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	900	100	985	85	1010	110	80-120	3	20	mg/kg	06.19.19 18:41	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3092852 — Matrix: Soil — Date Prep: 06.19.19
Parent Sample Id: 627588-024 — MS Sample Id: 627588-024 S — MSD Sample Id: 627588-024 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1110	100	1180	70	1180	70	80-120	0	20	mg/kg	06.19.19 22:48	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3092852 — Matrix: Soil — Date Prep: 06.19.19
Parent Sample Id: 627588-033 — MS Sample Id: 627588-033 S — MSD Sample Id: 627588-033 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1920	100	1970	50	1960	40	80-120	1	20	mg/kg	06.20.19 00:09	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3093025 — Matrix: Soil — Date Prep: 06.20.19
Parent Sample Id: 627588-048 — MS Sample Id: 627588-048 S — MSD Sample Id: 627588-048 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3350	2000	5440	103	5430	103	80-120	0	20	mg/kg	06.20.19 11:46	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3093025 — Matrix: Soil — Date Prep: 06.20.19
Parent Sample Id: 627588-060 — MS Sample Id: 627588-060 S — MSD Sample Id: 627588-060 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2500	2000	4440	99	4440	99	80-120	0	20	mg/kg	06.20.19 14:58	

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

Final 1.000

QC Summary 627588

Terracon-Lubbock

Solaris Zeus

Analytical Method: TPH By SW8015 Mod — Prep Method: TX1005P
Seq Number: 3093833 — Matrix: Solid — Date Prep: 06.26.19
MB Sample Id: 7680792-1-BLK — LCS Sample Id: 7680792-1-BKS — LCSD Sample Id: 7680792-1-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	1020	102	70-135	0	35	mg/kg	06.27.19 04:38	
Diesel Range Organics (DRO)	<10.0	1000	1040	104	1040	104	70-135	0	35	mg/kg	06.27.19 04:38	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	118		117		114		70-135	%	06.27.19 04:38
o-Terphenyl	134		110		114		70-135	%	06.27.19 04:38

Analytical Method: TPH By SW8015 Mod — Prep Method: TX1005P
Seq Number: 3093839 — Matrix: Solid — Date Prep: 06.26.19
MB Sample Id: 7680793-1-BLK — LCS Sample Id: 7680793-1-BKS — LCSD Sample Id: 7680793-1-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	1100	110	1090	109	70-135	1	35	mg/kg	06.27.19 17:58	
Diesel Range Organics (DRO)	<10.0	1000	986	99	982	98	70-135	0	35	mg/kg	06.27.19 17:58	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		113		110		70-135	%	06.27.19 17:58
o-Terphenyl	113		112		108		70-135	%	06.27.19 17:58

Analytical Method: TPH By SW8015 Mod — Prep Method: TX1005P
Seq Number: 3093833 — Matrix: Soil — Date Prep: 06.26.19
Parent Sample Id: 627588-001 — MS Sample Id: 627588-001 S — MSD Sample Id: 627588-001 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)	<9.91	991	1060	107	994	100	70-135	6	35	mg/kg	06.27.19 05:34	
Diesel Range Organics (DRO)	<9.91	991	1080	109	1020	103	70-135	6	35	mg/kg	06.27.19 05:34	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	125		115		70-135	%	06.27.19 05:34
o-Terphenyl	119		109		70-135	%	06.27.19 05:34

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 627588

Terracon-Lubbock

Solaris Zeus

Analytical Method: TPH By SW8015 Mod — Prep Method: TX1005P
Seq Number: 3093839 — Matrix: Soil — Date Prep: 06.26.19
Parent Sample Id: 627588-036 — MS Sample Id: 627588-036 S — MSD Sample Id: 627588-036 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)	<9.95	995	1150	116	1120	113	70-135	3	35	mg/kg	06.27.19 18:55	
Diesel Range Organics (DRO)	<9.95	995	1040	105	1010	102	70-135	3	35	mg/kg	06.27.19 18:55	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	118		113		70-135	%	06.27.19 18:55
o-Terphenyl	116		107		70-135	%	06.27.19 18:55

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3092478 — Matrix: Solid — Date Prep: 06.14.19
MB Sample Id: 7680054-1-BLK — LCS Sample Id: 7680054-1-BKS — LCSD Sample Id: 7680054-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00904	2.00	2.01	101	2.11	106	55-120	5	20	mg/kg	06.14.19 14:40	
Toluene	<0.00468	2.00	2.02	101	2.16	108	77-120	7	20	mg/kg	06.14.19 14:40	
Ethylbenzene	<0.00616	2.00	2.16	108	2.18	109	77-120	1	20	mg/kg	06.14.19 14:40	
m,p-Xylenes	<0.00682	4.00	4.96	124	4.93	123	78-120	1	20	mg/kg	06.14.19 14:40	H
o-Xylene	<0.00682	2.00	2.42	121	2.60	130	78-120	7	20	mg/kg	06.14.19 14:40	H

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	142	**	113		114		68-120	%	06.14.19 14:40
a,a,a-Trifluorotoluene	116		99		99		71-121	%	06.14.19 14:40

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3092567 — Matrix: Solid — Date Prep: 06.17.19
MB Sample Id: 7680102-1-BLK — LCS Sample Id: 7680102-1-BKS — LCSD Sample Id: 7680102-1-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	2.13	107	2.11	106	55-120	1	20	mg/kg	06.17.19 19:14	
Toluene	<0.00468	2.00	2.11	106	2.15	108	77-120	2	20	mg/kg	06.17.19 19:14	
Ethylbenzene	<0.00616	2.00	2.22	111	2.26	113	77-120	2	20	mg/kg	06.17.19 19:14	
m,p-Xylenes	<0.00682	4.00	4.43	111	4.50	113	78-120	2	20	mg/kg	06.17.19 19:14	
o-Xylene	<0.00682	2.00	2.24	112	2.27	114	78-120	1	20	mg/kg	06.17.19 19:14	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	114		105		105		68-120	%	06.17.19 19:14
a,a,a-Trifluorotoluene	111		107		106		71-121	%	06.17.19 19:14

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 627588

Terracon-Lubbock

Solaris Zeus

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

Seq Number: 3092478 Matrix: Soil Date Prep: 06.14.19

Parent Sample Id: 627588-001 MS Sample Id: 627588-001 S MSD Sample Id: 627588-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	4.10	2.00	4.10	0	4.42	0	54-120	8	25	mg/kg	06.14.19 22:28	X
Toluene	3.94	2.00	3.94	0	4.22	0	57-120	7	25	mg/kg	06.14.19 22:28	X
Ethylbenzene	3.29	2.00	3.29	0	3.67	0	58-131	11	25	mg/kg	06.14.19 22:28	X
m,p-Xylenes	6.82	4.00	6.82	0	8.51	0	62-124	22	25	mg/kg	06.14.19 22:28	X
o-Xylene	4.42	2.00	4.42	0	5.03	0	62-124	13	25	mg/kg	06.14.19 22:28	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	108		117		68-120	%	06.14.19 22:28
a,a,a-Trifluorotoluene	100		101		71-121	%	06.14.19 22:28

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

Seq Number: 3092567 Matrix: Soil Date Prep: 06.17.19

Parent Sample Id: 627588-051 MS Sample Id: 627588-051 S MSD Sample Id: 627588-051 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00904	2.00	2.19	110	2.30	115	54-120	5	25	mg/kg	06.17.19 21:39	
Toluene	0.0141	2.00	2.18	108	2.32	115	57-120	6	25	mg/kg	06.17.19 21:39	
Ethylbenzene	<0.00616	2.00	2.17	109	2.32	116	58-131	7	25	mg/kg	06.17.19 21:39	
m,p-Xylenes	<0.00682	4.00	4.35	109	4.66	117	62-124	7	25	mg/kg	06.17.19 21:39	
o-Xylene	<0.00682	2.00	2.14	107	2.31	116	62-124	8	25	mg/kg	06.17.19 21:39	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	107		108		68-120	%	06.17.19 21:39
a,a,a-Trifluorotoluene	119		116		71-121	%	06.17.19 21:39

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

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

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

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

627588

627588

Terracon

CHAIN OF CUSTODY RECORD

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: AR197210
Project Name: Solaris Zeus

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C)
Page 1 of 5

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	6/12/2019	11:46		X	HA-1 (0-0.5)	0'	0.5'		X			X	X	X		1
S	6/12/2019	11:48		X	HA-1 (0.5-1)	0.5'	1'		X			X	X	X		2
S	6/12/2019	11:50		X	HA-1 (1.5-2)	1.5'	2'		X						X	3
S	6/12/2019	11:51		X	HA-1 (3.5-4)	3.5'	4'		X						X	4
S	6/12/2019	11:53		X	HA-1 (4.5-5)	4.5'	5'		X						X	5
S	6/12/2019	11:57		X	HA-2 (0-0.5)	0'	0.5'		X			X	X	X		6
S	6/12/2019	11:59		X	HA-2 (0.5-1)	0.5'	1'		X			X	X	X		7
S	6/12/2019	12:01		X	HA-2 (1.5-2)	1.5'	2'		X						X	8
S	6/12/2019	12:03		X	HA-2 (3-3.5)	3'	3.5'		X						X	9
S	6/12/2019	12:05		X	HA-2 (4.5-5)	4.5'	5'		X						X	10
S	6/12/2019	12:30		X	HA-3 (0-0.5)	0'	0.5'		X			X	X	X		11
S	6/12/2019	12:32		X	HA-3 (0.5-1)	0.5'	1'		X			X	X	X		12
S	6/12/2019	12:34		X	HA-3 (1.5-2)	1.5'	2'		X						X	13
S	6/12/2019	12:36		X	HA-3 (3-3.5)	3'	3.5'		X						X	14
S	6/12/2019	12:38		X	HA-3 (4.5-5)	4.5'	5'		X						X	15
																16 Bu
																17

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:
	6-13-19	9:10		6-13-19	9:10
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

IR3 2.1/2.0

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 _____

627588

CHAIN OF CUSTODY RECORD

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

ANALYSIS REQUESTED

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

Project Number: AR197210
Project Name: Solaris Zeus

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	6/12/2019	12:45		X	HA-4 (0-0.5)	0'	0.5'		X			X	X	X		16
S	6/12/2019	12:47		X	HA-4 (0.5-1)	0.5'	1'		X			X	X	X		17
S	6/12/2019	12:49		X	HA-4 (1.5-2)	1.5'	2'		X						X	18
S	6/12/2019	12:51		X	HA-4 (3-3.5)	3'	3.5'		X						X	19
S	6/12/2019	12:53		X	HA-4 (4.5-5)	4.5'	5'		X						X	20
S	6/12/2019	12:58		X	HA-5 (0-0.5)	0'	0.5'		X			X	X	X		21
S	6/12/2019	13:00		X	HA-5 (0.5-1)	0.5'	1'		X			X	X	X		22
S	6/12/2019	13:02		X	HA-5 (1.5-2)	1.5'	2'		X						X	23
S	6/12/2019	13:04		X	HA-5 (3-3.5)	3'	3.5'		X						X	24
S	6/12/2019	13:06		X	HA-5 (4.5-5)	4.5'	5'		X						X	25
S	6/12/2019	13:20		X	HA-6 (0-0.5)	0'	0.5'		X			X	X	X		26
S	6/12/2019	13:22		X	HA-6 (0.5-1)	0.5'	1'		X			X	X	X		27
S	6/12/2019	13:24		X	HA-6 (1.5-2)	1.5'	2'		X						X	28
S	6/12/2019	13:26		X	HA-6 (3-3.5)	3'	3.5'		X						X	29
S	6/12/2019	13:28		X	HA-6 (4.5-5)	4.5'	5'		X						X	30

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
	6-13-19	9:10		6-13-19	9:10
Relinquished by (Signature)			Received by (Signature)		
Relinquished by (Signature)			Received by (Signature)		
Relinquished by (Signature)			Received by (Signature)		

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 _____

627588

CHAIN OF CUSTODY RECORD

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: AR197210
Project Name: Solaris Zeus

ANALYSIS REQUESTED

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

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	6/12/2019	13:32		X	HA-7 (0-0.5)	0'	0.5'		X			X	X	X		31
S	6/12/2019	13:34		X	HA-7 (0.5-1)	0.5'	1'		X			X	X	X		32
S	6/12/2019	13:36		X	HA-7 (1.5-2)	1.5'	2'		X						X	33
S	6/12/2019	13:38		X	HA-7 (3-3.5)	3'	3.5'		X						X	34
S	6/12/2019	13:40		X	HA-7 (4.5-5)	4.5'	5'		X						X	35
S	6/12/2019	13:45		X	HA-8 (0-0.5)	0'	0.5'		X			X	X	X		36
S	6/12/2019	13:47		X	HA-8 (0.5-1)	0.5'	1'		X			X	X	X		37
S	6/12/2019	13:49		X	HA-8 (1.5-2)	1.5'	2'		X						X	38
S	6/12/2019	13:51		X	HA-8 (3-3.5)	3'	3.5'		X						X	39
S	6/12/2019	13:53		X	HA-8 (4.5-5)	4.5'	5'		X						X	40
S	6/12/2019	14:00		X	HA-9 (0-0.5)	0'	0.5'		X			X	X	X		41
S	6/12/2019	14:02		X	HA-9 (0.5-1)	0.5'	1'		X			X	X	X		42
S	6/12/2019	14:04		X	HA-9 (1.5-2)	1.5'	2'		X						X	43
S	6/12/2019	14:06		X	HA-9 (3-3.5)	3'	3.5'		X						X	44
S	6/12/2019	14:08		X	HA-9 (4.5-5)	4.5'	5'		X						X	45

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

VRRP Laboratory Review Checklist ☐ Yes ☐ No

	Date	Time		Date	Time
Relinquished by (Signature)	6-13-19	6-13-19 9:10	Received by (Signature)	6-13-19	9:10
Relinquished by (Signature)			Received by (Signature)		
Relinquished by (Signature)			Received by (Signature)		
Relinquished by (Signature)			Received by (Signature)		

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 _____

627588

CHAIN OF CUSTODY RECORD

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: AR197210
Project Name: Solaris Zeus

ANALYSIS REQUESTED

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

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	6/12/2019	14:12		X	HA-10 (0-0.5)	0'	0.5'		X			X	X	X		46
S	6/12/2019	14:14		X	HA-10 (0.5-1)	0.5'	1'		X			X	X	X		47
S	6/12/2019	14:16		X	HA-10 (1.5-2)	1.5'	2'		X						X	48
S	6/12/2019	14:18		X	HA-10 (3-3.5)	3'	3.5'		X						X	49
S	6/12/2019	14:20		X	HA-10 (4.5-5)	4.5'	5'		X						X	50
S	6/12/2019	14:24		X	HA-11 (0-0.5)	0'	0.5'		X			X	X	X		51
S	6/12/2019	14:26		X	HA-11 (0.5-1)	0.5'	1'		X			X	X	X		52
S	6/12/2019	14:28		X	HA-11 (1.5-2)	1.5'	2'		X						X	53
S	6/12/2019	14:30		X	HA-11 (3-3.5)	3'	3.5'		X						X	54
S	6/12/2019	14:32		X	HA-11 (4.5-5)	4.5'	5'		X						X	55
S	6/12/2019	14:36		X	HA-12 (0-0.5)	0'	0.5'		X			X	X	X		56
S	6/12/2019	14:38		X	HA-12 (0.5-1)	0.5'	1'		X			X	X	X		57
S	6/12/2019	14:40		X	HA-12 (1.5-2)	1.5'	2'		X						X	58
S	6/12/2019	14:42		X	HA-12 (3-3.5)	3'	3.5'		X						X	59
S	6/12/2019	14:44		X	HA-12 (4.5-5)	4.5'	5'		X						X	60

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
	6-13-19	9:10		6-13-19	9:10
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: 1 x 3

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

2.0 / 2.0

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

627588

Terracon

CHAIN OF CUSTODY RECORD

Laboratory: Xenco
Address: 6701 Aberdeen
Lubbock, Texas 79424
Phone:
Contact:
SRS #:

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

Project Number: AR197210
Project Name: Solaris Zeus

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C)
Page 5 of 5

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	6/12/2019	14:50		X	HA-13 (0-0.5)	0'	0.5'		X			X	X	X		61
S	6/12/2019	14:52		X	HA-13 (0.5-1)	0.5'	1'		X			X	X	X		62
S	6/12/2019	14:54		X	HA-13 (1.5-2)	1.5'	2'		X						X	63
S	6/12/2019	14:56		X	HA-13 (3-3.5)	3'	3.5'		X						X	64
S	6/12/2019	14:58		X	HA-13 (4.5-5)	4.5'	5'		X						X	65
S	6/12/2019	15:00		X	HA-14 (0-0.5)	0'	0.5'		X			X	X	X		66
S	6/12/2019	15:02		X	HA-14 (0.5-1)	0.5'	1'		X			X	X	X		67
S	6/12/2019	15:04		X	HA-14 (1.5-2)	1.5'	2'		X						X	68
S	6/12/2019	15:06		X	HA-14 (3-3.5)	3'	3.5'		X						X	69
S	6/12/2019	15:08		X	HA-14 (4.5-5)	4.5'	5'		X						X	70

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
	6-13-19	9:10		6-13-19	9:10
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

2.1 2.0 6/13/19
1.23 2.0

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 : 41401

Date/Time:	06.13.2019 18:16	Created by:	Brenda Ward	Please send report to:	Jessica Kramer
Lab# From:	**Lubbock**	Delivery Priority:		Address:	6701 Aberdeen, Suite 9 Lubbock, TX 79424
Lab# To:	**Houston**	Air Bill No.:	775471304288	E-Mail:	jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
627588-001	S	HA-1 (0-0.5)	06.12.2019 11:46	E300_CL	Chloride by EPA 300	06.19.2019	12.09.2019	JKR	CL	
627588-001	S	HA-1 (0-0.5)	06.12.2019 11:46	SW8015MOD_NM	TPH By SW8015 Mod	06.19.2019	06.26.2019	JKR	PHCC10C28 PHCC28C3	
627588-002	S	HA-1 (0.5-1)	06.12.2019 11:48	E300_CL	Chloride by EPA 300	06.19.2019	12.09.2019	JKR	CL	
627588-002	S	HA-1 (0.5-1)	06.12.2019 11:48	SW8015MOD_NM	TPH By SW8015 Mod	06.19.2019	06.26.2019	JKR	PHCC10C28 PHCC28C3	
627588-006	S	HA-2 (0-0.5)	06.12.2019 11:57	E300_CL	Chloride by EPA 300	06.19.2019	12.09.2019	JKR	CL	
627588-006	S	HA-2 (0-0.5)	06.12.2019 11:57	SW8015MOD_NM	TPH By SW8015 Mod	06.19.2019	06.26.2019	JKR	PHCC10C28 PHCC28C3	
627588-007	S	HA-2 (0.5-1)	06.12.2019 11:59	E300_CL	Chloride by EPA 300	06.19.2019	12.09.2019	JKR	CL	
627588-007	S	HA-2 (0.5-1)	06.12.2019 11:59	SW8015MOD_NM	TPH By SW8015 Mod	06.19.2019	06.26.2019	JKR	PHCC10C28 PHCC28C3	
627588-011	S	HA-3 (0-0.-5)	06.12.2019 12:30	E300_CL	Chloride by EPA 300	06.19.2019	12.09.2019	JKR	CL	
627588-011	S	HA-3 (0-0.-5)	06.12.2019 12:30	SW8015MOD_NM	TPH By SW8015 Mod	06.19.2019	06.26.2019	JKR	PHCC10C28 PHCC28C3	
627588-012	S	HA-3 (0.5-1)	06.12.2019 12:32	E300_CL	Chloride by EPA 300	06.19.2019	12.09.2019	JKR	CL	
627588-012	S	HA-3 (0.5-1)	06.12.2019 12:32	SW8015MOD_NM	TPH By SW8015 Mod	06.19.2019	06.26.2019	JKR	PHCC10C28 PHCC28C3	
627588-016	S	HA-4 (0-0.5)	06.12.2019 12:38	E300_CL	Chloride by EPA 300	06.19.2019	12.09.2019	JKR	CL	
627588-016	S	HA-4 (0-0.5)	06.12.2019 12:38	SW8015MOD_NM	TPH By SW8015 Mod	06.19.2019	06.26.2019	JKR	PHCC10C28 PHCC28C3	
627588-017	S	HA-4 (0.5-1)	06.12.2019 11:46	E300_CL	Chloride by EPA 300	06.19.2019	12.09.2019	JKR	CL	
627588-017	S	HA-4 (0.5-1)	06.12.2019 11:46	SW8015MOD_NM	TPH By SW8015 Mod	06.19.2019	06.26.2019	JKR	PHCC10C28 PHCC28C3	
627588-021	S	HA-5 (0-0.5)	06.12.2019 12:58	E300_CL	Chloride by EPA 300	06.19.2019	12.09.2019	JKR	CL	
627588-021	S	HA-5 (0-0.5)	06.12.2019 12:58	SW8015MOD_NM	TPH By SW8015 Mod	06.19.2019	06.26.2019	JKR	PHCC10C28 PHCC28C3	
627588-022	S	HA-5 (0.5-1)	06.12.2019 13:00	E300_CL	Chloride by EPA 300	06.19.2019	12.09.2019	JKR	CL	
627588-022	S	HA-5 (0.5-1)	06.12.2019 13:00	SW8015MOD_NM	TPH By SW8015 Mod	06.19.2019	06.26.2019	JKR	PHCC10C28 PHCC28C3	
627588-026	S	HA-6 (0-0.5)	06.12.2019 13:20	E300_CL	Chloride by EPA 300	06.19.2019	12.09.2019	JKR	CL	
627588-026	S	HA-6 (0-0.5)	06.12.2019 13:20	SW8015MOD_NM	TPH By SW8015 Mod	06.19.2019	06.26.2019	JKR	PHCC10C28 PHCC28C3	
627588-027	S	HA-6 (O.5-1)	06.12.2019 13:22	E300_CL	Chloride by EPA 300	06.19.2019	12.09.2019	JKR	CL	
627588-027	S	HA-6 (O.5-1)	06.12.2019 13:22	SW8015MOD_NM	TPH By SW8015 Mod	06.19.2019	06.26.2019	JKR	PHCC10C28 PHCC28C3	
627588-031	S	HA-7 (0-0.5)	06.12.2019 13:32	E300_CL	Chloride by EPA 300	06.19.2019	12.09.2019	JKR	CL	

Inter-Office Shipment

IOS Number : 41401

Date/Time:	06.13.2019 18:16	Created by:	Brenda Ward	Please send report to:	Jessica Kramer
Lab# From:	**Lubbock**	Delivery Priority:		Address:	6701 Aberdeen, Suite 9 Lubbock, TX 79424
Lab# To:	**Houston**	Air Bill No.:	775471304288	E-Mail:	jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
627588-031	S	HA-7 (0-0.5)	06.12.2019 13:32	SW8015MOD_NM	TPH By SW8015 Mod	06.19.2019	06.26.2019	JKR	PHCC10C28 PHCC28C3	
627588-032	S	HA-7 (0-5-1)	06.12.2019 13:34	E300_CL	Chloride by EPA 300	06.19.2019	12.09.2019	JKR	CL	
627588-032	S	HA-7 (0-5-1)	06.12.2019 13:34	SW8015MOD_NM	TPH By SW8015 Mod	06.19.2019	06.26.2019	JKR	PHCC10C28 PHCC28C3	
627588-036	S	HA-8 (0-0.5)	06.12.2019 13:45	E300_CL	Chloride by EPA 300	06.19.2019	12.09.2019	JKR	CL	
627588-036	S	HA-8 (0-0.5)	06.12.2019 13:45	SW8015MOD_NM	TPH By SW8015 Mod	06.19.2019	06.26.2019	JKR	PHCC10C28 PHCC28C3	
627588-037	S	HA-8 (0.5-1)	06.12.2019 13:47	E300_CL	Chloride by EPA 300	06.19.2019	12.09.2019	JKR	CL	
627588-037	S	HA-8 (0.5-1)	06.12.2019 13:47	SW8015MOD_NM	TPH By SW8015 Mod	06.19.2019	06.26.2019	JKR	PHCC10C28 PHCC28C3	
627588-041	S	HA-9 (0-0.5)	06.12.2019 14:00	E300_CL	Chloride by EPA 300	06.19.2019	12.09.2019	JKR	CL	
627588-041	S	HA-9 (0-0.5)	06.12.2019 14:00	SW8015MOD_NM	TPH By SW8015 Mod	06.19.2019	06.26.2019	JKR	PHCC10C28 PHCC28C3	
627588-042	S	HA-9 (0.5-1)	06.12.2019 14:02	E300_CL	Chloride by EPA 300	06.19.2019	12.09.2019	JKR	CL	
627588-042	S	HA-9 (0.5-1)	06.12.2019 14:02	SW8015MOD_NM	TPH By SW8015 Mod	06.19.2019	06.26.2019	JKR	PHCC10C28 PHCC28C3	
627588-046	S	HA-10 (0-0.5)	06.12.2019 14:12	E300_CL	Chloride by EPA 300	06.19.2019	12.09.2019	JKR	CL	
627588-046	S	HA-10 (0-0.5)	06.12.2019 14:12	SW8015MOD_NM	TPH By SW8015 Mod	06.19.2019	06.26.2019	JKR	PHCC10C28 PHCC28C3	
627588-047	S	HA-10 (0.5-1)	06.12.2019 14:14	E300_CL	Chloride by EPA 300	06.19.2019	12.09.2019	JKR	CL	
627588-047	S	HA-10 (0.5-1)	06.12.2019 14:14	SW8015MOD_NM	TPH By SW8015 Mod	06.19.2019	06.26.2019	JKR	PHCC10C28 PHCC28C3	
627588-051	S	HA-11 (0-0.5)	06.12.2019 14:24	E300_CL	Chloride by EPA 300	06.19.2019	12.09.2019	JKR	CL	
627588-051	S	HA-11 (0-0.5)	06.12.2019 14:24	SW8015MOD_NM	TPH By SW8015 Mod	06.19.2019	06.26.2019	JKR	PHCC10C28 PHCC28C3	
627588-052	S	HA-11 (0.5-1)	06.12.2019 14:26	E300_CL	Chloride by EPA 300	06.19.2019	12.09.2019	JKR	CL	
627588-052	S	HA-11 (0.5-1)	06.12.2019 14:26	SW8015MOD_NM	TPH By SW8015 Mod	06.19.2019	06.26.2019	JKR	PHCC10C28 PHCC28C3	
627588-056	S	HA-12 (0-0.5)	06.12.2019 14:36	E300_CL	Chloride by EPA 300	06.19.2019	12.09.2019	JKR	CL	
627588-056	S	HA-12 (0-0.5)	06.12.2019 14:36	SW8015MOD_NM	TPH By SW8015 Mod	06.19.2019	06.26.2019	JKR	PHCC10C28 PHCC28C3	
627588-057	S	HA-12 (0.5-1)	06.12.2019 14:38	E300_CL	Chloride by EPA 300	06.19.2019	12.09.2019	JKR	CL	
627588-057	S	HA-12 (0.5-1)	06.12.2019 14:38	SW8015MOD_NM	TPH By SW8015 Mod	06.19.2019	06.26.2019	JKR	PHCC10C28 PHCC28C3	
627588-061	S	HA-13 (0-0.5)	06.12.2019 14:50	E300_CL	Chloride by EPA 300	06.19.2019	12.09.2019	JKR	CL	
627588-061	S	HA-13 (0-0.5)	06.12.2019 14:50	SW8015MOD_NM	TPH By SW8015 Mod	06.19.2019	06.26.2019	JKR	PHCC10C28 PHCC28C3	

Inter Office Shipment or Sample Comments:

Inter-Office Shipment

IOS Number : 41401

Date/Time:	06.13.2019 18:16	Created by:	Brenda Ward	Please send report to:	Jessica Kramer
Lab# From:	**Lubbock**	Delivery Priority:		Address:	6701 Aberdeen, Suite 9 Lubbock, TX 79424
Lab# To:	**Houston**	Air Bill No.:	775471304288	E-Mail:	jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
627588-062	S	HA-13 (0.5-1)	06.12.2019 14:52	E300_CL	Chloride by EPA 300	06.19.2019	12.09.2019	JKR	CL	
627588-062	S	HA-13 (0.5-1)	06.12.2019 14:52	SW8015MOD_NM	TPH By SW8015 Mod	06.19.2019	06.26.2019	JKR	PHCC10C28 PHCC28C3	
627588-066	S	HA-14 (0-0.5)	06.12.2019 15:00	E300_CL	Chloride by EPA 300	06.19.2019	12.09.2019	JKR	CL	
627588-066	S	HA-14 (0-0.5)	06.12.2019 15:00	SW8015MOD_NM	TPH By SW8015 Mod	06.19.2019	06.26.2019	JKR	PHCC10C28 PHCC28C3	
627588-067	S	HA-14 (0.5-1)	06.12.2019 15:02	E300_CL	Chloride by EPA 300	06.19.2019	12.09.2019	JKR	CL	
627588-067	S	HA-14 (0.5-1)	06.12.2019 15:02	SW8015MOD_NM	TPH By SW8015 Mod	06.19.2019	06.26.2019	JKR	PHCC10C28 PHCC28C3	

Inter Office Shipment or Sample Comments:

Some of the jars might not ibe n cooler. They forgot to get some out of cooler and their co-worker took the cooler to Midland. Will bring in tomorrow and will send to you tomorrorw evening. 06-13-19 BW

Relinquished By: Brenda Ward

Brenda Ward

Date Relinquished: 06.13.2019

Received By:

Monica Shakhshir

Date Received: 06.14.2019 09:50

Cooler Temperature: 1.4

Inter-Office Shipment

IOS Number : 41631

Date/Time:	06.18.2019 11:19	Created by:	Brenda Ward	Please send report to:	Jessica Kramer
Lab# From:	**Lubbock**	Delivery Priority:		Address:	6701 Aberdeen, Suite 9 Lubbock, TX 79424
Lab# To:	**Houston**	Air Bill No.:	775507266299	E-Mail:	jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
627588-003	S	HA-1 (1.5-2)	06.12.2019 11:50	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-004	S	HA-1 (3.5-4)	06.12.2019 11:51	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-005	S	HA-1 (4.5-5)	06.12.2019 11:53	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-008	S	HA-2 (1.5-2)	06.12.2019 12:01	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-009	S	HA-2 (3-3.5)	06.12.2019 12:03	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-010	S	HA-2 (4.5-5)	06.12.2019 12:05	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-013	S	HA-3 (1.5-2)	06.12.2019 12:34	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-014	S	HA-3 (3-3.5)	06.12.2019 12:36	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-015	S	HA-3 (4.5-5)	06.12.2019 12:38	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-018	S	HA-4 (1.5-2)	06.12.2019 12:49	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-019	S	HA-4 (3-3.5)	06.12.2019 12:51	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-020	S	HA-4 (4.5-5)	06.12.2019 12:53	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-023	S	HA-5 (1.5-2)	06.12.2019 13:02	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-024	S	HA-5 (3-3.5)	06.12.2019 13:04	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-025	S	HA-5 (4.5-5)	06.12.2019 13:06	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-028	S	HA-6 (1.5-2)	06.12.2019 13:24	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-029	S	HA-6 (3-3.5)	06.12.2019 13:26	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-030	S	HA-6 (4.5-5)	06.12.2019 13:28	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-033	S	HA-7 (1.5-2)	06.12.2019 13:36	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-034	S	HA-7 (3-3-5)	06.12.2019 13:38	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-035	S	HA-7 (4.5-5)	06.12.2019 13:40	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-038	S	HA-8 (1.5-2)	06.12.2019 13:49	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-039	S	HA-8 (3-3.5)	06.12.2019 13:51	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-040	S	HA-8 (4.5-5)	06.12.2019 13:53	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-043	S	HA-9 (1.5-2)	06.12.2019 14:04	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	

Inter-Office Shipment

IOS Number : 41631

Date/Time: 06.18.2019 11:19
Lab# From: **Lubbock**
Lab# To: **Houston**
Created by: Brenda Ward
Delivery Priority:
Air Bill No.: 775507266299

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
627588-044	S	HA-9 (3-3.5)	06.12.2019 14:06	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-045	S	HA-9 (4.5-5)	06.12.2019 14:08	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-048	S	HA-10 (1.5-2)	06.12.2019 14:16	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-049	S	HA-10 (3-3.5)	06.12.2019 14:18	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-050	S	HA-10 (4.5-5)	06.12.2019 14:20	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-053	S	HA-11 (1.5-2)	06.12.2019 14:28	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-054	S	HA-11 (3-3.5)	06.12.2019 14:30	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-055	S	HA-11 (4.5-5)	06.12.2019 14:32	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-058	S	HA-12 (1.5-2)	06.12.2019 14:40	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-059	S	HA-12 (3-3.5)	06.12.2019 14:42	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-060	S	HA-12 (4.5-5)	06.12.2019 14:44	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-063	S	HA-13 (1.5-2)	06.12.2019 14:54	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-064	S	HA-13 (3-3.5)	06.12.2019 14:56	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-065	S	HA-13 (4.5-5)	06.12.2019 14:58	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-068	S	HA-14 (1.5-2)	06.12.2019 15:04	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-069	S	HA-14 (3.3-5)	06.12.2019 15:06	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	
627588-070	S	HA-14 (4.5-5)	06.12.2019 15:08	E300_CL	Chloride by EPA 300	06.21.2019	12.09.2019	JKR	CL	

Inter Office Shipment or Sample Comments:

Relinquished By: Brenda Ward
Brenda Ward

Date Relinquished: 06.18.2019

Received By: Travis Simmons
Travis Simmons

Date Received: 06.19.2019 09:30

Cooler Temperature: 4.0

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Houston

IOS #: 41401

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:** 06.13.2019 06.16 PM

Received By: Monica Shakhshir **Date Received:** 06.14.2019 09.50 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	1.4	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received with appropriate temperature?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**	
#5 *Custody Seals Signed and dated for Containers/coolers	**Yes**	
#6 *IOS present?	**Yes**	
#7 Any missing/extra samples?	**No**	
#8 IOS agrees with sample label(s)/matrix?	**Yes**	
#9 Sample matrix/ properties agree with IOS?	**Yes**	
#10 Samples in proper container/ bottle?	**Yes**	
#11 Samples properly preserved?	**Yes**	
#12 Sample container(s) intact?	**Yes**	
#13 Sufficient sample amount for indicated test(s)?	**Yes**	
#14 All samples received within hold time?	**Yes**	

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

NonConformance:

Some of the jars might not ibe n cooler. They forgot to get some out of cooler and their co-worker took the cooler to Midland. Will bring in tomorrow and will send to you tomorrorw evening. 06-13-19 BW

Corrective Action Taken:

Nonconformance Documentation

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

Checklist reviewed by: _____ Date: 06.14.2019

Monica Shakhshir

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Houston

IOS #: 41631

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:** 06.18.2019 11.19 AM

Received By: Travis Simmons **Date Received:** 06.19.2019 09.30 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	4	
#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: Travis Simmons Date: 06.19.2019

Travis Simmons

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Terracon-Lubbock

Date/ Time Received: 06/13/2019 09:10:00 AM

Work Order #: 627588

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

Temperature Measuring device used : IR-3

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	2	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 Custody Seals intact on sample bottles?	**N/A**	
#6*Custody Seals Signed and dated?	**N/A**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**Yes**	Chlorides & SW8015 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: 06/13/2019
Brenda Ward

Checklist reviewed by: Jessica Kramer Date: 06/13/2019
Jessica Kramer

APPENDIX C – 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.

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 10101

CONDITIONS OF APPROVAL

Operator:			OGRID:	Action Number:	Action Type:
SOLARIS WATER MIDSTREAM, LLC	907 Tradewinds Blvd, Suite B	Midland, TX79706	371643	10101	C-141

OCD Reviewer	Condition
chensley	None