From: Rob Kirk
Sent: Thursday, September 26, 2019 12:25 PM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>
Cc: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Venegas, Victoria, EMNRD <Victoria.Venegas@state.nm.us>; Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Griswold, Jim, EMNRD <Jim.Griswold@state.nm.us>
Subject: RE: Remediation Plan Denied - Solaris Midstream - Okeanos #1 SWD Flowback Line - (1RP-5407) 2-23-2019

Hello Robert,

Unfortunately, in our first few uploads to the OCD portal, we have inadvertently left off attachments in preparing a single combined document.

I apologize for this inconvenience. We will correct and resubmit.

Rob Kirk
General Manager, HSE and Compliance
Solaris Water Midstream
907 Tradewinds Blvd., Suite B
Midland, TX 79706
O TX: (432) 203-9020
D TX: (432) 217-5074
C: (469) 978-5620

3305 Boyd Drive
Carlsbad, NM 88220
O NM (575) 300-5155

From: Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>
Sent: Tuesday, September 24, 2019 4:27 PM
To: Rob Kirk <rob.kirk@solarismidstream.com>
Cc: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Venegas, Victoria, EMNRD <Victoria.Venegas@state.nm.us>; Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Griswold, Jim, EMNRD <Jim.Griswold@state.nm.us>
Subject: Remediation Plan Denied - Solaris Midstream - Okeanos #1 SWD Flowback Line - (1RP-5407) 2-23-2019

Rob,

We have received your Workplan/Remediation Proposal for **1RP-5407 Okeanos #1 SWD Flowback Line**, thank you. This Workplan/Remediation proposal is denied.

Please review and resubmit including all documentation as required.

Please submit:

1. Scaled site map diagram with sample points clearly marked
2. Site Photos
3. Site Assessment/Delineation summary (horizontal and vertical)
4. Delineation sample analytical results (lab tested)
5. Table containing analytical data
6. Description of proposed excavation depths corresponding to analytical table
7. Depth to groundwater evaluation, including fluid level data from New Mexico Office of the State Engineer or other documented evidence
8. Karst evaluation, here is the link to the CFO GIS data
9. FEMA National Flood map review.
10. Signed and dated C-141 (Pages 3-5)

The report is missing most of the necessary documentation. Please, doublecheck and make sure all from the above list is included in your remediation plan resubmittal.
Resubmit the remediation plan through the Payment Portal at recompletion.

If you need assistance, the current spill rule may be viewed here:
http://164.64.110.134/parts/title19/19.015.0029.html

Please let me know if you have any further questions.

Thank you,

Robert J Hamlet
State of New Mexico
Energy, Minerals, and Natural Resources
Oil Conservation Division
811 S. First St., Artesia NM 88210
(575) 748-1283
Robert.Hamlet@state.nm.us

State of New Mexico
Oil Conservation Division

Incident ID	NAB 1908656592
District RP	1RP-5407
Facility ID	fAB 1908656217
Application ID	pAB 1908656303

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?	650 (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	NAB 1908656592
District RP	1RP-5407
Facility ID	fAB 1908656217
Application ID	pAB 1908656303

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 30, 2019

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

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	NAB 1908656592
District RP	1RP-5407
Facility ID	fAB 1908656217
Application ID	pAB 1908656303

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: RPKirk Date: August 30, 2019

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

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

Release Investigation and Remedial Action Plan

General Site Information:
Okeanos #1 SWD Flowback Line (NMOCD Reference #: 1RP-5407)

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, NM), approximately 10.35 miles to the Northwest

Driving Directions
From Hwy 62, South on Lea Co. Rd. 27-A 7.8 mi, East on unimproved road 0.10 mi., North 0.20 mi. to Pipe location.

Legal Description
Unit M Section 36, T20S, R34E, Lea County, New Mexico

September 27, 2019
Terracon Project No. AR197105

Prepared for:
Solaris Water Midstream LLC
Midland, Texas

Prepared by:
Terracon Consultants, Inc.
Lubbock, Texas

September 27, 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**
Okeanos #1 SWD Flowback Line (NMOCD Reference #: (1RP-5407)
Unit M Section 36, T20S, R32E, Lea County, New Mexico
Terracon Project No. AR197105

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 (PAR197105) dated March 1, 2019.

- Based on the magnitude of chloride and hydrocarbon concentrations detected within the release margins to depths subject to NMOCD Reclamation requirements, approximately 2,000 cubic yards (cy) of chloride impacted material will be required to be excavated and disposed of at a permitted disposal facility under manifest.
- Following excavation to restrictive layer depths, vertical and horizontal delineation samples were collected from the base and walls of the excavation to confirm the remaining levels of soil contaminants are below the desired NMOCD remediation action level (RAL).
- During excavation of contaminated soils, restrictive features were encountered at 13 to 24 in. below grade surface (bgs). Terracon will hydro-vac the remaining residual soil sitting up on the restrictive rock layer and provide confirmation photos along with our closure report.
- 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.

- Terracon will backfill and reseed following submittal of the closure report in accordance with *NMOCD Re-vegetation guidlines (19.15.29.13)*

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

TABLE OF CONTENTS

Release Investigation and Remedial Action Plan
Okeanos #1 SWD Flowback Line Produced Water Release
Unit M Section 36, Township 20 South, Range 34 East, N.M.P.M.
Lea County, New Mexico
NMOCD Reference No. 1RP-5407
Terracon Project No. AR197105
September 27, 2019

1.0 SITE DESCRIPTION

The Site is comprised of an approximate 3-acre tract of land within the SW ¼ ,SW ¼ ,Section 36, Township 20 South, Range 34 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 South. A Topographic Map illustrating the site location is included as Figure 1 and Chloride Concentration Maps are included as Figures 2 and 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 NMOCD requirements that detail site closure activities to be completed. This RAP addresses the February 23, 2019 release of approximately 20 barrels (bbls) of produced water which contained an estimated 5 bbls of crude originating from a malfunctioning flange on a pipeline connection of a Solaris flowback line.

3.0 INTRODUCTION AND NOTIFICATION

The following table provides detailed information regarding the February 23, 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 March 5, 2019.	
Facility description	The facility is Okeanos #1 SWD in Lea County, New Mexico. It is an approximate 3-acre SWD located within the SW ¼ SW ¼ Section 36, Township 20 South, Range 34 East, N.M.P.M.,	

Required Information	Site and Release information	
	approximately 22 miles northwest of Eunice, New Mexico. The site is developed as a SWD and water treatment/reuse facility.	
Time of incident	February 23, 2019, discovered at 11:00 a.m.	
Discharge event	Release of produced water containing crude oil originating from a malfunctioning flange on a pipeline connection of a Solaris transfer flowback line. The release origin occurred north 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 meandered along the surface for approximately 760 ft. to the northeast at a width ranging from approximately 35 ft. at 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: 20 bbls	Produced Water: 20 bbls containing approximately 5 bbls of crude oil
Site characteristics	Relatively flat with drainage following the native ground surface; very gently sloping to the northeast.	
Immediate corrective actions	Pipeline was shut in, and M&J Oilfield Services scraped up and stockpiled affected materials 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 malfunctioning gasket. Solaris deployed M&J Oilfield Services (M&J), an on-site contractor, to secure the site and perform containment and site stabilization activities.

4.2 Containment and Site Stabilization

M&J scraped up and stockpiled affected soil proximate to the release origin, comprising an area measuring approximately 6,000 square feet (sf). From this area, M&J stockpiled affected materials totaling an estimated 10-cubic yards (cy). Following consolidation of these materials, M&J fenced off the area 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 one registered well within 0.5 miles of the site. One registered well (CP-01334-POD1) was identified at 0.35 miles of the site with a stated depth of 733 ft. below grade surface (bgs). NMOSE registered wells within 1.25 miles of the site have a minimum depth to groundwater of 100 feet bgs, with a maximum reported depth of 1,025 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 present within 0.5 miles of the site. One registered well (CP-01334-POD1) was identified at 0.35 miles of the site with a stated depth of 733 ft. bgs. Additionally, well CP-01334-POD1 was identified at 0.51 miles to the site with a stated depth of 735 ft. bgs.

5.3 Distance to Nearest Surface Water

The Laguna Gatuna (playa) is located approximately 10.4 miles northwest of the site.

5.4 Soil / Waste Characteristics

Soils at the site are mapped as Kimbrough gravely loam, dry, 0 to 3 percent slopes. This soil has a surface layer of fine- to coarse-grained sand. While the Kimbrough is comprised of fine- to coarse-grained sands at the surface restrictive, petrocalcic features, are present at 4 to 18 inches bgs. resulting in the formation being categorized with a high runoff classification.

5.5 Karst Characteristics

Terracon evaluated data from the NMOCD Public FTP Site, Karst map designations in reference to the site location. The site appears to be within a low level Karst risk area. Based on site observations within the extent of the release margins the potential for Karst formations in this area are low to no potential. The site has a layer of solid competent rock from 18 to 80 inches bgs. The full extent of release quantities and excavation activities took place not greater than 18 inches bgs.

5.6 Groundwater Quality

Groundwater quality at the site is prodimently used for commercial oil and gas production and the nearest well (CP-01334-POD1) is being utilized for fracing operations.

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 March 1, 2019 release investigation activities, a total of 26 soil samples were collected from the site and analyzed for BTEX, chloride, and/or TPH. Eighteen samples were collected from within the release margins; one sample was collected from the stockpile; and seven samples were collected outside of the impacted area to evaluate background concentrations.

8.1 Background Data Evaluation

Benzene was not detected above applicable laboratory SDLs in any of the soil samples analyzed outside of the release margins. No benzene concentrations exceeded the applicable NMOCD Reporting Action Limit (RAL) for benzene of 10 mg/kg, as summarized in Table 1.

Four of six background samples analyzed for Total BTEX exhibited concentrations above applicable laboratory sample detection limits (SDLs). These Total BTEX concentrations ranged from 0.00769 mg/kg in soil sample HA-9 (0.5 to 1 ft bgs) to 0.0257 mg/kg in soil sample HA-9 (Surface to 0.5 ft bgs).

Chloride was detected above applicable laboratory SDLs in each of the analyzed background samples. The chloride concentrations ranged from 34.3 mg/kg in soil sample HA-9 (Surface to 0.5 ft bgs) to 461 mg/kg in soil sample HA-9 (0.5 to 1 ft bgs).

Six of seven background samples analyzed for Total TPH exhibited concentrations above applicable SDLs. The Total TPH concentrations ranged from 17.1 mg/kg in soil sample HA-11 (Surface to 0.5 ft bgs) to 24.7 mg/kg in soil sample HA-9 (Surface to 0.5 ft bgs).

Detected concentrations for BTEX, chloride, and TPH in background samples did not exceed NMOCD Action Levels based on the criteria ranking parameters. Based on the analytical results of the background samples, NMOCD Action Levels will continue to be utilized as the applicable Remedial Action Levels (RALs) for the site.

8.2 Release Margins Data Evaluation

8.2.1 Reclamation Assessment Data Evaluation

Benzene was detected above applicable laboratory SDLs in 7 of the 18 soil samples analyzed within the release margins. The benzene concentrations ranged from 0.00867 mg/kg in soil sample HA-1 (Surface to 0.5 ft bgs) to 0.344 mg/kg in soil sample HA-8 (Surface to 0.5 ft bgs).

The detected benzene concentrations did not exceed the applicable NMOCD RAL for benzene of 10 mg/kg, as summarized in Table 1.

Total BTEX was detected above applicable laboratory SDLs in 16 of the 18 soil samples analyzed within the release margins. The Total BTEX concentrations ranged from 0.0218 mg/kg in soil sample HA-2 (0.5 to 1.0 ft bgs) to 117 mg/kg in soil sample HA-8 (Surface 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.

Chloride was detected above applicable laboratory SDLs in 16 of the 18 soil samples analyzed within the release margins. The chloride concentrations ranged from 271 mg/kg in soil sample HA-8 (Surface to 0.5 ft bgs) to 24,700 mg/kg in soil sample HA-1 (Surface to 0.5 ft bgs). Except for soil sample HA-3 (1.5 to 2.0 ft bgs), HA-6 (1.0 to 1.5 ft bgs) that weren't analyzed for chloride, and 271 mg/kg in soil sample HA-8 (surface to 0.5 ft bgs). The remaining soil samples analyzed within the release margins did exhibit chloride concentrations exceeding the applicable NMOCD RAL for chloride of 600 mg/kg, as summarized in Table 1.

Total TPH was detected above applicable laboratory SDLs in each of the 18 soil samples analyzed within the release margins. The Total TPH concentrations ranged from 20 mg/kg in soil sample HA-1 (0.5 to 1.0 ft bgs) to 25,100 mg/kg in soil sample HA-8 (Surface to 0.5 ft bgs). Eight samples collected within the release margins exhibited Total TPH concentrations above the NMOCD RAL of 100 mg/kg for Total TPH, as summarized in Table 1.

8.2.2 Remediation Assessment Data Evaluation

At each of the soil boring locations, a soil sample was unable to be collected, all sampling events were unable to get through the restrictive barrier present at 2 ft. bgs.

8.3 Stockpile Data Evaluation

Benzene was detected above the applicable laboratory SDL at a concentration of 0.177 mg/kg in the stockpile sample SP-1. The detected benzene concentration did not exceed the applicable NMOCD RAL for benzene of 10 mg/kg, as summarized in Table 1.

Total BTEX was detected above the applicable laboratory SDL at a concentration of 6.97 mg/kg. in 16 of the 17 soil samples analyzed within the release margins. The detected Total BTEX concentration did not exceed the applicable NMOCD RAL for BTEX of 50 mg/kg, as summarized in Table 1.

Chloride was detected above applicable laboratory SDL at a concentration of 24,300 mg/kg. The detected chloride concentration did exceed the applicable NMOCD RAL for chloride of 600 mg/kg, as summarized in Table 1.

Total TPH was detected above applicable laboratory SDL at a concentration of 2,710 mg/kg which exceeds the applicable NMOCD RAL for Total TPH of 100 mg/kg, as summarized in Table 1.

8.4 Release Investigation Data Summary

Based on the review of the above release investigation analytical results, the areas within the release margins exhibit concentrations of benzene, Total BTEX, chloride and Total TPH in multiple locations including the stockpiled materials generated during release response activities. Based on these exceedances above NMOCD RALs, Sections 9.0 and subsequent detail recommended remedial response actions to be implemented at the site.

It is anticipated that released produced water associated chlorides consolidated upon the cemented layer of the Petrocalcic features within the release margins. Based on the presence of the compotent rock, further analytical evaluation of deeper horizons appears unwarranted at this time.

At the areas within the release margins 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 2,000 cy of chloride impacted material will be required to be excavated and disposed of at a permitted disposal facility under manifest.

9.2 Remediation Response Objectives

Following excavation to recommended Reclamation depths, 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 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 hydro-vacing the restrictive feature to wash out the residual presence of chlorides at this restrictive zone to ensure that concentrations

are not elevated further at this restrictive interphase.Terracon will additionally include photo logs of the hydro-vacing activities with the closure report.

Based on the anticipated depth to groundwater, it is anticipated that a remedial response will not be warranted within the soils at depths greater than 2 ft. bgs.

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 – Site Diagram

Figure 3 – Contamination Concentration Map

Figure 4 – Initial Remediation Concentration Map

Figure 5 – NMOSE POD Location Map

Table 1 – Soil Sample Analytical Results

APPENDIX B – PHOTOGRAPHIC LOG

APPENDIX C – ANALYTICAL REPORT AND CHAIN OF CUSTODY

APPENDIX D – TERRACON STANDARD OF CARE, LIMITATION, AND RELIANCE

Standard of Care

Terracon's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time. Terracon makes no warranties, either express or implied, regarding the findings, conclusions, or recommendations. Please note that Terracon does not warrant the work of laboratories, regulatory agencies, or other third parties supplying information used in the preparation of the report. These services were performed in accordance with the scope of work agreed with you, Solaris Water Midstream, as reflected in our proposal (PA4197040).

Additional Scope Limitations

Development of this RAP is based upon information provided by the Client and Terracon's remediation and construction services line. Such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, nondetectable, or not present during these services. We cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those by information provided by the Client. The data, interpretations, findings, and our recommendations are based solely upon reformation executed within the scope of these services.

Reliance

This report has been prepared for the exclusive use of Solaris Water Midstream, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the site) is prohibited without the express written authorization of Solaris Water Midstream and Terracon. Any unauthorized distribution or reuse is at Solaris Water Midstream sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions, and limitations stated in the proposal and Solaris Water Midstream and Terracon's Master Services Agreement. The limitation of liability defined in the terms and conditions is the aggregate limit of Terracon's liability to Solaris Water Midstream and all relying parties unless otherwise agreed in writing.

APPENDIX A – FIGURES AND TABLES

Figure 1 – Topographic Map

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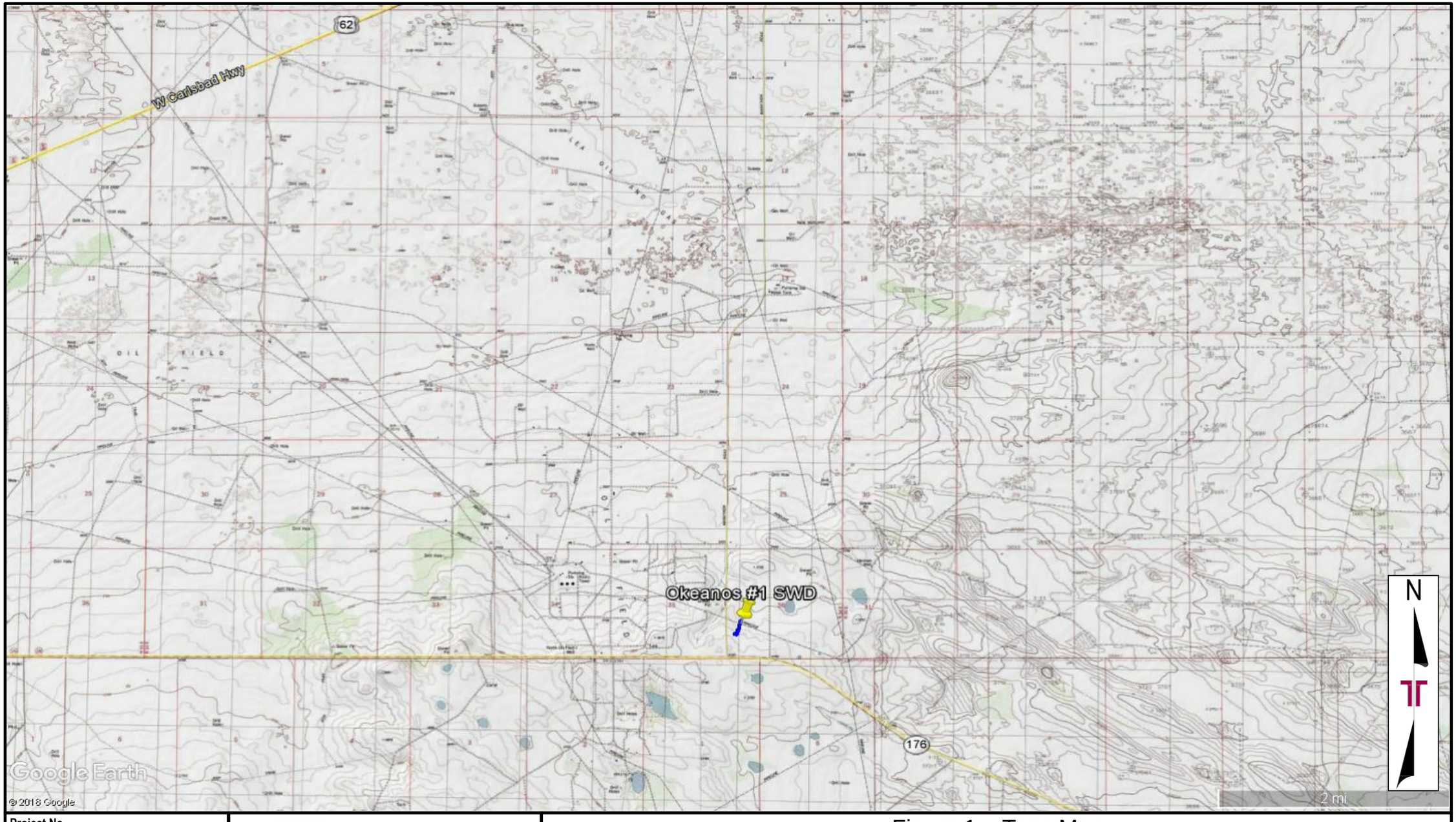
Table 1 – Soil Sample Analytical Results



Project No.	AR197105
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

Okeanos #1 SWD
32.525430°, -103.521001°
Lea County, New Mexico

Project No.	AR197105
Scale:	As Shown
Source:	Google Earth
Date:	11/2/2017

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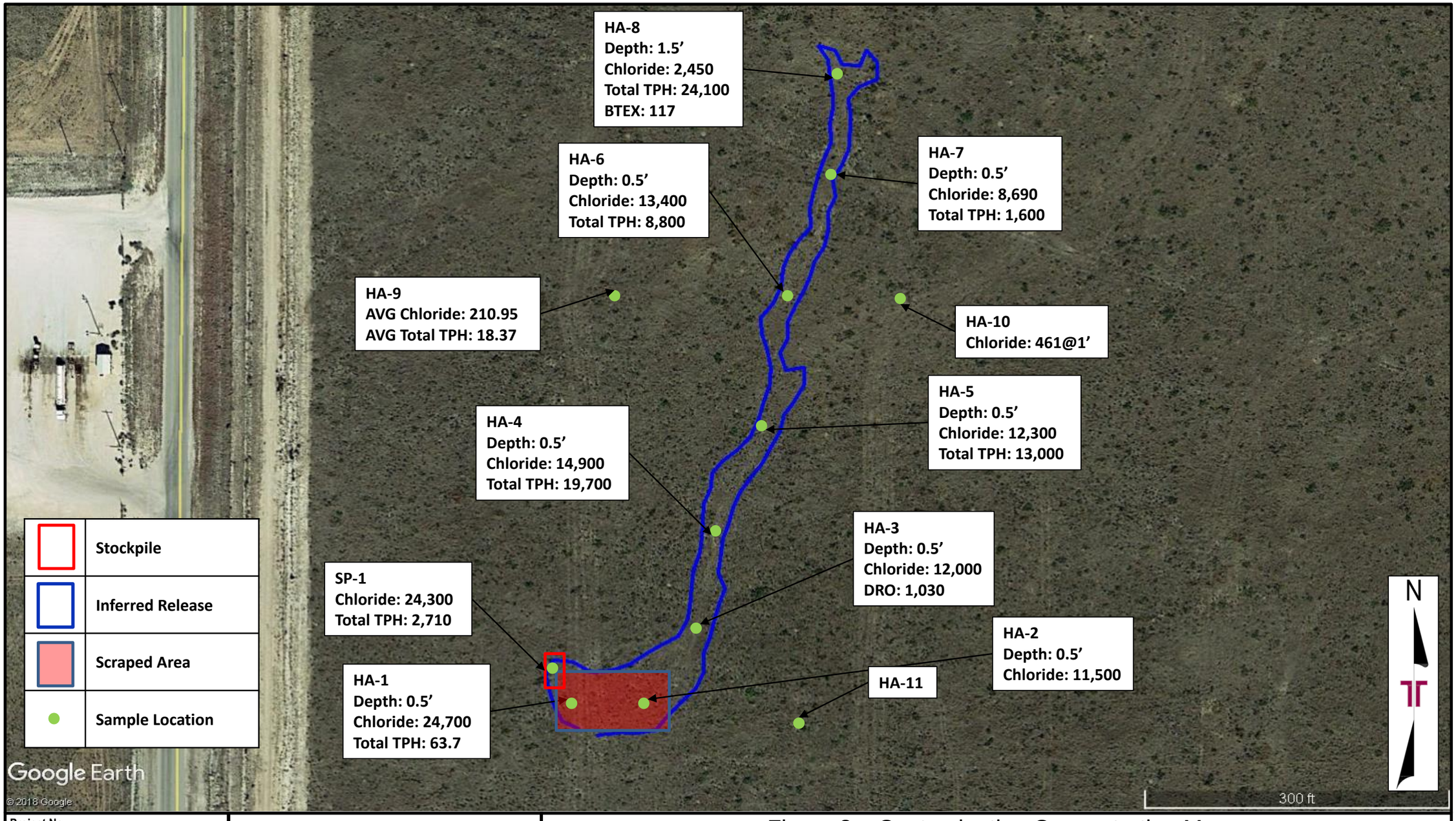
Figure 2 – Site Map

Okeanos #1 SWD
32.525430°, -103.521001°
Lea County, New Mexico



Project No.	AR197105
Scale:	As Shown
Source:	Google Earth
Date:	11/2/2017

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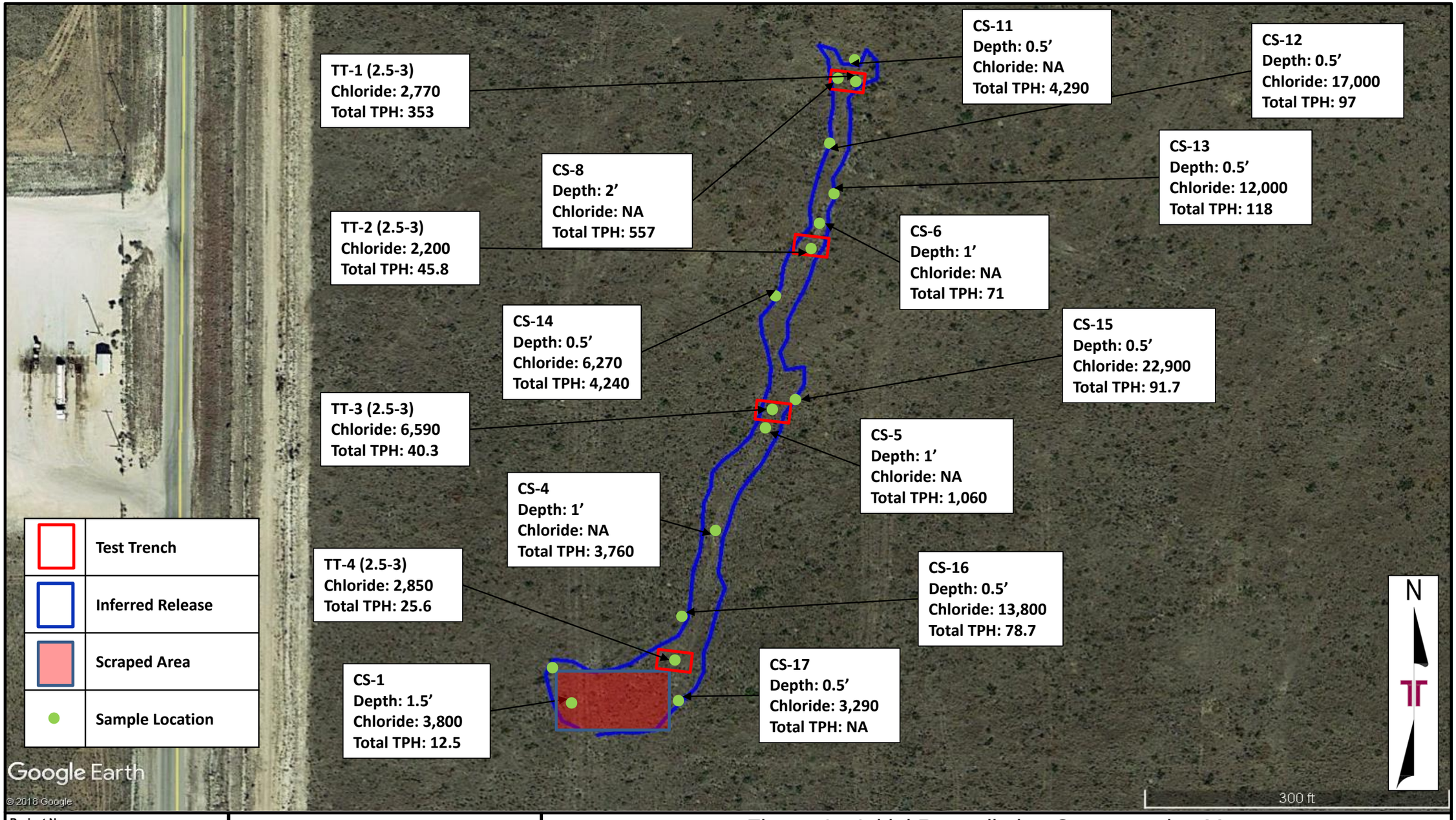
Figure 3 – Contamination Concentration Map

Okeanos #1 SWD
32.525430°, -103.521001°
Lea County, New Mexico



Project No.	AR197105
Scale:	As Shown
Source:	Google Earth
Date:	11/2/2017

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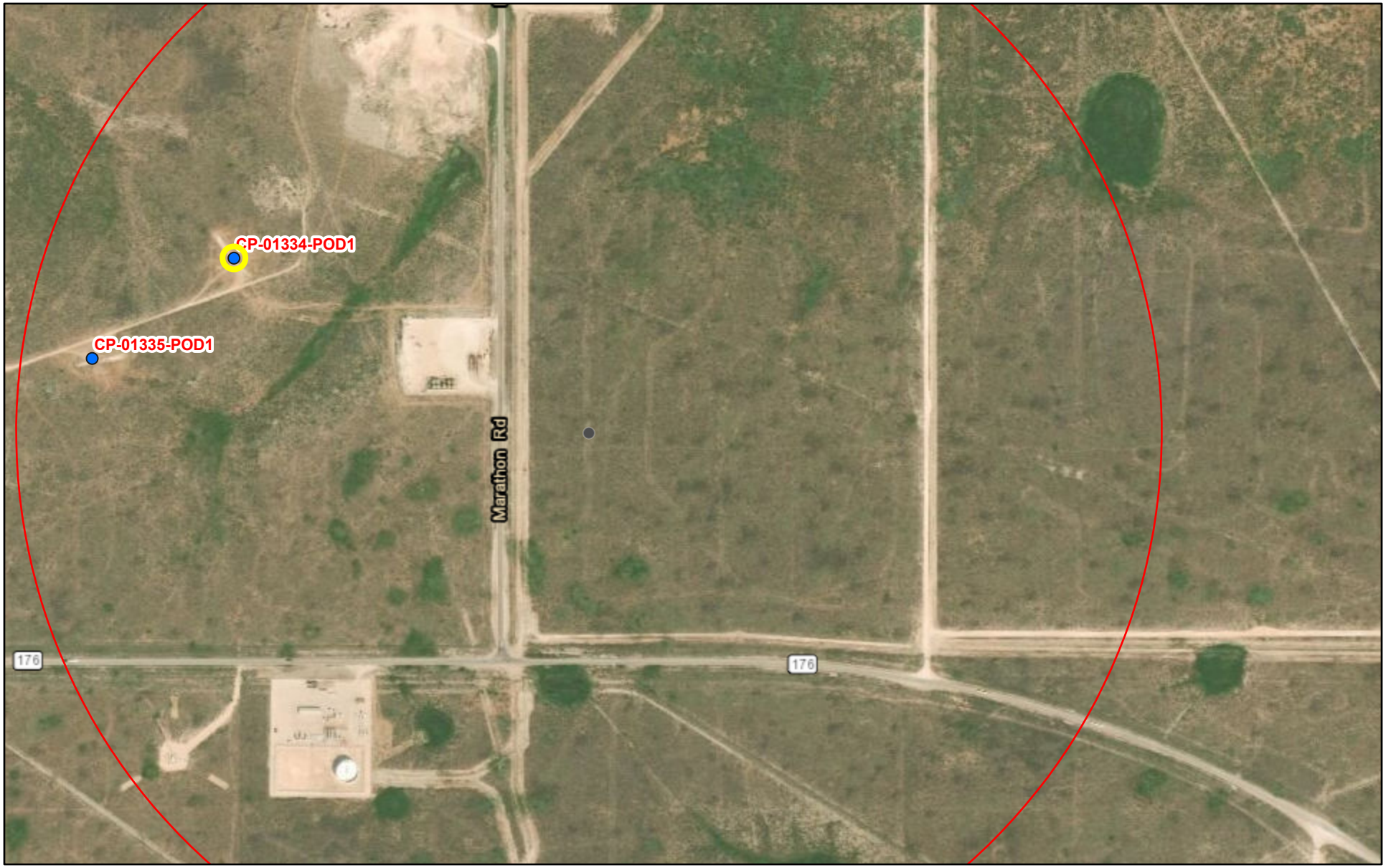
Figure 4 – Initial Remediation Concentration Map

Okeanos #1 SWD
32.525430°, -103.521001°
Lea County, New Mexico

Figure 5 - NMOSE POD Location Map



9/10/2019 10:32:18 AM

1:9,028

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

OSE District Boundary

GIS WATERS PODs

Active

OSE Conveyances

Acequia

Acequia Tunnel

Arroyo

Canal

Channel

Closed Drain

Community Ditch

Connector

Creek

Culvert

Ditch

Diversion Weir

Drain

Feeder

Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin,

Printed from Public Web Map

Unofficial Map from OSE POD Locations Web Application

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS - BTEX[1], Chloride[2], and TPH[3]
Okeanos #1 SWD
Solaris Incident No.
Terracon Project No. AR197105

Sample I.D.	Sample Depth (bgs)	Sample Type	Sample Date	Soil Status	BTEX (mg/kg)	Chloride (mg/kg)	TPH (8015M) (mg/kg)			
							GRO	DRO	MRO	TOTAL
SP-1	COMP	Grab	03/01/19		Benzene - 0.177 Toluene - 1.32 Ethylbenzene - 1.19 Total Xylenes - 4.28 Total BTEX - 6.97	**24,300**	252	**2,130**	325	**2,710**
Release Margin Samples										
HA-1	0 - 0.5'	Grab	03/01/19	Excavated	Benzene - 0.00867 Toluene - 0.026 Ethylbenzene - 0.0173 Total Xylenes - 0.0451 Total BTEX - 0.0971	**24,700**	11.9	51.8	<8.11	63.7
	0.5 - 1'	Grab	03/01/19	Excavated	Benzene - <0.00879 Toluene - <0.00455 Ethylbenzene - <0.00599 Total Xylenes - <0.00663 Total BTEX - <0.00455	**18,700**	<7.91	20	<8.1	20
HA-2	0 - 0.5'	Grab	03/01/19	Excavated	Benzene - 0.0183 Toluene - 0.28 Ethylbenzene - 0.756 Total Xylenes - 2.61 Total BTEX - 3.66	**11,500**	<7.98	27.9	<8.1	27.9
	0.5 - 1'	Grab	03/01/19	Excavated	Benzene - <0.00825 Toluene - <0.00427 Ethylbenzene - <0.00562 Total Xylenes - 0.0218 Total BTEX - 0.0218	**3,430**	<8.0	32.5	<8.13	32.5
HA-3	0 - 0.5'	Grab	03/01/19	Excavated	Benzene - <0.00832 Toluene - 0.0773 Ethylbenzene - 0.0866 Total Xylenes - 0.474 Total BTEX - 0.638	**12,000**	28.8	317	42.1	388
	0.5 - 1'	Grab	03/01/19	Excavated	Benzene - <0.00814 Toluene - 0.168 Ethylbenzene - 0.492 Total Xylenes - 1.94 Total BTEX - 2.6	**8,090**	87.3	**1,030**	159	1,280
	1.5 - 2'	Grab	03/01/19	Excavated	BTEX - NA	NA	29.0	274	40.8	344
HA-4	0 - 0.5'	Grab	03/01/19		Benzene - 0.199 Toluene - 2.87 Ethylbenzene - 3.86 Total Xylenes - 17.2 Total BTEX - 24.2	**8,840**	**1,930**	**15,800**	1,980	**19,700**
	0.5 - 1'	Grab	03/01/19		Benzene - 0.0253 Toluene - 0.373 Ethylbenzene - 1.07 Total Xylenes - 3.84 Total BTEX - 5.31	**14,900**	336	**3,890**	469	**4,700**
New Mexico Oil Conservation Division (NMOCD) Remediation and Delineation Standards*					**Benzene - 10** **Toluene - N/A** **Ethylbenzene - N/A** **Total Xylenes - N/A** **Total BTEX - 50**	**600**	**N/A**			**100**

1. BTEX = Benzene, toluene, ethylbenzene, total xylenes analyzed by EPA Method 8021B
2. Chloride = Chloride analyzed by EPA Method 300.
3. TPH = Total petroleum hydrocarbons analyzed by EPA Method 8015M (GRO/DRO/ORO)

* = 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= No Applicable reporting standards

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

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Okeanos #1 SWD
Solaris Incident No.
Terracon Project No. AR197105

Sample I.D.	Sample Depth (bgs)	Sample Type	Sample Date	Soil Status	BTEX (mg/kg)	Chloride (mg/kg)	TPH (8015M) (mg/kg)			
							GRO	DRO	MRO	TOTAL
HA-5 (0-.5)	0 - 0.5'	Grab	03/01/19		Benzene - <0.0409 Toluene - 0.534 Ethylbenzene - 2.52 Total Xylenes - 10.3 Total BTEX - 13.3	**12,100**	**1,310**	**10,500**	1,200	**13,000**
HA-6	0 - 0.5'	Grab	03/01/19		Benzene - <0.0174 Toluene - 0.0925 Ethylbenzene - 0.817 Total Xylenes - 1.74 Total BTEX - 2.65	**12,300**	430	**7,330**	**1,040**	**8,800**
	0.5 - 1'	Grab	03/01/19		Benzene - <0.0165 Toluene - 0.0729 Ethylbenzene - 0.699 Total Xylenes - 1.41 Total BTEX - 2.18	**13,400**	217	**3,450**	390	**4,060**
	1 - 1.5'	Grab	03/01/19		Benzene - <0.00834 Toluene - <0.00432 Ethylbenzene - 0.299 Total Xylenes - 0.764 Total BTEX - 0.952	NA	64	**1,210**	171	1,450
HA-7	0 - 0.5'	Grab	03/01/19		Benzene - <0.00823 Toluene - 0.0164 Ethylbenzene - 0.135 Total Xylenes - 0.545 Total BTEX - 0.696	**8,690**	82.3	**1,350**	170	1,600
	0.5 - 1'	Grab	03/01/19		Benzene - <0.00876 Toluene - 0.0271 Ethylbenzene - 0.163 Total Xylenes - 0.20 Total BTEX - 0.39	**3,380**	37	705	90.2	832
HA-8	0 - 0.5'	Grab	03/01/19		Benzene - 0.344 Toluene - 15.8 Ethylbenzene - 19.3 Total Xylenes - 81.9 Total BTEX - **117**	271	**4,960**	**18,100**	1,990	**25,100**
	0.5 - 1'	Grab	03/01/19		Benzene - 0.0391 Toluene - 2.75 Ethylbenzene - 4.41 Total Xylenes - 19 Total BTEX - 26.2	**2,450**	**1,260**	**4,960**	477	**6,700**
	1.5 - 2'	Grab	03/01/19		Benzene - 0.105 Toluene - 6.93 Ethylbenzene - 9.21 Total Xylenes - 41.7 **Total BTEX - 57.9**	**2,330**	**3,390**	**18,700**	2,030	**24,100**
New Mexico Oil Conservation Division (NMOCD) Remediation and Delineation Standards*					**Benzene - 10** **Toluene - N/A** **Ethylbenzene - N/A** **Total Xylenes - N/A** **Total BTEX - 50**	**600**	**N/A**			**100**

1. BTEX = Benzene, toluene, ethylbenzene, total xylenes analyzed by EPA Method 8021B
2. Chloride = Chloride analyzed by EPA Method 300.
3. TPH = Total petroleum hydrocarbons analyzed by EPA Method 8015M (GRO/DRO/ORO)
* = 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
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Bold denotes concentrations that exceed the New Mexico Oil Conservation Division (NMOCD) Remediation and Delineation Standards.

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SOIL SAMPLE ANALYTICAL RESULTS - BTEX[1], Chloride[2], and TPH[3]
Okeanos #1 SWD
Solaris Incident No.
Terracon Project No. AR197105

Sample I.D.	Sample Depth (bgs)	Sample Type	Sample Date	Soil Status	BTEX (mg/kg)	Chloride (mg/kg)	TPH (8015M) (mg/kg)			
							GRO	DRO	MRO	TOTAL
Background Samples										
HA-9	0 - 0.5'	Grab	03/01/19		Benzene - <0.00831 Toluene - 0.00919 Ethylbenzene - <0.00566 Total Xylenes - 0.0165 Total BTEX - 0.0257	34.3	<7.98	14.3	10.4	24.7
	0.5 - 1'	Grab	03/01/19		Benzene - <0.00869 Toluene - 0.00769 Ethylbenzene - <0.00592 Total Xylenes - <0.00656 Total BTEX - 0.00769	461	<7.99	<8.11	<8.11	<7.99
HA-10	0 - 0.5'	Grab	03/01/19		Benzene - <0.00904 Toluene - <0.00468 Ethylbenzene - <0.00616 Total Xylenes - <0.00682 Total BTEX - <0.00468	392	<7.97	16.9	<18.1	16.9
	0.5 -1'	Grab	03/01/19		Benzene - <0.00853 Toluene - 0.0113 Ethylbenzene - <0.00581 Total Xylenes - <0.00643 Total BTEX - 0.0113	254	<7.97	17.7	<8.1	17.7
HA-11	0 -.5'	Grab	03/01/19		Total BTEX - NA	NA	<7.99	17.1	<8.12	17.1
	0.5 -1'	Grab	03/01/19		Benzene - <0.00869 Toluene - <0.00450 Ethylbenzene - <0.00592 Total Xylenes - <0.00656 Total BTEX - <0.00450	58.8	<8.00	20.9	<8.13	20.9
	1.5 - 2'	Grab	03/01/19		Benzene - <0.00835 Toluene - 0.0129 Ethylbenzene - <0.00569 Total Xylenes - <0.00630 Total BTEX - 0.0129	65.8	<7.99	22.5	<8.11	22.5
Confirmation Sampling										
CS-1	1.5 - 2'	Grab	06/10/19		Benzene - <0.00904 Toluene - <0.00468 Ethylbenzene - <0.00616 Total Xylenes - <0.00682 Total BTEX - <0.00468	**3,800**	<9.98	12.5	<9.98	12.5
CS-4	0.5 - 1'	Grab	06/10/19		Benzene - <0.00904 Toluene - 0.012 Ethylbenzene - <0.00616 Total Xylenes - 0.014 Total BTEX - 0.026	**6,970**	18.7	3,160	586	**3,760**
CS-5	0.5 - 1'	Grab	06/10/19		Benzene - <0.00904 Toluene - <0.00468 Ethylbenzene - <0.00616 Total Xylenes - 0.02 Total BTEX - 0.02	**7,200**	15	837	211	**1,060**
CS-6	0 - 0.5'	Grab	06/10/19		Benzene - <0.00904 Toluene - 0.014 Ethylbenzene - <0.00616 Total Xylenes - 0.03 Total BTEX - 0.044	**13,900**	10.5	41.9	18.6	71
CS-8	2 - 2.5'	Grab	06/10/19		Benzene - <0.00904 Toluene - 0.008 Ethylbenzene - <0.00616 Total Xylenes - 0.098 Total BTEX - 0.106	**10,500**	27.6	313	216	**557**
CS-11	0 - 0.5'	Grab	06/10/19		Benzene - <0.0904 Toluene - 0.08 Ethylbenzene - <0.0616 Total Xylenes - 0.74 Total BTEX - 0.82	372	27	3,480	785	**4,290**
CS-12	0 - 0.5'	Grab	06/10/19		Benzene - <0.00904 Toluene - 0.01 Ethylbenzene - <0.00616 Total Xylenes - 0.098 Total BTEX - 0.108	**17,000**	<9.99	32.8	64.2	97

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS - BTEX[1], Chloride[2], and TPH[3]
Okeanos #1 SWD
Solaris Incident No.
Terracon Project No. AR197105

Sample I.D.	Sample Depth (bgs)	Sample Type	Sample Date	Soil Status	BTEX (mg/kg)	Chloride (mg/kg)	TPH (8015M) (mg/kg)			
							GRO	DRO	MRO	TOTAL
CS-13	0 - 0.5'	Grab	06/10/19		Benzene - <0.00904 Toluene - <0.00468 Ethylbenzene - <0.00616 Total Xylenes - 0.05 Total BTEX - 0.05	**12,000**	<9.91	65.5	52.9	**118**
CS-14	0 - 0.5'	Grab	06/10/19		Benzene - <0.00904 Toluene - <0.00468 Ethylbenzene - <0.00616 Total Xylenes - 0.02 Total BTEX - 0.02	**6,270**	21	3,480	740	**4,240**
CS-15	0 - 0.5'	Grab	06/10/19		Benzene - <0.00904 Toluene - <0.00468 Ethylbenzene - <0.00616 Total Xylenes - <0.00682 Total BTEX - <0.00468	**22,900**	<9.95	41.8	49.9	91.7
CS-16	0 - 0.5'	Grab	06/10/19		Benzene - <0.00904 Toluene - <0.00468 Ethylbenzene - <0.00616 Total Xylenes - 0.01 Total BTEX - 0.01	**13,800**	<9.90	54.4	24.3	78.7
CS-17	0 - 0.5'	Grab	06/10/19		Benzene - <0.00904 Toluene - <0.00468 Ethylbenzene - <0.00616 Total Xylenes - <0.00682 Total BTEX - <0.00468	**3,290**	NA			
	0.5 - 1'	Grab	06/10/19		Total BTEX - NA	NA	<9.92	<9.92	<9.92	<9.92
HA-4.1	0 - 0.5'	Grab	06/20/19		Total BTEX - NA	**3,670**	<49.5	1,160	180	**1,340**
	0.5 - 1'	Grab	06/20/19		Total BTEX - NA	**14,200**	<49.5	<49.5	<49.5	<49.5
HA-11.1	0 - 0.5'	Grab	06/20/19		Total BTEX - NA	**1,180**	<49.5	<49.5	<49.5	<49.5
	0.5 - 1'	Grab	06/20/19		Total BTEX - NA	206	<49.9	53.5	<49.9	53.5
New Mexico Oil Conservation Division (NMOCD) Remediation and Delineation Standards*					**Benzene - 10** **Toluene - N/A** **Ethylbenzene - N/A** **Total Xylenes - N/A** **Total BTEX - 50**	**600**	**N/A**			**100**

1. BTEX = Benzene, toluene, ethylbenzene, total xylenes analyzed by EPA Method 8021B
2. Chloride = Chloride analyzed by EPA Method 300.
3. TPH = Total petroleum hydrocarbons analyzed by EPA Method 8015M (GRO/DRO/ORO)
* = NMOCD Remediation and Delineation Standards are proposed in 19.15.29.12 NMAC - N, 8/14/2018
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Okeanos #1 SWD
Solaris Incident No.
Terracon Project No. AR197105

Sample I.D.	Sample Depth (bgs)	Sample Type	Sample Date	Soil Status	BTEX (mg/kg)	Chloride (mg/kg)	TPH (8015M) (mg/kg)			
							GRO	DRO	MRO	TOTAL
HA-13.1	0 - 0.5'	Grab	06/20/19		Total BTEX - NA	**2,190**	NA			
	0.5 - 1'	Grab	06/20/19		Total BTEX - NA	**3,200**	NA			
HA-14.1	0 - 0.5'	Grab	06/20/19		Total BTEX - NA	**7,680**	<49.8	93.3	<4938	93.3
	0.5 - 1'	Grab	06/20/19		Total BTEX - NA	**2,610**	<49.6	90.7	<49.6	90.7
HA-15.1	0 - 0.5'	Grab	06/20/19		Total BTEX - NA	**6,110**	NA			
	0.5 - 1'	Grab	06/20/19		Total BTEX - NA	**5,460**	NA			
HA-17.1	0 - 0.5'	Grab	06/20/19		Total BTEX - NA	**20,700**	<49.7	80.9	<49.7	80.9
	0.5 - 1'	Grab	06/20/19		Total BTEX - NA	**15,700**	<49.6	<49.6	<49.6	<49.6
Confirmation Sampling										
TT-1	2.5 - 3'	Grab	07/23/19		Benzene - <0.00829 Toluene - <0.00429 Ethylbenzene - <0.00565 Total Xylenes - <0.00626 Total BTEX - <0.00429	**2,770**	<9.95	272	80.8	**353**
TT-2	2.5 - 3'	Grab	07/23/19		Benzene - <0.00895 Toluene - <0.00463 Ethylbenzene - <0.00610 Total Xylenes - <0.00675 Total BTEX - <0.00463	**2,200**	<10	31.4	14.4	45.8
TT-3	2.5 - 3'	Grab	07/23/19		Benzene - <0.00899 Toluene - <0.00465 Ethylbenzene - <0.00612 Total Xylenes - <0.00678 Total BTEX - <0.00465	**6,590**	<9.98	29.4	10.9	40.3
TT-4	2.5 - 3'	Grab	07/23/19		Benzene - <0.00826 Toluene - <0.00428 Ethylbenzene - <0.00563 Total Xylenes - <0.00623 Total BTEX - <0.00428	**2,850**	<9.97	25.6	<9.97	25.6
New Mexico Oil Conservation Division (NMOCD) Remediation and Delineation Standards*					**Benzene - 10** **Toluene - N/A** **Ethylbenzene - N/A** **Total Xylenes - N/A** **Total BTEX - 50**	**600**	**N/A**			**100**

1. BTEX = Benzene, toluene, ethylbenzene, total xylenes analyzed by EPA Method 8021B
2. Chloride = Chloride analyzed by EPA Method 300.
3. TPH = Total petroleum hydrocarbons analyzed by EPA Method 8015M (GRO/DRO/ORO)

* = 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

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

APPENDIX B – PHOTOGRAPHIC LOG

PHOTO 1: View of Release Origin, facing Northeast. 2/25/2019

PHOTO 2: View of Release Origin, Facing North. 2/25/2019

PHOTO 3: View of HA-1, Facing West. 3/01/2019

PHOTO 4: View of HA-2, facing East. 3/01/2019

PHOTO 5: View of HA-8, facing South. 3/01/2019

PHOTO 6: View of HA-7, Facing South. 3/01/2019

PHOTO 7: View of HA-6, Facing South. 3/01/2019

PHOTO 8: View of HA-5, Facing South. 3/01/2019

PHOTO 9: View of HA-4, Facing South. 3/01/2019

PHOTO 10: View of HA-3, Facing South. 3/01/2019

PHOTO 11: View of HA-11, Facing West. 3/01/2019

PHOTO 12: View of HA-10, Facing Southwest. 3/01/2019

PHOTO 13: View of HA-9, Facing South. 3/01/2019

PHOTO 14: View of Remediation Activity, Facing West. 6/04/2019

PHOTO 15: View of Remediation Activity, Facing East. 6/04/2019

PHOTO 16: View of Remediation Activity, Facing South. 6/05/2019

PHOTO 17: View of CS-1, Facing North. 6/10/2019

PHOTO 18: View of CS-4, Facing North. 6/10/2019

PHOTO 19: View of CS-5, Facing North. 6/10/2019

PHOTO 20: View of CS-7, Facing East. 6/10/2019

PHOTO 21: View of CS-8, Facing West. 6/10/2019

PHOTO 22: View of CS-11, Facing South. 6/10/2019

PHOTO 23: View of CS-12, Facing North. 6/10/2019

PHOTO 24: View of CS-13, Facing South. 6/10/2019

PHOTO 25: View of CS-14, Facing South. 6/10/2019

PHOTO 26: View of CS-15, Facing North. 6/10/2019

PHOTO 27: View of CS-16, Facing North. 6/10/2019

PHOTO 28: View of CS-17, Facing Southwest. 6/10/2019

PHOTO 29: View of Remediation Activity, Facing South. 6/05/2019

APPENDIX C – ANALYTICAL REPORT AND CHAIN OF CUSTODY

Certificate of Analysis Summary 616318

Terracon-Lubbock, Lubbock, TX

Project Name: Solaris Okeanos #1 SWD

Project Id: AR197105
Contact: Joseph Guesnier
Project Location: Scout Energy Partners

Date Received in Lab: Mon Mar-04-19 10:40 am
Report Date: 15-MAR-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	616318-001		616318-002		616318-003		616318-004		616318-005		616318-006	
	Field Id:	SP-1		HA-1 (0-.5)		HA-1 (.5-1)		HA-2 (0-.5)		HA-2 (.5-1)		HA-3 (0-.5)	
	Depth:			0-.5 ft		.5-1 ft		0-.5 ft		.5-1 ft		0-.5 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-01-19 11:30		Mar-01-19 11:05		Mar-01-19 11:15		Mar-01-19 11:45		Mar-01-19 10:55		Mar-01-19 13:20	
BTEX by EPA 8021B	***Extracted:***	Mar-07-19 13:00		Mar-07-19 13:00		Mar-07-19 13:00		Mar-07-19 13:00		Mar-07-19 13:00		Mar-07-19 13:00	
	Analyzed:	Mar-07-19 23:10		Mar-07-19 22:21		Mar-07-19 22:46		Mar-08-19 00:50		Mar-08-19 14:41		Mar-08-19 15:05	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		0.177 X	0.0361	0.00867 J	0.0173	<0.00879	0.0195	0.0183 J	0.0183	<0.00825	0.0182	<0.00832	0.0184
Toluene		1.32 X	0.0361	0.0260	0.0173	<0.00455	0.0195	0.280	0.0183	<0.00427	0.0182	0.0773	0.0184
Ethylbenzene		1.19 X	0.0361	0.0173 J	0.0173	<0.00599	0.0195	0.756	0.0183	<0.00562	0.0182	0.0866	0.0184
m,p-Xylenes		3.02 X	0.0722	0.0295 J	0.0347	<0.00663	0.0389	1.78	0.0366	0.0109 J	0.0365	0.317	0.0368
o-Xylene		1.26 X	0.0361	0.0156 J	0.0173	<0.00663	0.0195	0.826	0.0183	0.0109 J	0.0182	0.157	0.0184
Total Xylenes		4.28	0.0361	0.0451	0.0173	<0.00663	0.0195	2.61	0.0183	0.0218	0.0182	0.474	0.0184
Total BTEX		6.97	0.0361	0.0971	0.0173	<0.00455	0.0195	3.66	0.0183	0.0218	0.0182	0.638	0.0184
Chloride by EPA 300 SUB: T104704215-19-29	***Extracted:***	Mar-06-19 14:49		Mar-06-19 14:49		Mar-06-19 14:49		Mar-06-19 14:49		Mar-06-19 14:49		Mar-06-19 14:49	
	Analyzed:	Mar-07-19 12:18		Mar-07-19 13:33		Mar-07-19 13:52		Mar-07-19 14:10		Mar-07-19 14:29		Mar-07-19 14:38	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		24300 X	200	24700	100	18700	101	11500	100	3430	10.0	12000	100
TPH By SW8015 Mod SUB: T104704400-18-16	***Extracted:***	Mar-14-19 10:00		Mar-14-19 10:00		Mar-14-19 10:00		Mar-14-19 10:00		Mar-14-19 10:00		Mar-14-19 10:00	
	Analyzed:	Mar-14-19 12:18		Mar-14-19 13:15		Mar-14-19 13:34		Mar-14-19 13:53		Mar-14-19 14:12		Mar-14-19 14:31	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		252	15.0	11.9 J	15.0	<7.97	14.9	<7.98	15.0	<8.00	15.0	28.8	15.0
Diesel Range Organics (DRO)		2130	15.0	51.8	15.0	20.0	14.9	27.9	15.0	32.5	15.0	317	15.0
Motor Oil Range Hydrocarbons (MRO)		325	15.0	<8.11	15.0	<8.10	14.9	<8.10	15.0	<8.13	15.0	42.1	15.0
Total TPH		2710	15.0	63.7	15.0	20.0	14.9	27.9	15.0	32.5	15.0	388	15.0

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 616318

Terracon-Lubbock, Lubbock, TX

Project Name: Solaris Okeanos #1 SWD

Project Id: AR197105
Contact: Joseph Guesnier
Project Location: Scout Energy Partners

Date Received in Lab: Mon Mar-04-19 10:40 am
Report Date: 15-MAR-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	616318-007		616318-008		616318-009		616318-010		616318-011		616318-012	
	Field Id:	HA-3 (.5-1)		HA-3 (1.5-2)		HA-4 (0-.5)		HA-4 (.5-1)		HA-5 (0-.5)		HA-6 (0-.5)	
	Depth:	.5-1 ft		1.5-2 ft		0-.5 ft		.5-1 ft		0-.5 ft		0-.5 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-01-19 13:30		Mar-01-19 13:40		Mar-01-19 13:00		Mar-01-19 13:10		Mar-01-19 12:50		Mar-01-19 12:20	
BTEX by EPA 8021B	***Extracted:***	Mar-07-19 13:00				Mar-07-19 13:00		Mar-07-19 13:00		Mar-07-19 13:00		Mar-07-19 13:00	
	Analyzed:	Mar-08-19 01:15				Mar-08-19 01:40		Mar-08-19 02:05		Mar-08-19 02:30		Mar-08-19 02:55	
	Units/RL:	mg/kg	RL			mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00814	0.0180			0.199	0.0947	0.0253 J	0.0362	<0.0409	0.0906	<0.0174	0.0385
Toluene		0.168	0.0180			2.87	0.0947	0.373	0.0362	0.534	0.0906	0.0925	0.0385
Ethylbenzene		0.492	0.0180			3.86	0.0947	1.07	0.0362	2.52	0.0906	0.817	0.0385
m,p-Xylenes		1.33	0.0360			11.6	0.189	2.56	0.0723	6.78	0.181	1.09	0.0771
o-Xylene		0.613	0.0180			5.63	0.0947	1.28	0.0362	3.48	0.0906	0.651	0.0385
Total Xylenes		1.94	0.0180			17.2	0.0947	3.84	0.0362	10.3	0.0906	1.74	0.0385
Total BTEX		2.60	0.0180			24.2	0.0947	5.31	0.0362	13.3	0.0906	2.65	0.0385
Chloride by EPA 300 **SUB: T104704215-19-29**	***Extracted:***	Mar-06-19 14:49				Mar-06-19 14:49		Mar-06-19 14:49		Mar-06-19 15:50		Mar-06-19 15:50	
	Analyzed:	Mar-07-19 14:57				Mar-07-19 15:36		Mar-07-19 15:55		Mar-08-19 06:21		Mar-08-19 06:49	
	Units/RL:	mg/kg	RL			mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		8090	100			8840	99.8	14900	99.6	12100	200	12300	100
TPH By SW8015 Mod **SUB: T104704400-18-16**	***Extracted:***	Mar-14-19 10:00		Mar-14-19 10:00		Mar-14-19 10:00		Mar-14-19 10:00		Mar-14-19 10:00		Mar-14-19 10:00	
	Analyzed:	Mar-14-19 14:50		Mar-14-19 15:10		Mar-14-19 15:29		Mar-14-19 15:48		Mar-14-19 16:45		Mar-14-19 17:04	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		87.3	15.0	29.0	14.9	1930	74.9	336	15.0	1310	74.9	430	74.7
Diesel Range Organics (DRO)		1030	15.0	274	14.9	15800	74.9	3890	15.0	10500	74.9	7330	74.7
Motor Oil Range Hydrocarbons (MRO)		159	15.0	40.8	14.9	1980	74.9	469	15.0	1200	74.9	1040	74.7
Total TPH		1280	15.0	344	14.9	19700	74.9	4700	15.0	13000	74.9	8800	74.7

Jessica Kramer
Project Assistant

Table of Contents

Certificate of Analysis Summary 616318

Terracon-Lubbock, Lubbock, TX

Project Name: Solaris Okeanos #1 SWD

Project Id: AR197105
Contact: Joseph Guesnier
Project Location: Scout Energy Partners

Date Received in Lab: Mon Mar-04-19 10:40 am
Report Date: 15-MAR-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	616318-013				616318-014		616318-015		616318-016		616318-017		616318-018	
	Field Id:	HA-6 (.5-1)				HA-6 (1-1.5)		HA-7 (0-.5)		HA-7 (.5-1)		HA-8 (0-.5)		HA-8 (.5-1)	
	Depth:	.5-1 ft				1-1.5 ft		0-5 ft		.5-1 ft		0-1 ft		.5-1 ft	
	Matrix:	SOIL				SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-01-19 12:30				Mar-01-19 12:40		Mar-01-19 12:00		Mar-01-19 12:10		Mar-01-19 11:40		Mar-01-19 11:50	
Chloride by EPA 300 SUB: T104704215-19-29	***Extracted:***	Mar-06-19 15:50						Mar-06-19 15:50		Mar-06-19 15:50		Mar-06-19 15:50		Mar-06-19 15:50	
	Analyzed:	Mar-08-19 06:58						Mar-08-19 07:07		Mar-08-19 07:17		Mar-08-19 07:44		Mar-08-19 07:53	
	Units/RL:	mg/kg	RL					mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		13400	99.2					8690	100	3380	10.0	271	10.0	2450	9.96
TPH By SW8015 Mod SUB: T104704400-18-16	***Extracted:***	Mar-14-19 10:00		Mar-14-19 10:00				Mar-14-19 10:00		Mar-14-19 10:00		Mar-14-19 10:00		Mar-14-19 10:00	
	Analyzed:	Mar-14-19 17:23		Mar-14-19 17:43				Mar-14-19 18:02		Mar-14-19 18:21		Mar-14-19 18:41		Mar-14-19 18:59	
	Units/RL:	mg/kg	RL	mg/kg	RL			mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		217	15.0	64.0	15.0			82.3	15.0	37.0	15.0	4960	75.0	1260	15.0
Diesel Range Organics (DRO)		3450	15.0	1210	15.0			1350	15.0	705	15.0	18100	75.0	4960	15.0
Motor Oil Range Hydrocarbons (MRO)		390	15.0	171	15.0			170	15.0	90.2	15.0	1990	75.0	477	15.0
Total TPH		4060	15.0	1450	15.0			1600	15.0	832	15.0	25100	75.0	6700	15.0

Jessica Kramer
Project Assistant

Analysis Requested													
	Lab Id:	616318-013		616318-014		616318-015		616318-016		616318-017		616318-018	
	Field Id:	HA-6 (.5-1)		HA-6 (1-1.5)		HA-7 (0-.5)		HA-7 (.5-1)		HA-8 (0-.5)		HA-8 (.5-1)	
	Depth:	.5-1 ft		1-1.5 ft		0-5 ft		.5-1 ft		0-1 ft		.5-1 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-01-19 12:30		Mar-01-19 12:40		Mar-01-19 12:00		Mar-01-19 12:10		Mar-01-19 11:40		Mar-01-19 11:50	
BTEX by EPA 8021B	***Extracted:***	Mar-07-19 13:00		Mar-07-19 13:00		Mar-07-19 13:00		Mar-07-19 13:00		Mar-07-19 13:00		Mar-07-19 13:00	
	Analyzed:	Mar-08-19 03:20		Mar-08-19 04:59		Mar-08-19 05:24		Mar-08-19 05:48		Mar-08-19 06:13		Mar-08-19 06:38	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.0165	0.0364	<0.00834	0.0185	<0.00823	0.0182	<0.00876	0.0194	0.344	0.0859	0.0391	0.0355
Toluene		0.0729	0.0364	<0.00432	0.0185	0.0164 J	0.0182	0.0271	0.0194	15.8	0.0859	2.75	0.0355
Ethylbenzene		0.699	0.0364	0.188	0.0185	0.135	0.0182	0.163	0.0194	19.3	0.0859	4.41	0.0355
m,p-Xylenes		0.867	0.0729	0.465	0.0369	0.321	0.0364	0.126	0.0388	58.5	0.172	13.3	0.0710
o-Xylene		0.539	0.0364	0.299	0.0185	0.224	0.0182	0.0736	0.0194	23.4	0.0859	5.67	0.0355
Total Xylenes		1.41	0.0364	0.764	0.0185	0.545	0.0182	0.200	0.0194	81.9	0.0859	19.0	0.0355
Total BTEX		2.18	0.0364	0.952	0.0185	0.696	0.0182	0.390	0.0194	117	0.0859	26.2	0.0355

Certificate of Analysis Summary 616318

Terracon-Lubbock, Lubbock, TX

Project Name: Solaris Okeanos #1 SWD

Project Id: AR197105
Contact: Joseph Guesnier
Project Location: Scout Energy Partners

Date Received in Lab: Mon Mar-04-19 10:40 am
Report Date: 15-MAR-19
Project Manager: Jessica Kramer

Analysis Requested																							
	Lab Id:	616318-019				616318-020				616318-021				616318-022				616318-023				616318-024			
	Field Id:	HA-8 (1.5-2				HA-9 (0-.5)				HA-9 (.5-1)				HA-10 (0-.5)				HA-10 (.5-1)				HA-11 (0-.5)			
	Depth:	1.5-2 ft				0-.5 ft				.5-1 ft				0-.5 ft				.5-1 ft				0-.5 ft			
	Matrix:	SOIL				SOIL				SOIL				SOIL				SOIL				SOIL			
	Sampled:	Mar-01-19 11:55				Mar-01-19 13:50				Mar-01-19 14:00				Mar-01-19 14:10				Mar-01-19 14:20				Mar-01-19 14:30			
BTEX by EPA 8021B	***Extracted:***	Mar-07-19 13:00				Mar-07-19 13:00				Mar-07-19 13:00				Mar-07-19 13:00				Mar-07-19 13:00							
	Analyzed:	Mar-08-19 07:03				Mar-08-19 16:24				Mar-08-19 13:07				Mar-08-19 16:48				Mar-08-19 17:13							
	Units/RL:	mg/kg	RL			mg/kg	RL			mg/kg	RL			mg/kg	RL			mg/kg	RL						
Benzene		0.105	0.0871			<0.00831	0.0184			<0.00869	0.0192			<0.00904	0.0200			<0.00853	0.0189						
Toluene		6.93	0.0871			0.00919 J	0.0184			0.00769 J	0.0192			<0.00468	0.0200			0.0113 J	0.0189						
Ethylbenzene		9.21	0.0871			<0.00566	0.0184			<0.00592	0.0192			<0.00616	0.0200			<0.00581	0.0189						
m,p-Xylenes		28.7	0.174			0.0165 J	0.0368			<0.00656	0.0385			<0.00682	0.0400			<0.00643	0.0377						
o-Xylene		13.0	0.0871			<0.00627	0.0184			<0.00656	0.0192			<0.00682	0.0200			<0.00643	0.0189						
Total Xylenes		41.7	0.0871			0.0165 J	0.0184			<0.00656	0.0192			<0.00682	0.0200			<0.00643	0.0189						
Total BTEX		57.9	0.0871			0.0257	0.0184			0.00769 J	0.0192			<0.00468	0.0200			0.0113 J	0.0189						
Chloride by EPA 300 **SUB: T104704215-19-29**	***Extracted:***	Mar-06-19 15:50				Mar-06-19 15:50				Mar-06-19 15:50				Mar-06-19 15:50				Mar-06-19 15:50							
	Analyzed:	Mar-08-19 08:03				Mar-08-19 08:12				Mar-08-19 08:21				Mar-08-19 08:30				Mar-08-19 09:01							
	Units/RL:	mg/kg	RL			mg/kg	RL			mg/kg	RL			mg/kg	RL			mg/kg	RL						
Chloride		2330	99.8			34.3	9.90			461	10.0			392	10.0			254	10.0						
TPH By SW8015 Mod **SUB: T104704400-18-16**	***Extracted:***	Mar-14-19 10:00				Mar-14-19 10:00				Mar-13-19 15:00				Mar-13-19 15:00				Mar-13-19 15:00				Mar-13-19 15:00			
	Analyzed:	Mar-14-19 19:18				Mar-14-19 19:37				Mar-14-19 02:27				Mar-14-19 02:47				Mar-14-19 03:06				Mar-14-19 03:26			
	Units/RL:	mg/kg	RL			mg/kg	RL			mg/kg	RL			mg/kg	RL			mg/kg	RL			mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)		3390	74.8			<7.98	15.0			<7.99	15.0			<7.97	14.9			<7.97	14.9			<7.99	15.0		
Diesel Range Organics (DRO)		18700	74.8			14.3 J	15.0			<8.11	15.0			16.9	14.9			17.7	14.9			17.1	15.0		
Motor Oil Range Hydrocarbons (MRO)		2030	74.8			10.4 J	15.0			<8.11	15.0			<8.10	14.9			<8.10	14.9			<8.12	15.0		
Total TPH		24100	74.8			24.7	15.0			<7.99	15.0			16.9	14.9			17.7	14.9			17.1	15.0		

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 616318

Terracon-Lubbock, Lubbock, TX

Project Name: Solaris Okeanos #1 SWD

Project Id: AR197105
Contact: Joseph Guesnier
Project Location: Scout Energy Partners

Date Received in Lab: Mon Mar-04-19 10:40 am
Report Date: 15-MAR-19
Project Manager: Jessica Kramer

Analysis Requested								
	Lab Id:	616318-025		616318-026				
	Field Id:	HA-11 (.5-1)		HA-11 (1.5-2)				
	Depth:	.5-1 ft		1.5-2 ft				
	Matrix:	SOIL		SOIL				
	Sampled:	Mar-01-19 14:40		Mar-01-19 14:50				
BTEX by EPA 8021B	***Extracted:***	Mar-07-19 13:00		Mar-07-19 13:00				
	Analyzed:	Mar-08-19 18:01		Mar-08-19 18:25				
	Units/RL:	mg/kg	RL	mg/kg	RL			
Benzene		<0.00869	0.0192	<0.00835	0.0185			
Toluene		<0.00450	0.0192	0.0129 J	0.0185			
Ethylbenzene		<0.00592	0.0192	<0.00569	0.0185			
m,p-Xylenes		<0.00656	0.0385	<0.00630	0.0370			
o-Xylene		<0.00656	0.0192	<0.00630	0.0185			
Total Xylenes		<0.00656	0.0192	<0.00630	0.0185			
Total BTEX		<0.00450	0.0192	0.0129 J	0.0185			
Chloride by EPA 300 SUB: T104704215-19-29	***Extracted:***	Mar-06-19 15:50		Mar-06-19 15:50				
	Analyzed:	Mar-08-19 09:10		Mar-08-19 09:38				
	Units/RL:	mg/kg	RL	mg/kg	RL			
Chloride		58.8	10.0	65.8	10.1			
TPH By SW8015 Mod SUB: T104704400-18-16	***Extracted:***	Mar-13-19 15:00		Mar-13-19 15:00				
	Analyzed:	Mar-14-19 03:45		Mar-14-19 04:05				
	Units/RL:	mg/kg	RL	mg/kg	RL			
Gasoline Range Hydrocarbons (GRO)		<8.00	15.0	<7.99	15.0			
Diesel Range Organics (DRO)		20.9	15.0	22.5	15.0			
Motor Oil Range Hydrocarbons (MRO)		<8.13	15.0	<8.11	15.0			
Total TPH		20.9	15.0	22.5	15.0			

Jessica Kramer
Project Assistant

Analytical Report 616318

for

Terracon-Lubbock

Project Manager: Joseph Guesnier

Solaris Okeanos #1 SWD

AR197105

15-MAR-19

Collected By: Client

6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
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-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)
Xenco-Lakeland: Florida (E84098)

15-MAR-19

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

Reference: XENCO Report No(s): **616318**
Solaris Okeanos #1 SWD
Project Address: Scout Energy Partners

Joseph Guesnier:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 616318. 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. 616318 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Sample Cross Reference 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP-1	S	03-01-19 11:30		616318-001
HA-1 (0-.5)	S	03-01-19 11:05	0 - .5 ft	616318-002
HA-1 (.5-1)	S	03-01-19 11:15	.5 - 1 ft	616318-003
HA-2 (0-.5)	S	03-01-19 11:45	0 - .5 ft	616318-004
HA-2 (.5-1)	S	03-01-19 10:55	.5 - 1 ft	616318-005
HA-3 (0-.5)	S	03-01-19 13:20	0 - .5 ft	616318-006
HA-3 (.5-1)	S	03-01-19 13:30	.5 - 1 ft	616318-007
HA-3 (1.5-2)	S	03-01-19 13:40	1.5 - 2 ft	616318-008
HA-4 (0-.5)	S	03-01-19 13:00	0 - .5 ft	616318-009
HA-4 (.5-1)	S	03-01-19 13:10	.5 - 1 ft	616318-010
HA-5 (0-.5)	S	03-01-19 12:50	0 - .5 ft	616318-011
HA-6 (0-.5)	S	03-01-19 12:20	0 - .5 ft	616318-012
HA-6 (.5-1)	S	03-01-19 12:30	.5 - 1 ft	616318-013
HA-6 (1-1.5)	S	03-01-19 12:40	1 - 1.5 ft	616318-014
HA-7 (0-.5)	S	03-01-19 12:00	0 - 5 ft	616318-015
HA-7 (.5-1)	S	03-01-19 12:10	.5 - 1 ft	616318-016
HA-8 (0-.5)	S	03-01-19 11:40	0 - 1 ft	616318-017
HA-8 (.5-1)	S	03-01-19 11:50	.5 - 1 ft	616318-018
HA-8 (1.5-2	S	03-01-19 11:55	1.5 - 2 ft	616318-019
HA-9 (0-.5)	S	03-01-19 13:50	0 - .5 ft	616318-020
HA-9 (.5-1)	S	03-01-19 14:00	.5 - 1 ft	616318-021
HA-10 (0-.5)	S	03-01-19 14:10	0 - .5 ft	616318-022
HA-10 (.5-1)	S	03-01-19 14:20	.5 - 1 ft	616318-023
HA-11 (0-.5)	S	03-01-19 14:30	0 - .5 ft	616318-024
HA-11 (.5-1)	S	03-01-19 14:40	.5 - 1 ft	616318-025
HA-11 (1.5-2)	S	03-01-19 14:50	1.5 - 2 ft	616318-026

CASE NARRATIVE

Client Name: Terracon-Lubbock

Project Name: Solaris Okeanos #1 SWD

Project ID: *AR197105*
Work Order Number(s): *616318*

Report Date: *15-MAR-19*
Date Received: *03/04/2019*

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-3081504 Inorganic Anions by EPA 300
Lab Sample ID 616318-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 616318-001, -002, -003, -004, -005, -006, -007, -009, -010.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3081552 BTEX by EPA 8021B
Samples 616318-011, 616318-012, and 616318-013 were diluted due to hydrocarbons beyond xylene.

Batch: LBA-3081713 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate a,a,a-Trifluorotoluene recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 616318-021 S.
Surrogate 4-Bromofluorobenzene recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 616318-021 S,616318-025,616318-026.

Batch: LBA-3082237 TPH By SW8015 Mod
Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 616318-013,616318-018,616318-010.
Surrogate 1-Chlorooctane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 616318-019,616318-017.

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**SP-1**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-001	Date Collected:	03.01.19 11.30		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	03.06.19 14.49	Basis:	Wet Weight
Seq Number:	3081504			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**24300**	200	7.07	mg/kg	03.07.19 12.46	X	20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.14.19 10.00	Basis:	Wet Weight
Seq Number:	3082237			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**252**	15.0	7.98	mg/kg	03.14.19 12.18		1
Diesel Range Organics (DRO)	C10C28DRO	**2130**	15.0	8.10	mg/kg	03.14.19 12.18		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**325**	15.0	8.10	mg/kg	03.14.19 12.18		1
Total TPH	PHC635	**2710**	15.0	7.98	mg/kg	03.14.19 12.18		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-135	03.14.19 12.18	
o-Terphenyl	84-15-1	125	%	70-135	03.14.19 12.18	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**SP-1**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-001	Date Collected:	03.01.19 11.30		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	03.07.19 13.00	Basis:	Wet Weight
Seq Number:	3081552				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.177**	0.0361	0.0163	mg/kg	03.07.19 23.10	X	2
Toluene	108-88-3	**1.32**	0.0361	0.00845	mg/kg	03.07.19 23.10	X	2
Ethylbenzene	100-41-4	**1.19**	0.0361	0.0111	mg/kg	03.07.19 23.10	X	2
m,p-Xylenes	179601-23-1	**3.02**	0.0722	0.0123	mg/kg	03.07.19 23.10	X	2
o-Xylene	95-47-6	**1.26**	0.0361	0.0123	mg/kg	03.07.19 23.10	X	2
Total Xylenes	1330-20-7	**4.28**	0.0361	0.0123	mg/kg	03.07.19 23.10		2
Total BTEX		**6.97**	0.0361	0.00845	mg/kg	03.07.19 23.10		2

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	168	%	68-120	03.07.19 23.10	**
a,a,a-Trifluorotoluene	98-08-8	93	%	71-121	03.07.19 23.10	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-1 (0-.5)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-002	Date Collected:	03.01.19 11.05	Sample Depth:	0 - .5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	03.06.19 14.49	Basis:	Wet Weight
Seq Number:	3081504			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**24700**	100	3.55	mg/kg	03.07.19 13.42		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.14.19 10.00	Basis:	Wet Weight
Seq Number:	3082237			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**11.9**	15.0	7.99	mg/kg	03.14.19 13.15	J	1
Diesel Range Organics (DRO)	C10C28DRO	**51.8**	15.0	8.11	mg/kg	03.14.19 13.15		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.11	15.0	8.11	mg/kg	03.14.19 13.15	U	1
Total TPH	PHC635	**63.7**	15.0	7.99	mg/kg	03.14.19 13.15		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	03.14.19 13.15	
o-Terphenyl	84-15-1	102	%	70-135	03.14.19 13.15	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-1 (0-.5)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-002	Date Collected:	03.01.19 11.05	Sample Depth:	0 - .5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	03.07.19 13.00	Basis:	Wet Weight
Seq Number:	3081552				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.00867**	0.0173	0.00783	mg/kg	03.07.19 22.21	J	1
Toluene	108-88-3	**0.0260**	0.0173	0.00406	mg/kg	03.07.19 22.21		1
Ethylbenzene	100-41-4	**0.0173**	0.0173	0.00534	mg/kg	03.07.19 22.21	J	1
m,p-Xylenes	179601-23-1	**0.0295**	0.0347	0.00591	mg/kg	03.07.19 22.21	J	1
o-Xylene	95-47-6	**0.0156**	0.0173	0.00591	mg/kg	03.07.19 22.21	J	1
Total Xylenes	1330-20-7	**0.0451**	0.0173	0.00591	mg/kg	03.07.19 22.21		1
Total BTEX		**0.0971**	0.0173	0.00406	mg/kg	03.07.19 22.21		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	68-120	03.07.19 22.21	
a,a,a-Trifluorotoluene	98-08-8	100	%	71-121	03.07.19 22.21	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-1 (.5-1)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-003	Date Collected:	03.01.19 11.15	Sample Depth:	.5 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	03.06.19 14.49	Basis:	Wet Weight
Seq Number:	3081504			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**18700**	101	3.56	mg/kg	03.07.19 14.01		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.14.19 10.00	Basis:	Wet Weight
Seq Number:	3082237			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<7.97	14.9	7.97	mg/kg	03.14.19 13.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	**20.0**	14.9	8.10	mg/kg	03.14.19 13.34		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.10	14.9	8.10	mg/kg	03.14.19 13.34	U	1
Total TPH	PHC635	**20.0**	14.9	7.97	mg/kg	03.14.19 13.34		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	03.14.19 13.34	
o-Terphenyl	84-15-1	102	%	70-135	03.14.19 13.34	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-1 (.5-1)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-003	Date Collected:	03.01.19 11.15	Sample Depth:	.5 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	03.07.19 13.00	Basis:	Wet Weight
Seq Number:	3081552				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00879	0.0195	0.00879	mg/kg	03.07.19 22.46	U	1
Toluene	108-88-3	<0.00455	0.0195	0.00455	mg/kg	03.07.19 22.46	U	1
Ethylbenzene	100-41-4	<0.00599	0.0195	0.00599	mg/kg	03.07.19 22.46	U	1
m,p-Xylenes	179601-23-1	<0.00663	0.0389	0.00663	mg/kg	03.07.19 22.46	U	1
o-Xylene	95-47-6	<0.00663	0.0195	0.00663	mg/kg	03.07.19 22.46	U	1
Total Xylenes	1330-20-7	<0.00663	0.0195	0.00663	mg/kg	03.07.19 22.46	U	1
Total BTEX		<0.00455	0.0195	0.00455	mg/kg	03.07.19 22.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	68-120	03.07.19 22.46	
a,a,a-Trifluorotoluene	98-08-8	99	%	71-121	03.07.19 22.46	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-2 (0-.5)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-004	Date Collected:	03.01.19 11.45	Sample Depth:	0 - .5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	03.06.19 14.49	Basis:	Wet Weight
Seq Number:	3081504			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11500**	100	3.55	mg/kg	03.07.19 14.20		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.14.19 10.00	Basis:	Wet Weight
Seq Number:	3082237			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<7.98	15.0	7.98	mg/kg	03.14.19 13.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	**27.9**	15.0	8.10	mg/kg	03.14.19 13.53		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.10	15.0	8.10	mg/kg	03.14.19 13.53	U	1
Total TPH	PHC635	**27.9**	15.0	7.98	mg/kg	03.14.19 13.53		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	03.14.19 13.53	
o-Terphenyl	84-15-1	101	%	70-135	03.14.19 13.53	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-2 (0-.5)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-004	Date Collected:	03.01.19 11.45	Sample Depth:	0 - .5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	03.07.19 13.00	Basis:	Wet Weight
Seq Number:	3081552				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.0183**	0.0183	0.00828	mg/kg	03.08.19 00.50	J	1
Toluene	108-88-3	**0.280**	0.0183	0.00429	mg/kg	03.08.19 00.50		1
Ethylbenzene	100-41-4	**0.756**	0.0183	0.00564	mg/kg	03.08.19 00.50		1
m,p-Xylenes	179601-23-1	**1.78**	0.0366	0.00625	mg/kg	03.08.19 00.50		1
o-Xylene	95-47-6	**0.826**	0.0183	0.00625	mg/kg	03.08.19 00.50		1
Total Xylenes	1330-20-7	**2.61**	0.0183	0.00625	mg/kg	03.08.19 00.50		1
Total BTEX		**3.66**	0.0183	0.00429	mg/kg	03.08.19 00.50		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	188	%	68-120	03.08.19 00.50	**
a,a,a-Trifluorotoluene	98-08-8	89	%	71-121	03.08.19 00.50	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-2 (.5-1)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-005	Date Collected:	03.01.19 10.55	Sample Depth:	.5 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	03.06.19 14.49	Basis:	Wet Weight
Seq Number:	3081504			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3430**	10.0	0.355	mg/kg	03.07.19 14.29		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.14.19 10.00	Basis:	Wet Weight
Seq Number:	3082237			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<8.00	15.0	8.00	mg/kg	03.14.19 14.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	**32.5**	15.0	8.13	mg/kg	03.14.19 14.12		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.13	15.0	8.13	mg/kg	03.14.19 14.12	U	1
Total TPH	PHC635	**32.5**	15.0	8.00	mg/kg	03.14.19 14.12		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	03.14.19 14.12	
o-Terphenyl	84-15-1	118	%	70-135	03.14.19 14.12	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-2 (.5-1)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-005	Date Collected:	03.01.19 10.55	Sample Depth:	.5 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	03.07.19 13.00	Basis:	Wet Weight
Seq Number:	3081713				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00825	0.0182	0.00825	mg/kg	03.08.19 14.41	U	1
Toluene	108-88-3	<0.00427	0.0182	0.00427	mg/kg	03.08.19 14.41	U	1
Ethylbenzene	100-41-4	<0.00562	0.0182	0.00562	mg/kg	03.08.19 14.41	U	1
m,p-Xylenes	179601-23-1	**0.0109**	0.0365	0.00622	mg/kg	03.08.19 14.41	J	1
o-Xylene	95-47-6	**0.0109**	0.0182	0.00622	mg/kg	03.08.19 14.41	J	1
Total Xylenes	1330-20-7	**0.0218**	0.0182	0.00622	mg/kg	03.08.19 14.41		1
Total BTEX		**0.0218**	0.0182	0.00427	mg/kg	03.08.19 14.41		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	83	%	68-120	03.08.19 14.41	
a,a,a-Trifluorotoluene	98-08-8	85	%	71-121	03.08.19 14.41	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-3 (0-.5)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-006	Date Collected:	03.01.19 13.20	Sample Depth:	0 - .5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	03.06.19 14.49	Basis:	Wet Weight
Seq Number:	3081504			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**12000**	100	3.54	mg/kg	03.07.19 14.48		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.14.19 10.00	Basis:	Wet Weight
Seq Number:	3082237			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**28.8**	15.0	8.00	mg/kg	03.14.19 14.31		1
Diesel Range Organics (DRO)	C10C28DRO	**317**	15.0	8.13	mg/kg	03.14.19 14.31		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**42.1**	15.0	8.13	mg/kg	03.14.19 14.31		1
Total TPH	PHC635	**388**	15.0	8.00	mg/kg	03.14.19 14.31		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	03.14.19 14.31	
o-Terphenyl	84-15-1	110	%	70-135	03.14.19 14.31	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-3 (0-.5)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-006	Date Collected:	03.01.19 13.20	Sample Depth:	0 - .5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	03.07.19 13.00	Basis:	Wet Weight
Seq Number:	3081713				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00832	0.0184	0.00832	mg/kg	03.08.19 15.05	U	1
Toluene	108-88-3	**0.0773**	0.0184	0.00431	mg/kg	03.08.19 15.05		1
Ethylbenzene	100-41-4	**0.0866**	0.0184	0.00567	mg/kg	03.08.19 15.05		1
m,p-Xylenes	179601-23-1	**0.317**	0.0368	0.00628	mg/kg	03.08.19 15.05		1
o-Xylene	95-47-6	**0.157**	0.0184	0.00628	mg/kg	03.08.19 15.05		1
Total Xylenes	1330-20-7	**0.474**	0.0184	0.00628	mg/kg	03.08.19 15.05		1
Total BTEX		**0.638**	0.0184	0.00431	mg/kg	03.08.19 15.05		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	79	%	68-120	03.08.19 15.05	
a,a,a-Trifluorotoluene	98-08-8	73	%	71-121	03.08.19 15.05	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-3 (.5-1)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-007	Date Collected:	03.01.19 13.30	Sample Depth:	.5 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	03.06.19 14.49	Basis:	Wet Weight
Seq Number:	3081504			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8090**	100	3.55	mg/kg	03.07.19 15.25		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.14.19 10.00	Basis:	Wet Weight
Seq Number:	3082237			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**87.3**	15.0	7.99	mg/kg	03.14.19 14.50		1
Diesel Range Organics (DRO)	C10C28DRO	**1030**	15.0	8.11	mg/kg	03.14.19 14.50		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**159**	15.0	8.11	mg/kg	03.14.19 14.50		1
Total TPH	PHC635	**1280**	15.0	7.99	mg/kg	03.14.19 14.50		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	03.14.19 14.50	
o-Terphenyl	84-15-1	127	%	70-135	03.14.19 14.50	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-3 (.5-1)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-007	Date Collected:	03.01.19 13.30	Sample Depth:	.5 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	03.07.19 13.00	Basis:	Wet Weight
Seq Number:	3081552				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00814	0.0180	0.00814	mg/kg	03.08.19 01.15	U	1
Toluene	108-88-3	**0.168**	0.0180	0.00422	mg/kg	03.08.19 01.15		1
Ethylbenzene	100-41-4	**0.492**	0.0180	0.00555	mg/kg	03.08.19 01.15		1
m,p-Xylenes	179601-23-1	**1.33**	0.0360	0.00614	mg/kg	03.08.19 01.15		1
o-Xylene	95-47-6	**0.613**	0.0180	0.00614	mg/kg	03.08.19 01.15		1
Total Xylenes	1330-20-7	**1.94**	0.0180	0.00614	mg/kg	03.08.19 01.15		1
Total BTEX		**2.60**	0.0180	0.00422	mg/kg	03.08.19 01.15		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	78	%	68-120	03.08.19 01.15	
a,a,a-Trifluorotoluene	98-08-8	74	%	71-121	03.08.19 01.15	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-3 (1.5-2)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-008	Date Collected:	03.01.19 13.40	Sample Depth:	1.5 - 2 ft
Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.14.19 10.00	Basis:	Wet Weight
Seq Number:	3082237			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**29.0**	14.9	7.97	mg/kg	03.14.19 15.10		1
Diesel Range Organics (DRO)	C10C28DRO	**274**	14.9	8.10	mg/kg	03.14.19 15.10		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**40.8**	14.9	8.10	mg/kg	03.14.19 15.10		1
Total TPH	PHC635	**344**	14.9	7.97	mg/kg	03.14.19 15.10		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	03.14.19 15.10	
o-Terphenyl	84-15-1	113	%	70-135	03.14.19 15.10	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-4 (0-.5)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-009	Date Collected:	03.01.19 13.00	Sample Depth:	0 - .5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	03.06.19 14.49	Basis:	Wet Weight
Seq Number:	3081504			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8840**	99.8	3.53	mg/kg	03.07.19 15.46		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.14.19 10.00	Basis:	Wet Weight
Seq Number:	3082237			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**1930**	74.9	39.9	mg/kg	03.14.19 15.29		5
Diesel Range Organics (DRO)	C10C28DRO	**15800**	74.9	40.6	mg/kg	03.14.19 15.29		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**1980**	74.9	40.6	mg/kg	03.14.19 15.29		5
Total TPH	PHC635	**19700**	74.9	39.9	mg/kg	03.14.19 15.29		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	03.14.19 15.29	
o-Terphenyl	84-15-1	118	%	70-135	03.14.19 15.29	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-4 (0-.5)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-009	Date Collected:	03.01.19 13.00	Sample Depth:	0 - .5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	03.07.19 13.00	Basis:	Wet Weight
Seq Number:	3081552				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.199**	0.0947	0.0428	mg/kg	03.08.19 01.40		5
Toluene	108-88-3	**2.87**	0.0947	0.0222	mg/kg	03.08.19 01.40		5
Ethylbenzene	100-41-4	**3.86**	0.0947	0.0292	mg/kg	03.08.19 01.40		5
m,p-Xylenes	179601-23-1	**11.6**	0.189	0.0323	mg/kg	03.08.19 01.40		5
o-Xylene	95-47-6	**5.63**	0.0947	0.0323	mg/kg	03.08.19 01.40		5
Total Xylenes	1330-20-7	**17.2**	0.0947	0.0323	mg/kg	03.08.19 01.40		5
Total BTEX		**24.2**	0.0947	0.0222	mg/kg	03.08.19 01.40		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	189	%	68-120	03.08.19 01.40	**
a,a,a-Trifluorotoluene	98-08-8	102	%	71-121	03.08.19 01.40	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-4 (.5-1)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-010	Date Collected:	03.01.19 13.10	Sample Depth:	.5 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	03.06.19 14.49	Basis:	Wet Weight
Seq Number:	3081504			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14900**	99.6	3.53	mg/kg	03.07.19 16.04		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.14.19 10.00	Basis:	Wet Weight
Seq Number:	3082237			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**336**	15.0	7.99	mg/kg	03.14.19 15.48		1
Diesel Range Organics (DRO)	C10C28DRO	**3890**	15.0	8.12	mg/kg	03.14.19 15.48		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**469**	15.0	8.12	mg/kg	03.14.19 15.48		1
Total TPH	PHC635	**4700**	15.0	7.99	mg/kg	03.14.19 15.48		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	129	%	70-135	03.14.19 15.48	
o-Terphenyl	84-15-1	170	%	70-135	03.14.19 15.48	**

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-4 (.5-1)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-010	Date Collected:	03.01.19 13.10	Sample Depth:	.5 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	03.07.19 13.00	Basis:	Wet Weight
Seq Number:	3081552				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.0253**	0.0362	0.0163	mg/kg	03.08.19 02.05	J	2
Toluene	108-88-3	**0.373**	0.0362	0.00846	mg/kg	03.08.19 02.05		2
Ethylbenzene	100-41-4	**1.07**	0.0362	0.0111	mg/kg	03.08.19 02.05		2
m,p-Xylenes	179601-23-1	**2.56**	0.0723	0.0123	mg/kg	03.08.19 02.05		2
o-Xylene	95-47-6	**1.28**	0.0362	0.0123	mg/kg	03.08.19 02.05		2
Total Xylenes	1330-20-7	**3.84**	0.0362	0.0123	mg/kg	03.08.19 02.05		2
Total BTEX		**5.31**	0.0362	0.00846	mg/kg	03.08.19 02.05		2

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	87	%	68-120	03.08.19 02.05	
a,a,a-Trifluorotoluene	98-08-8	87	%	71-121	03.08.19 02.05	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-5 (0-.5)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-011	Date Collected:	03.01.19 12.50	Sample Depth:	0 - .5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	03.06.19 15.50	Basis:	Wet Weight
Seq Number:	3081549			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**12100**	200	7.08	mg/kg	03.08.19 14.34		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.14.19 10.00	Basis:	Wet Weight
Seq Number:	3082237			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**1310**	74.9	40.0	mg/kg	03.14.19 16.45		5
Diesel Range Organics (DRO)	C10C28DRO	**10500**	74.9	40.6	mg/kg	03.14.19 16.45		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**1200**	74.9	40.6	mg/kg	03.14.19 16.45		5
Total TPH	PHC635	**13000**	74.9	40.0	mg/kg	03.14.19 16.45		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	127	%	70-135	03.14.19 16.45	
o-Terphenyl	84-15-1	102	%	70-135	03.14.19 16.45	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-5 (0-.5)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-011	Date Collected:	03.01.19 12.50	Sample Depth:	0 - .5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	03.07.19 13.00	Basis:	Wet Weight
Seq Number:	3081552				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0409	0.0906	0.0409	mg/kg	03.08.19 02.30	U	5
Toluene	108-88-3	**0.534**	0.0906	0.0212	mg/kg	03.08.19 02.30		5
Ethylbenzene	100-41-4	**2.52**	0.0906	0.0279	mg/kg	03.08.19 02.30		5
m,p-Xylenes	179601-23-1	**6.78**	0.181	0.0309	mg/kg	03.08.19 02.30		5
o-Xylene	95-47-6	**3.48**	0.0906	0.0309	mg/kg	03.08.19 02.30		5
Total Xylenes	1330-20-7	**10.3**	0.0906	0.0309	mg/kg	03.08.19 02.30		5
Total BTEX		**13.3**	0.0906	0.0212	mg/kg	03.08.19 02.30		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	139	%	68-120	03.08.19 02.30	**
a,a,a-Trifluorotoluene	98-08-8	76	%	71-121	03.08.19 02.30	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-6 (0-.5)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-012	Date Collected:	03.01.19 12.20	Sample Depth:	0 - .5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	03.06.19 15.50	Basis:	Wet Weight
Seq Number:	3081549			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**12300**	100	3.55	mg/kg	03.08.19 06.49		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.14.19 10.00	Basis:	Wet Weight
Seq Number:	3082237			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**430**	74.7	39.9	mg/kg	03.14.19 17.04		5
Diesel Range Organics (DRO)	C10C28DRO	**7330**	74.7	40.5	mg/kg	03.14.19 17.04		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**1040**	74.7	40.5	mg/kg	03.14.19 17.04		5
Total TPH	PHC635	**8800**	74.7	39.9	mg/kg	03.14.19 17.04		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	130	%	70-135	03.14.19 17.04	
o-Terphenyl	84-15-1	92	%	70-135	03.14.19 17.04	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-6 (0-.5)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-012	Date Collected:	03.01.19 12.20	Sample Depth:	0 - .5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	03.07.19 13.00	Basis:	Wet Weight
Seq Number:	3081552				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0174	0.0385	0.0174	mg/kg	03.08.19 02.55	U	2
Toluene	108-88-3	**0.0925**	0.0385	0.00902	mg/kg	03.08.19 02.55		2
Ethylbenzene	100-41-4	**0.817**	0.0385	0.0119	mg/kg	03.08.19 02.55		2
m,p-Xylenes	179601-23-1	**1.09**	0.0771	0.0131	mg/kg	03.08.19 02.55		2
o-Xylene	95-47-6	**0.651**	0.0385	0.0131	mg/kg	03.08.19 02.55		2
Total Xylenes	1330-20-7	**1.74**	0.0385	0.0131	mg/kg	03.08.19 02.55		2
Total BTEX		**2.65**	0.0385	0.00902	mg/kg	03.08.19 02.55		2

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	119	%	68-120	03.08.19 02.55	
a,a,a-Trifluorotoluene	98-08-8	83	%	71-121	03.08.19 02.55	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-6 (.5-1)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-013	Date Collected:	03.01.19 12.30	Sample Depth:	.5 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	03.06.19 15.50	Basis:	Wet Weight
Seq Number:	3081549			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**13400**	99.2	3.51	mg/kg	03.08.19 06.58		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.14.19 10.00	Basis:	Wet Weight
Seq Number:	3082237			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**217**	15.0	7.98	mg/kg	03.14.19 17.23		1
Diesel Range Organics (DRO)	C10C28DRO	**3450**	15.0	8.10	mg/kg	03.14.19 17.23		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**390**	15.0	8.10	mg/kg	03.14.19 17.23		1
Total TPH	PHC635	**4060**	15.0	7.98	mg/kg	03.14.19 17.23		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	125	%	70-135	03.14.19 17.23	
o-Terphenyl	84-15-1	166	%	70-135	03.14.19 17.23	**

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-6 (.5-1)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-013	Date Collected:	03.01.19 12.30	Sample Depth:	.5 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	03.07.19 13.00	Basis:	Wet Weight
Seq Number:	3081552				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0165	0.0364	0.0165	mg/kg	03.08.19 03.20	U	2
Toluene	108-88-3	**0.0729**	0.0364	0.00852	mg/kg	03.08.19 03.20		2
Ethylbenzene	100-41-4	**0.699**	0.0364	0.0112	mg/kg	03.08.19 03.20		2
m,p-Xylenes	179601-23-1	**0.867**	0.0729	0.0124	mg/kg	03.08.19 03.20		2
o-Xylene	95-47-6	**0.539**	0.0364	0.0124	mg/kg	03.08.19 03.20		2
Total Xylenes	1330-20-7	**1.41**	0.0364	0.0124	mg/kg	03.08.19 03.20		2
Total BTEX		**2.18**	0.0364	0.00852	mg/kg	03.08.19 03.20		2

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	131	%	68-120	03.08.19 03.20	**
a,a,a-Trifluorotoluene	98-08-8	81	%	71-121	03.08.19 03.20	

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-6 (1-1.5)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-014	Date Collected:	03.01.19 12.40	Sample Depth:	1 - 1.5 ft

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.14.19 10.00	Basis:	Wet Weight
Seq Number:	3082237			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**64.0**	15.0	7.99	mg/kg	03.14.19 17.43		1
Diesel Range Organics (DRO)	C10C28DRO	**1210**	15.0	8.11	mg/kg	03.14.19 17.43		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**171**	15.0	8.11	mg/kg	03.14.19 17.43		1
Total TPH	PHC635	**1450**	15.0	7.99	mg/kg	03.14.19 17.43		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	03.14.19 17.43	
o-Terphenyl	84-15-1	125	%	70-135	03.14.19 17.43	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	03.07.19 13.00	Basis:	Wet Weight
Seq Number:	3081552				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00834	0.0185	0.00834	mg/kg	03.08.19 04.59	U	1
Toluene	108-88-3	<0.00432	0.0185	0.00432	mg/kg	03.08.19 04.59	U	1
Ethylbenzene	100-41-4	**0.188**	0.0185	0.00568	mg/kg	03.08.19 04.59		1
m,p-Xylenes	179601-23-1	**0.465**	0.0369	0.00629	mg/kg	03.08.19 04.59		1
o-Xylene	95-47-6	**0.299**	0.0185	0.00629	mg/kg	03.08.19 04.59		1
Total Xylenes	1330-20-7	**0.764**	0.0185	0.00629	mg/kg	03.08.19 04.59		1
Total BTEX		**0.952**	0.0185	0.00432	mg/kg	03.08.19 04.59		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	143	%	68-120	03.08.19 04.59	**
a,a,a-Trifluorotoluene	98-08-8	76	%	71-121	03.08.19 04.59	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-7 (0-.5)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-015	Date Collected:	03.01.19 12.00	Sample Depth:	0 - 5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	03.06.19 15.50	Basis:	Wet Weight
Seq Number:	3081549			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8690**	100	3.55	mg/kg	03.08.19 07.07		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.14.19 10.00	Basis:	Wet Weight
Seq Number:	3082237			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**82.3**	15.0	7.98	mg/kg	03.14.19 18.02		1
Diesel Range Organics (DRO)	C10C28DRO	**1350**	15.0	8.10	mg/kg	03.14.19 18.02		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**170**	15.0	8.10	mg/kg	03.14.19 18.02		1
Total TPH	PHC635	**1600**	15.0	7.98	mg/kg	03.14.19 18.02		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	126	%	70-135	03.14.19 18.02	
o-Terphenyl	84-15-1	95	%	70-135	03.14.19 18.02	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-7 (0-.5)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-015	Date Collected:	03.01.19 12.00	Sample Depth:	0 - 5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	03.07.19 13.00	Basis:	Wet Weight
Seq Number:	3081552				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00823	0.0182	0.00823	mg/kg	03.08.19 05.24	U	1
Toluene	108-88-3	**0.0164**	0.0182	0.00426	mg/kg	03.08.19 05.24	J	1
Ethylbenzene	100-41-4	**0.135**	0.0182	0.00561	mg/kg	03.08.19 05.24		1
m,p-Xylenes	179601-23-1	**0.321**	0.0364	0.00621	mg/kg	03.08.19 05.24		1
o-Xylene	95-47-6	**0.224**	0.0182	0.00621	mg/kg	03.08.19 05.24		1
Total Xylenes	1330-20-7	**0.545**	0.0182	0.00621	mg/kg	03.08.19 05.24		1
Total BTEX		**0.696**	0.0182	0.00426	mg/kg	03.08.19 05.24		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	127	%	68-120	03.08.19 05.24	**
a,a,a-Trifluorotoluene	98-08-8	68	%	71-121	03.08.19 05.24	**

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-7 (.5-1)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-016	Date Collected:	03.01.19 12.10	Sample Depth:	.5 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	03.06.19 15.50	Basis:	Wet Weight
Seq Number:	3081549			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3380**	10.0	0.355	mg/kg	03.08.19 07.17		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.14.19 10.00	Basis:	Wet Weight
Seq Number:	3082237			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**37.0**	15.0	7.99	mg/kg	03.14.19 18.21		1
Diesel Range Organics (DRO)	C10C28DRO	**705**	15.0	8.12	mg/kg	03.14.19 18.21		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**90.2**	15.0	8.12	mg/kg	03.14.19 18.21		1
Total TPH	PHC635	**832**	15.0	7.99	mg/kg	03.14.19 18.21		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	03.14.19 18.21	
o-Terphenyl	84-15-1	124	%	70-135	03.14.19 18.21	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-7 (.5-1)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-016	Date Collected:	03.01.19 12.10	Sample Depth:	.5 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	03.07.19 13.00	Basis:	Wet Weight
Seq Number:	3081552				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00876	0.0194	0.00876	mg/kg	03.08.19 05.48	U	1
Toluene	108-88-3	**0.0271**	0.0194	0.00453	mg/kg	03.08.19 05.48		1
Ethylbenzene	100-41-4	**0.163**	0.0194	0.00597	mg/kg	03.08.19 05.48		1
m,p-Xylenes	179601-23-1	**0.126**	0.0388	0.00661	mg/kg	03.08.19 05.48		1
o-Xylene	95-47-6	**0.0736**	0.0194	0.00661	mg/kg	03.08.19 05.48		1
Total Xylenes	1330-20-7	**0.200**	0.0194	0.00661	mg/kg	03.08.19 05.48		1
Total BTEX		**0.390**	0.0194	0.00453	mg/kg	03.08.19 05.48		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	68-120	03.08.19 05.48	
a,a,a-Trifluorotoluene	98-08-8	86	%	71-121	03.08.19 05.48	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-8 (0-.5)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-017	Date Collected:	03.01.19 11.40	Sample Depth:	0 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	03.06.19 15.50	Basis:	Wet Weight
Seq Number:	3081549			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**271**	10.0	0.354	mg/kg	03.08.19 07.44		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.14.19 10.00	Basis:	Wet Weight
Seq Number:	3082237			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**4960**	75.0	40.0	mg/kg	03.14.19 18.41		5
Diesel Range Organics (DRO)	C10C28DRO	**18100**	75.0	40.6	mg/kg	03.14.19 18.41		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**1990**	75.0	40.6	mg/kg	03.14.19 18.41		5
Total TPH	PHC635	**25100**	75.0	40.0	mg/kg	03.14.19 18.41		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	203	%	70-135	03.14.19 18.41	**
o-Terphenyl	84-15-1	98	%	70-135	03.14.19 18.41	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-8 (0-.5)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-017	Date Collected:	03.01.19 11.40	Sample Depth:	0 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	03.07.19 13.00	Basis:	Wet Weight
Seq Number:	3081552				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.344**	0.0859	0.0388	mg/kg	03.08.19 06.13		5
Toluene	108-88-3	**15.8**	0.0859	0.0201	mg/kg	03.08.19 06.13		5
Ethylbenzene	100-41-4	**19.3**	0.0859	0.0265	mg/kg	03.08.19 06.13		5
m,p-Xylenes	179601-23-1	**58.5**	0.172	0.0293	mg/kg	03.08.19 06.13		5
o-Xylene	95-47-6	**23.4**	0.0859	0.0293	mg/kg	03.08.19 06.13		5
Total Xylenes	1330-20-7	**81.9**	0.0859	0.0293	mg/kg	03.08.19 06.13		5
Total BTEX		**117**	0.0859	0.0201	mg/kg	03.08.19 06.13		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	344	%	68-120	03.08.19 06.13	**
a,a,a-Trifluorotoluene	98-08-8	100	%	71-121	03.08.19 06.13	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-8 (.5-1)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-018	Date Collected:	03.01.19 11.50	Sample Depth:	.5 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	03.06.19 15.50	Basis:	Wet Weight
Seq Number:	3081549			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2450**	9.96	0.353	mg/kg	03.08.19 07.53		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.14.19 10.00	Basis:	Wet Weight
Seq Number:	3082237			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**1260**	15.0	7.99	mg/kg	03.14.19 18.59		1
Diesel Range Organics (DRO)	C10C28DRO	**4960**	15.0	8.11	mg/kg	03.14.19 18.59		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**477**	15.0	8.11	mg/kg	03.14.19 18.59		1
Total TPH	PHC635	**6700**	15.0	7.99	mg/kg	03.14.19 18.59		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	03.14.19 18.59	
o-Terphenyl	84-15-1	185	%	70-135	03.14.19 18.59	**

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-8 (.5-1)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-018	Date Collected:	03.01.19 11.50	Sample Depth:	.5 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	03.07.19 13.00	Basis:	Wet Weight
Seq Number:	3081552				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.0391**	0.0355	0.0161	mg/kg	03.08.19 06.38		2
Toluene	108-88-3	**2.75**	0.0355	0.00831	mg/kg	03.08.19 06.38		2
Ethylbenzene	100-41-4	**4.41**	0.0355	0.0109	mg/kg	03.08.19 06.38		2
m,p-Xylenes	179601-23-1	**13.3**	0.0710	0.0121	mg/kg	03.08.19 06.38		2
o-Xylene	95-47-6	**5.67**	0.0355	0.0121	mg/kg	03.08.19 06.38		2
Total Xylenes	1330-20-7	**19.0**	0.0355	0.0121	mg/kg	03.08.19 06.38		2
Total BTEX		**26.2**	0.0355	0.00831	mg/kg	03.08.19 06.38		2

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	268	%	68-120	03.08.19 06.38	**
a,a,a-Trifluorotoluene	98-08-8	101	%	71-121	03.08.19 06.38	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-8 (1.5-2**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-019	Date Collected:	03.01.19 11.55	Sample Depth:	1.5 - 2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	03.06.19 15.50	Basis:	Wet Weight
Seq Number:	3081549			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2330**	99.8	3.53	mg/kg	03.08.19 08.03		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.14.19 10.00	Basis:	Wet Weight
Seq Number:	3082237			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**3390**	74.8	39.9	mg/kg	03.14.19 19.18		5
Diesel Range Organics (DRO)	C10C28DRO	**18700**	74.8	40.5	mg/kg	03.14.19 19.18		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**2030**	74.8	40.5	mg/kg	03.14.19 19.18		5
Total TPH	PHC635	**24100**	74.8	39.9	mg/kg	03.14.19 19.18		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	227	%	70-135	03.14.19 19.18	**
o-Terphenyl	84-15-1	120	%	70-135	03.14.19 19.18	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-8 (1.5-2**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-019	Date Collected:	03.01.19 11.55	Sample Depth:	1.5 - 2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	03.07.19 13.00	Basis:	Wet Weight
Seq Number:	3081552				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.105**	0.0871	0.0394	mg/kg	03.08.19 07.03		5
Toluene	108-88-3	**6.93**	0.0871	0.0204	mg/kg	03.08.19 07.03		5
Ethylbenzene	100-41-4	**9.21**	0.0871	0.0268	mg/kg	03.08.19 07.03		5
m,p-Xylenes	179601-23-1	**28.7**	0.174	0.0297	mg/kg	03.08.19 07.03		5
o-Xylene	95-47-6	**13.0**	0.0871	0.0297	mg/kg	03.08.19 07.03		5
Total Xylenes	1330-20-7	**41.7**	0.0871	0.0297	mg/kg	03.08.19 07.03		5
Total BTEX		**57.9**	0.0871	0.0204	mg/kg	03.08.19 07.03		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	180	%	68-120	03.08.19 07.03	**
a,a,a-Trifluorotoluene	98-08-8	97	%	71-121	03.08.19 07.03	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-9 (0-.5)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-020	Date Collected:	03.01.19 13.50	Sample Depth:	0 - .5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	03.06.19 15.50	Basis:	Wet Weight
Seq Number:	3081549			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**34.3**	9.90	0.350	mg/kg	03.08.19 08.12		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.14.19 10.00	Basis:	Wet Weight
Seq Number:	3082237			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<7.98	15.0	7.98	mg/kg	03.14.19 19.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	**14.3**	15.0	8.10	mg/kg	03.14.19 19.37	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**10.4**	15.0	8.10	mg/kg	03.14.19 19.37	J	1
Total TPH	PHC635	**24.7**	15.0	7.98	mg/kg	03.14.19 19.37		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	03.14.19 19.37	
o-Terphenyl	84-15-1	111	%	70-135	03.14.19 19.37	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-9 (0-.5)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-020	Date Collected:	03.01.19 13.50	Sample Depth:	0 - .5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	03.07.19 13.00	Basis:	Wet Weight
Seq Number:	3081713				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00831	0.0184	0.00831	mg/kg	03.08.19 16.24	U	1
Toluene	108-88-3	**0.00919**	0.0184	0.00430	mg/kg	03.08.19 16.24	J	1
Ethylbenzene	100-41-4	<0.00566	0.0184	0.00566	mg/kg	03.08.19 16.24	U	1
m,p-Xylenes	179601-23-1	**0.0165**	0.0368	0.00627	mg/kg	03.08.19 16.24	J	1
o-Xylene	95-47-6	<0.00627	0.0184	0.00627	mg/kg	03.08.19 16.24	U	1
Total Xylenes	1330-20-7	**0.0165**	0.0184	0.00627	mg/kg	03.08.19 16.24	J	1
Total BTEX		**0.0257**	0.0184	0.00430	mg/kg	03.08.19 16.24		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	72	%	68-120	03.08.19 16.24	
a,a,a-Trifluorotoluene	98-08-8	74	%	71-121	03.08.19 16.24	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-9 (.5-1)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-021	Date Collected:	03.01.19 14.00	Sample Depth:	.5 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	03.06.19 15.50	Basis:	Wet Weight
Seq Number:	3081549			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**461**	10.0	0.354	mg/kg	03.08.19 08.21		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.13.19 15.00	Basis:	Wet Weight
Seq Number:	3082074			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<7.99	15.0	7.99	mg/kg	03.14.19 02.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<8.11	15.0	8.11	mg/kg	03.14.19 02.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.11	15.0	8.11	mg/kg	03.14.19 02.27	U	1
Total TPH	PHC635	<7.99	15.0	7.99	mg/kg	03.14.19 02.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	03.14.19 02.27	
o-Terphenyl	84-15-1	98	%	70-135	03.14.19 02.27	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-9 (.5-1)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-021	Date Collected:	03.01.19 14.00	Sample Depth:	.5 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	03.07.19 13.00	Basis:	Wet Weight
Seq Number:	3081713				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00869	0.0192	0.00869	mg/kg	03.08.19 13.07	U	1
Toluene	108-88-3	**0.00769**	0.0192	0.00450	mg/kg	03.08.19 13.07	J	1
Ethylbenzene	100-41-4	<0.00592	0.0192	0.00592	mg/kg	03.08.19 13.07	U	1
m,p-Xylenes	179601-23-1	<0.00656	0.0385	0.00656	mg/kg	03.08.19 13.07	U	1
o-Xylene	95-47-6	<0.00656	0.0192	0.00656	mg/kg	03.08.19 13.07	U	1
Total Xylenes	1330-20-7	<0.00656	0.0192	0.00656	mg/kg	03.08.19 13.07	U	1
Total BTEX		**0.00769**	0.0192	0.00450	mg/kg	03.08.19 13.07	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	89	%	68-120	03.08.19 13.07	
a,a,a-Trifluorotoluene	98-08-8	94	%	71-121	03.08.19 13.07	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-10 (0-.5)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-022	Date Collected:	03.01.19 14.10	Sample Depth:	0 - .5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	03.06.19 15.50	Basis:	Wet Weight
Seq Number:	3081549			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**392**	10.0	0.354	mg/kg	03.08.19 08.30		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.13.19 15.00	Basis:	Wet Weight
Seq Number:	3082074			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<7.97	14.9	7.97	mg/kg	03.14.19 02.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	**16.9**	14.9	8.10	mg/kg	03.14.19 02.47		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.10	14.9	8.10	mg/kg	03.14.19 02.47	U	1
Total TPH	PHC635	**16.9**	14.9	7.97	mg/kg	03.14.19 02.47		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	03.14.19 02.47	
o-Terphenyl	84-15-1	110	%	70-135	03.14.19 02.47	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-10 (0-.5)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-022	Date Collected:	03.01.19 14.10	Sample Depth:	0 - .5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	03.07.19 13.00	Basis:	Wet Weight
Seq Number:	3081713				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00904	0.0200	0.00904	mg/kg	03.08.19 16.48	U	1
Toluene	108-88-3	<0.00468	0.0200	0.00468	mg/kg	03.08.19 16.48	U	1
Ethylbenzene	100-41-4	<0.00616	0.0200	0.00616	mg/kg	03.08.19 16.48	U	1
m,p-Xylenes	179601-23-1	<0.00682	0.0400	0.00682	mg/kg	03.08.19 16.48	U	1
o-Xylene	95-47-6	<0.00682	0.0200	0.00682	mg/kg	03.08.19 16.48	U	1
Total Xylenes	1330-20-7	<0.00682	0.0200	0.00682	mg/kg	03.08.19 16.48	U	1
Total BTEX		<0.00468	0.0200	0.00468	mg/kg	03.08.19 16.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	83	%	68-120	03.08.19 16.48	
a,a,a-Trifluorotoluene	98-08-8	94	%	71-121	03.08.19 16.48	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-10 (.5-1)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-023	Date Collected:	03.01.19 14.20	Sample Depth:	.5 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	03.06.19 15.50	Basis:	Wet Weight
Seq Number:	3081549			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**254**	10.0	0.355	mg/kg	03.08.19 09.01		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.13.19 15.00	Basis:	Wet Weight
Seq Number:	3082074			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<7.97	14.9	7.97	mg/kg	03.14.19 03.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	**17.7**	14.9	8.10	mg/kg	03.14.19 03.06		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.10	14.9	8.10	mg/kg	03.14.19 03.06	U	1
Total TPH	PHC635	**17.7**	14.9	7.97	mg/kg	03.14.19 03.06		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	03.14.19 03.06	
o-Terphenyl	84-15-1	98	%	70-135	03.14.19 03.06	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-10 (.5-1)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-023	Date Collected:	03.01.19 14.20	Sample Depth:	.5 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	03.07.19 13.00	Basis:	Wet Weight
Seq Number:	3081713				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00853	0.0189	0.00853	mg/kg	03.08.19 17.13	U	1
Toluene	108-88-3	**0.0113**	0.0189	0.00442	mg/kg	03.08.19 17.13	J	1
Ethylbenzene	100-41-4	<0.00581	0.0189	0.00581	mg/kg	03.08.19 17.13	U	1
m,p-Xylenes	179601-23-1	<0.00643	0.0377	0.00643	mg/kg	03.08.19 17.13	U	1
o-Xylene	95-47-6	<0.00643	0.0189	0.00643	mg/kg	03.08.19 17.13	U	1
Total Xylenes	1330-20-7	<0.00643	0.0189	0.00643	mg/kg	03.08.19 17.13	U	1
Total BTEX		**0.0113**	0.0189	0.00442	mg/kg	03.08.19 17.13	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	85	%	68-120	03.08.19 17.13	
a,a,a-Trifluorotoluene	98-08-8	95	%	71-121	03.08.19 17.13	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-11 (0-.5)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-024	Date Collected:	03.01.19 14.30	Sample Depth:	0 - .5 ft
Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.13.19 15.00	Basis:	Wet Weight
Seq Number:	3082074			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<7.99	15.0	7.99	mg/kg	03.14.19 03.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	**17.1**	15.0	8.12	mg/kg	03.14.19 03.26		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.12	15.0	8.12	mg/kg	03.14.19 03.26	U	1
Total TPH	PHC635	**17.1**	15.0	7.99	mg/kg	03.14.19 03.26		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	03.14.19 03.26	
o-Terphenyl	84-15-1	101	%	70-135	03.14.19 03.26	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-11 (.5-1)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-025	Date Collected:	03.01.19 14.40	Sample Depth:	.5 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	03.06.19 15.50	Basis:	Wet Weight
Seq Number:	3081549			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**58.8**	10.0	0.355	mg/kg	03.08.19 09.10		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.13.19 15.00	Basis:	Wet Weight
Seq Number:	3082074			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<8.00	15.0	8.00	mg/kg	03.14.19 03.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	**20.9**	15.0	8.13	mg/kg	03.14.19 03.45		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.13	15.0	8.13	mg/kg	03.14.19 03.45	U	1
Total TPH	PHC635	**20.9**	15.0	8.00	mg/kg	03.14.19 03.45		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	03.14.19 03.45	
o-Terphenyl	84-15-1	113	%	70-135	03.14.19 03.45	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-11 (.5-1)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-025	Date Collected:	03.01.19 14.40	Sample Depth:	.5 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	03.07.19 13.00	Basis:	Wet Weight
Seq Number:	3081713				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00869	0.0192	0.00869	mg/kg	03.08.19 18.01	U	1
Toluene	108-88-3	<0.00450	0.0192	0.00450	mg/kg	03.08.19 18.01	U	1
Ethylbenzene	100-41-4	<0.00592	0.0192	0.00592	mg/kg	03.08.19 18.01	U	1
m,p-Xylenes	179601-23-1	<0.00656	0.0385	0.00656	mg/kg	03.08.19 18.01	U	1
o-Xylene	95-47-6	<0.00656	0.0192	0.00656	mg/kg	03.08.19 18.01	U	1
Total Xylenes	1330-20-7	<0.00656	0.0192	0.00656	mg/kg	03.08.19 18.01	U	1
Total BTEX		<0.00450	0.0192	0.00450	mg/kg	03.08.19 18.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	65	%	68-120	03.08.19 18.01	**
a,a,a-Trifluorotoluene	98-08-8	76	%	71-121	03.08.19 18.01	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-11 (1.5-2)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-026	Date Collected:	03.01.19 14.50	Sample Depth:	1.5 - 2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	03.06.19 15.50	Basis:	Wet Weight
Seq Number:	3081549			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**65.8**	10.1	0.356	mg/kg	03.08.19 09.38		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.13.19 15.00	Basis:	Wet Weight
Seq Number:	3082074			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<7.99	15.0	7.99	mg/kg	03.14.19 04.05	U	1
Diesel Range Organics (DRO)	C10C28DRO	**22.5**	15.0	8.11	mg/kg	03.14.19 04.05		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.11	15.0	8.11	mg/kg	03.14.19 04.05	U	1
Total TPH	PHC635	**22.5**	15.0	7.99	mg/kg	03.14.19 04.05		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	03.14.19 04.05	
o-Terphenyl	84-15-1	95	%	70-135	03.14.19 04.05	

Certificate of Analytical Results 616318

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos #1 SWD

Sample Id:	**HA-11 (1.5-2)**	Matrix:	Soil	Date Received:	03.04.19 10.40
Lab Sample Id:	616318-026	Date Collected:	03.01.19 14.50	Sample Depth:	1.5 - 2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	03.07.19 13.00	Basis:	Wet Weight
Seq Number:	3081713				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00835	0.0185	0.00835	mg/kg	03.08.19 18.25	U	1
Toluene	108-88-3	**0.0129**	0.0185	0.00433	mg/kg	03.08.19 18.25	J	1
Ethylbenzene	100-41-4	<0.00569	0.0185	0.00569	mg/kg	03.08.19 18.25	U	1
m,p-Xylenes	179601-23-1	<0.00630	0.0370	0.00630	mg/kg	03.08.19 18.25	U	1
o-Xylene	95-47-6	<0.00630	0.0185	0.00630	mg/kg	03.08.19 18.25	U	1
Total Xylenes	1330-20-7	<0.00630	0.0185	0.00630	mg/kg	03.08.19 18.25	U	1
Total BTEX		**0.0129**	0.0185	0.00433	mg/kg	03.08.19 18.25	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	67	%	68-120	03.08.19 18.25	**
a,a,a-Trifluorotoluene	98-08-8	81	%	71-121	03.08.19 18.25	

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 616318

Terracon-Lubbock

Solaris Okeanos #1 SWD

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3081504 Matrix: Solid Date Prep: 03.06.19
MB Sample Id: 7673068-1-BLK LCS Sample Id: 7673068-1-BKS LCSD Sample Id: 7673068-1-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	102	102	102	102	80-120	0	20	mg/kg	03.07.19 09:50	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3081549 Matrix: Solid Date Prep: 03.06.19
MB Sample Id: 7673073-1-BLK LCS Sample Id: 7673073-1-BKS LCSD Sample Id: 7673073-1-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	102	102	101	101	80-120	1	20	mg/kg	03.08.19 06:03	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3081504 Matrix: Soil Date Prep: 03.06.19
Parent Sample Id: 616159-001 MS Sample Id: 616159-001 S MSD Sample Id: 616159-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	16.7	100	108	91	109	92	80-120	1	20	mg/kg	03.07.19 10:18	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3081504 Matrix: Soil Date Prep: 03.06.19
Parent Sample Id: 616318-001 MS Sample Id: 616318-001 S MSD Sample Id: 616318-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	24300	2000	26000	85	25800	75	80-120	1	20	mg/kg	03.07.19 12:56	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3081549 Matrix: Soil Date Prep: 03.06.19
Parent Sample Id: 616318-011 MS Sample Id: 616318-011 S MSD Sample Id: 616318-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	12100	2000	14200	105	14100	100	80-120	1	20	mg/kg	03.08.19 14:43	

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

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

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

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

QC Summary 616318

Terracon-Lubbock

Solaris Okeanos #1 SWD

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3081549 Matrix: Soil Date Prep: 03.06.19
Parent Sample Id: 616318-022 MS Sample Id: 616318-022 S MSD Sample Id: 616318-022 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	392	100	484	92	481	89	80-120	1	20	mg/kg	03.08.19 08:43	

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3082074 Matrix: Solid Date Prep: 03.13.19
MB Sample Id: 7673530-1-BLK LCS Sample Id: 7673530-1-BKS LCSD Sample Id: 7673530-1-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)	<8.00	1000	1090	109	1040	104	70-135	5	20	mg/kg	03.13.19 19:52	
Diesel Range Organics (DRO)	<8.13	1000	1100	110	1120	112	70-135	2	20	mg/kg	03.13.19 19:52	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		124		126		70-135	%	03.13.19 19:52
o-Terphenyl	107		113		117		70-135	%	03.13.19 19:52

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3082237 Matrix: Solid Date Prep: 03.14.19
MB Sample Id: 7673622-1-BLK LCS Sample Id: 7673622-1-BKS LCSD Sample Id: 7673622-1-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)	<8.00	1000	1090	109	1080	108	70-135	1	20	mg/kg	03.14.19 11:40	
Diesel Range Organics (DRO)	<8.13	1000	1100	110	1080	108	70-135	2	20	mg/kg	03.14.19 11:40	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	95		125		129		70-135	%	03.14.19 11:40
o-Terphenyl	98		115		112		70-135	%	03.14.19 11:40

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3082074 Matrix: Soil Date Prep: 03.13.19
Parent Sample Id: 617488-001 MS Sample Id: 617488-001 S MSD Sample Id: 617488-001 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)	8.43	999	1070	106	1090	108	70-135	2	20	mg/kg	03.13.19 20:52	
Diesel Range Organics (DRO)	<8.12	999	1110	111	1120	112	70-135	1	20	mg/kg	03.13.19 20:52	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	123		122		70-135	%	03.13.19 20:52
o-Terphenyl	107		105		70-135	%	03.13.19 20:52

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 616318

Terracon-Lubbock

Solaris Okeanos #1 SWD

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3082237 Matrix: Soil Date Prep: 03.14.19
Parent Sample Id: 616318-001 MS Sample Id: 616318-001 S MSD Sample Id: 616318-001 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)	252	997	1100	85	1110	86	70-135	1	20	mg/kg	03.14.19 12:37	
Diesel Range Organics (DRO)	2130	997	2920	79	2950	82	70-135	1	20	mg/kg	03.14.19 12:37	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	126		127		70-135	%	03.14.19 12:37
o-Terphenyl	130		85		70-135	%	03.14.19 12:37

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3081552 Matrix: Solid Date Prep: 03.07.19
MB Sample Id: 7673147-1-BLK LCS Sample Id: 7673147-1-BKS LCSD Sample Id: 7673147-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00904	2.00	1.85	93	1.88	94	55-120	2	20	mg/kg	03.07.19 20:14	
Toluene	<0.00468	2.00	1.80	90	1.85	93	77-120	3	20	mg/kg	03.07.19 20:14	
Ethylbenzene	<0.00616	2.00	1.86	93	1.95	98	77-120	5	20	mg/kg	03.07.19 20:14	
m,p-Xylenes	<0.00682	4.00	3.69	92	3.86	97	78-120	5	20	mg/kg	03.07.19 20:14	
o-Xylene	<0.00682	2.00	1.88	94	1.95	98	78-120	4	20	mg/kg	03.07.19 20:14	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	99		67	**	85		68-120	%	03.07.19 20:14
a,a,a-Trifluorotoluene	99		66	**	83		71-121	%	03.07.19 20:14

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3081713 Matrix: Solid Date Prep: 03.07.19
MB Sample Id: 7673151-1-BLK LCS Sample Id: 7673151-1-BKS LCSD Sample Id: 7673151-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00904	2.00	1.92	96	1.86	93	55-120	3	20	mg/kg	03.08.19 11:08	
Toluene	<0.00468	2.00	1.87	94	1.89	95	77-120	1	20	mg/kg	03.08.19 11:08	
Ethylbenzene	<0.00616	2.00	1.94	97	1.99	100	77-120	3	20	mg/kg	03.08.19 11:08	
m,p-Xylenes	<0.00682	4.00	3.79	95	3.90	98	78-120	3	20	mg/kg	03.08.19 11:08	
o-Xylene	<0.00682	2.00	1.99	100	2.03	102	78-120	2	20	mg/kg	03.08.19 11:08	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	83		104		80		68-120	%	03.08.19 11:08
a,a,a-Trifluorotoluene	80		99		73		71-121	%	03.08.19 11:08

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

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

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

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

QC Summary 616318

Terracon-Lubbock

Solaris Okeanos #1 SWD

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

Seq Number: 3081552 Matrix: Soil Date Prep: 03.07.19

Parent Sample Id: 616318-001 MS Sample Id: 616318-001 S MSD Sample Id: 616318-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	0.177	4.00	2.03	46	1.71	42	54-120	17	25	mg/kg	03.07.19 23:36	X
Toluene	1.32	4.00	3.28	49	2.96	45	57-120	10	25	mg/kg	03.07.19 23:36	X
Ethylbenzene	1.19	4.00	3.22	51	2.96	49	58-131	8	25	mg/kg	03.07.19 23:36	X
m,p-Xylenes	3.02	8.00	7.17	52	6.40	46	62-124	11	25	mg/kg	03.07.19 23:36	X
o-Xylene	1.26	4.00	3.27	50	2.97	47	62-124	10	25	mg/kg	03.07.19 23:36	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	162	**	186	**	68-120	%	03.07.19 23:36
a,a,a-Trifluorotoluene	100		91		71-121	%	03.07.19 23:36

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

Seq Number: 3081713 Matrix: Soil Date Prep: 03.07.19

Parent Sample Id: 616318-021 MS Sample Id: 616318-021 S MSD Sample Id: 616318-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00868	1.92	1.48	77	1.51	77	54-120	2	25	mg/kg	03.08.19 13:31	
Toluene	0.00769	1.92	1.45	75	1.50	76	57-120	3	25	mg/kg	03.08.19 13:31	
Ethylbenzene	<0.00591	1.92	1.50	78	1.59	81	58-131	6	25	mg/kg	03.08.19 13:31	
m,p-Xylenes	<0.00655	3.84	2.94	77	3.13	80	62-124	6	25	mg/kg	03.08.19 13:31	
o-Xylene	<0.00655	1.92	1.56	81	1.65	84	62-124	6	25	mg/kg	03.08.19 13:31	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	66	**	68		68-120	%	03.08.19 13:31
a,a,a-Trifluorotoluene	69	**	72		71-121	%	03.08.19 13:31

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

616318

CHAIN OF CUSTODY RECORD

Terracon

Laboratory: Xenco
Address: 6701 Aberdeen
Lubbock, Texas 79424

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

LAB USE ONLY
DUE DATE: 616318

TEMP OF COOLER WHEN RECEIVED (°C): 4.8/4.8

Page 1 of 2

Project Number: A4197105
Project Name: Solaris Okeanos #1 SWD

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: 2 oz Glass	4 oz Glass			ANALYSIS REQUESTED: Chloride (EPA Method 300)	TPH Extended 8015	BTEX (EPA Method 8021B)	Hold				Lab Sample ID
S	3/1/2019	11:30	X		SP-1				X			X	X	X					1
S	3/1/2019	11:05		X	HA-1 (0-.5)	0'	.5'		X			X	X	X					2
S	3/1/2019	11:15		X	HA-1 (.5-1)	.5'	1'		X			X	X	X					3
S	3/1/2019	10:45		X	HA-2 (0-.5)	0'	.5'	X				X	X	X					4
S	3/1/2019	10:55		X	HA-2 (.5-1)	.5'	1'	X				X	X	X					5
S	3/1/2019	13:20		X	HA-3 (0-.5)	0'	.5'		X			X	X	X					6
S	3/1/2019	13:30		X	HA-3 (.5-1)	.5'	1'		X			X	X	X					7
S	3/1/2019	13:40		X	HA-3 (1.5-2)	1.5'	2'		X						X				8
S	3/1/2019	13:00		X	HA-4 (0-.5)	0'	.5'		X			X	X	X					9
S	3/1/2019	13:10		X	HA-4 (.5-1)	.5'	1'		X			X	X	X					10
S	3/1/2019	12:50		X	HA-5 (0-.5)	0'	.5'		X			X	X	X					11
S	3/1/2019	12:20		X	HA-6 (0-.5)	0'	.5'		X			X	X	X					12
S	3/1/2019	12:30		X	HA-6 (.5-1)	.5'	1'		X			X	X	X					13
S	3/1/2019	12:40		X	HA-6 (1-1.5)	1.5'	2'		X					X	X				14
S	3/1/2019	12:00		X	HA-7 (0-.5)	0'	.5'		X			X	X	X					15
S	3/1/2019	12:10		X	HA-7 (.5-1)	.5'	1'		X			X	X	X					16

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

TRRP Laboratory Review Checklist ☐ Yes ☐ No

	Date	Time		Date	Time
Relinquished by (Signature)	3-4-19	10:40	Received by (Signature) Brenda Ward		
Relinquished by (Signature)			Received by (Signature)		
Relinquished by (Signature)			Received by (Signature)		
Relinquished by (Signature)			Received by (Signature)		

NOTES: Client: Scout Energy Partners, L.P.

e-mail results to:

kcwilliams@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 _____

1.001

616318

CHAIN OF CUSTODY RECORD

Terracon

Laboratory: Xenco
Address: 6701 Aberdeen
Lubbock, Texas 79424

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

LAB USE ONLY
DUE DATE: 616318

TEMP OF COOLER WHEN RECEIVED (°C)

Project Number: A4197105
Project Name: Solaris Okeanos #1 SWD

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: 2 oz Glass	4 oz Glass			ANALYSIS REQUESTED: Chloride (EPA Method 300)	TPH Extended 8015	BTEX (EPA Method 8021B)	Hold				Lab Sample ID
S	3/1/2019	11:40		X	HA-8 (0-.5)	0'	.5'		X			X	X	X					17
S	3/1/2019	11:50		X	HA-8 (.5-1)	.5'	1'		X			X	X	X					18
S	3/1/2019	11:55		X	HA-8 (1.5-2)	1.5'	2'		X			X	X	X					19
S	3/1/2019	13:50		X	HA-9 (0-.5)	0'	.5'	X				X	X	X					20
S	3/1/2019	14:00		X	HA-9 (.5-1)	.5'	1'	X				X	X	X					21
S	3/1/2019	14:10		X	HA-10 (0-.5)	0'	.5'	X				X	X	X					22
S	3/1/2019	14:20		X	HA-10 (.5-1)	.5'	1'	X				X	X	X					23
S	3/1/2019	14:30		X	HA-11 (0-.5)	0'	1'	X							X				24
S	3/1/2019	14:40		X	HA-11 (.5-1)	.5'	1'	X				X	X	X					25
S	3/1/2019	14:50		X	HA-11 (1.5-2)	1.5'	2'	X				X	X	X					26

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

TRRP Laboratory Review Checklist ☐ Yes ☐ No

Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
	3-4-19	10:40	Brenda Ward		
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:

NOTES: Client: Scout Energy Partners, L.P.

e-mail results to:

kcwilliams@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 _____

1.001

Inter-Office Shipment

IOS Number **123615**

Date/Time: 03/04/19 12:31
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.: 774616217085
E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
616318-001	S	SP-1	03/01/19 11:30	E300_CL	Chloride by EPA 300	03/08/19	03/29/19	JKR	CL	
616318-002	S	HA-1 (0-.5)	03/01/19 11:05	E300_CL	Chloride by EPA 300	03/08/19	03/29/19	JKR	CL	
616318-003	S	HA-1 (.5-1)	03/01/19 11:15	E300_CL	Chloride by EPA 300	03/08/19	03/29/19	JKR	CL	
616318-004	S	HA-2 (0-.5)	03/01/19 11:45	E300_CL	Chloride by EPA 300	03/08/19	03/29/19	JKR	CL	
616318-005	S	HA-2 (.5-1)	03/01/19 10:55	E300_CL	Chloride by EPA 300	03/08/19	03/29/19	JKR	CL	
616318-006	S	HA-3 (0-.5)	03/01/19 13:20	E300_CL	Chloride by EPA 300	03/08/19	03/29/19	JKR	CL	
616318-007	S	HA-3 (.5-1)	03/01/19 13:30	E300_CL	Chloride by EPA 300	03/08/19	03/29/19	JKR	CL	
616318-008	S	HA-3 (1.5-2)	03/01/19 13:40	E300_CL	Chloride by EPA 300	HOLD	03/29/19	JKR	CL	
616318-009	S	HA-4 (0-.5)	03/01/19 13:00	E300_CL	Chloride by EPA 300	03/08/19	03/29/19	JKR	CL	
616318-010	S	HA-4 (.5-1)	03/01/19 13:10	E300_CL	Chloride by EPA 300	03/08/19	03/29/19	JKR	CL	
616318-011	S	HA-5 (0-.5)	03/01/19 13:10	E300_CL	Chloride by EPA 300	03/08/19	03/29/19	JKR	CL	
616318-012	S	HA-6 (0-.5)	03/01/19 12:20	E300_CL	Chloride by EPA 300	03/08/19	03/29/19	JKR	CL	
616318-013	S	HA-6 (.5-1)	03/01/19 12:30	E300_CL	Chloride by EPA 300	03/08/19	03/29/19	JKR	CL	
616318-014	S	HA-6 (1.5-2)	03/01/19 12:40	E300_CL	Chloride by EPA 300	HOLD	03/29/19	JKR	CL	
616318-015	S	HA-7 (0-.5)	03/01/19 12:00	E300_CL	Chloride by EPA 300	03/08/19	03/29/19	JKR	CL	
616318-016	S	HA-7 (.5-1)	03/01/19 12:10	E300_CL	Chloride by EPA 300	03/08/19	03/29/19	JKR	CL	
616318-017	S	HA-8 (0-.5)	03/01/19 11:40	E300_CL	Chloride by EPA 300	03/08/19	03/29/19	JKR	CL	
616318-018	S	HA-8 (.5-1)	03/01/19 11:50	E300_CL	Chloride by EPA 300	03/08/19	03/29/19	JKR	CL	
616318-019	S	HA-8 (1.5-2	03/01/19 11:55	E300_CL	Chloride by EPA 300	03/08/19	03/29/19	JKR	CL	
616318-020	S	HA-9 (0-.5)	03/01/19 13:50	E300_CL	Chloride by EPA 300	03/08/19	03/29/19	JKR	CL	
616318-021	S	HA-9 (.5-1)	03/01/19 14:00	E300_CL	Chloride by EPA 300	03/08/19	03/29/19	JKR	CL	
616318-022	S	HA-10 (0-.5)	03/01/19 14:10	E300_CL	Chloride by EPA 300	03/08/19	03/29/19	JKR	CL	
616318-023	S	HA-10 (.5-1)	03/01/19 14:20	E300_CL	Chloride by EPA 300	03/08/19	03/29/19	JKR	CL	
616318-024	S	HA-11 (0-.5)	03/01/19 14:30	E300_CL	Chloride by EPA 300	HOLD	03/29/19	JKR	CL	
616318-025	S	HA-11 (.5-1)	03/01/19 14:40	E300_CL	Chloride by EPA 300	03/08/19	03/29/19	JKR	CL	

Inter-Office Shipment

IOS Number **123615**

Date/Time: 03/04/19 12:31
Lab# From: **Lubbock**
Lab# To: **Houston**

Created by: Brenda Ward
Delivery Priority:
Air Bill No.: 774616217085

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
616318-026	S	HA-11 (1.5-2)	03/01/19 14:50	E300_CL	Chloride by EPA 300	03/08/19	03/29/19	JKR	CL	

Inter Office Shipment or Sample Comments:

Relinquished By: Brenda Ward
Brenda Ward

Date Relinquished: 03/04/2019

Received By: Taha Hedib

Date Received: 03/05/2019 09:50

Cooler Temperature: 0.7

Inter-Office Shipment

IOS Number **124268**

Date/Time: 03/12/19 11:51
Lab# From: **Lubbock**
Lab# To: **Midland**

Created by: Angelica Martinez
Delivery Priority: Fedex
Air Bill No.:

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

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
616318-001	S	SP-1	03/01/19 11:30	SW8015MOD_NM	TPH By SW8015 Mod	03/14/19	03/15/19 11:30	JKR	PHCC10C28 PHCC28C35	
616318-002	S	HA-1 (0-.5)	03/01/19 11:05	SW8015MOD_NM	TPH By SW8015 Mod	03/14/19	03/15/19 11:05	JKR	PHCC10C28 PHCC28C35	
616318-003	S	HA-1 (.5-1)	03/01/19 11:15	SW8015MOD_NM	TPH By SW8015 Mod	03/14/19	03/15/19 11:15	JKR	PHCC10C28 PHCC28C35	
616318-004	S	HA-2 (0-.5)	03/01/19 11:45	SW8015MOD_NM	TPH By SW8015 Mod	03/14/19	03/15/19 11:45	JKR	PHCC10C28 PHCC28C35	
616318-005	S	HA-2 (.5-1)	03/01/19 10:55	SW8015MOD_NM	TPH By SW8015 Mod	03/14/19	03/15/19 10:55	JKR	PHCC10C28 PHCC28C35	
616318-006	S	HA-3 (0-.5)	03/01/19 13:20	SW8015MOD_NM	TPH By SW8015 Mod	03/14/19	03/15/19 13:20	JKR	PHCC10C28 PHCC28C35	
616318-007	S	HA-3 (.5-1)	03/01/19 13:30	SW8015MOD_NM	TPH By SW8015 Mod	03/14/19	03/15/19 13:30	JKR	PHCC10C28 PHCC28C35	
616318-008	S	HA-3 (1.5-2)	03/01/19 13:40	SW8015MOD_NM	TPH By SW8015 Mod	03/14/19	03/15/19 13:40	JKR	PHCC10C28 PHCC28C35	
616318-009	S	HA-4 (0-.5)	03/01/19 13:00	SW8015MOD_NM	TPH By SW8015 Mod	03/14/19	03/15/19 13:00	JKR	PHCC10C28 PHCC28C35	
616318-010	S	HA-4 (.5-1)	03/01/19 13:10	SW8015MOD_NM	TPH By SW8015 Mod	03/14/19	03/15/19 13:10	JKR	PHCC10C28 PHCC28C35	
616318-011	S	HA-5 (0-.5)	03/01/19 12:50	SW8015MOD_NM	TPH By SW8015 Mod	03/14/19	03/15/19 12:50	JKR	PHCC10C28 PHCC28C35	
616318-012	S	HA-6 (0-.5)	03/01/19 12:20	SW8015MOD_NM	TPH By SW8015 Mod	03/14/19	03/15/19 12:20	JKR	PHCC10C28 PHCC28C35	
616318-013	S	HA-6 (.5-1)	03/01/19 12:30	SW8015MOD_NM	TPH By SW8015 Mod	03/14/19	03/15/19 12:30	JKR	PHCC10C28 PHCC28C35	
616318-014	S	HA-6 (1-1.5)	03/01/19 12:40	SW8015MOD_NM	TPH By SW8015 Mod	03/14/19	03/15/19 12:40	JKR	PHCC10C28 PHCC28C35	
616318-015	S	HA-7 (0-.5)	03/01/19 12:00	SW8015MOD_NM	TPH By SW8015 Mod	03/14/19	03/15/19 12:00	JKR	PHCC10C28 PHCC28C35	
616318-016	S	HA-7 (.5-1)	03/01/19 12:10	SW8015MOD_NM	TPH By SW8015 Mod	03/14/19	03/15/19 12:10	JKR	PHCC10C28 PHCC28C35	
616318-017	S	HA-8 (0-.5)	03/01/19 11:40	SW8015MOD_NM	TPH By SW8015 Mod	03/14/19	03/15/19 11:40	JKR	PHCC10C28 PHCC28C35	
616318-018	S	HA-8 (.5-1)	03/01/19 11:50	SW8015MOD_NM	TPH By SW8015 Mod	03/14/19	03/15/19 11:50	JKR	PHCC10C28 PHCC28C35	
616318-019	S	HA-8 (1.5-2	03/01/19 11:55	SW8015MOD_NM	TPH By SW8015 Mod	03/14/19	03/15/19 11:55	JKR	PHCC10C28 PHCC28C35	
616318-020	S	HA-9 (0-.5)	03/01/19 13:50	SW8015MOD_NM	TPH By SW8015 Mod	03/14/19	03/15/19 13:50	JKR	PHCC10C28 PHCC28C35	
616318-021	S	HA-9 (.5-1)	03/01/19 14:00	SW8015MOD_NM	TPH By SW8015 Mod	03/14/19	03/15/19 14:00	JKR	PHCC10C28 PHCC28C35	
616318-022	S	HA-10 (0-.5)	03/01/19 14:10	SW8015MOD_NM	TPH By SW8015 Mod	03/14/19	03/15/19 14:10	JKR	PHCC10C28 PHCC28C35	
616318-023	S	HA-10 (.5-1)	03/01/19 14:20	SW8015MOD_NM	TPH By SW8015 Mod	03/14/19	03/15/19 14:20	JKR	PHCC10C28 PHCC28C35	
616318-024	S	HA-11 (0-.5)	03/01/19 14:30	SW8015MOD_NM	TPH By SW8015 Mod	03/14/19	03/15/19 14:30	JKR	PHCC10C28 PHCC28C35	
616318-025	S	HA-11 (.5-1)	03/01/19 14:40	SW8015MOD_NM	TPH By SW8015 Mod	03/14/19	03/15/19 14:40	JKR	PHCC10C28 PHCC28C35	

Inter-Office Shipment

IOS Number **124268**

Date/Time: 03/12/19 11:51
Lab# From: **Lubbock**
Lab# To: **Midland**

Created by: Angelica Martinez
Delivery Priority: Fedex
Air Bill No.:

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

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
616318-026	S	HA-11 (1.5-2)	03/01/19 14:50	SW8015MOD_NM	TPH By SW8015 Mod	**03/14/19**	**03/15/19 14:50**	JKR	PHCC10C28 PHCC28C35	

Inter Office Shipment or Sample Comments:

Relinquished By: Angelica Martinez
Date Relinquished: 03/12/2019

Received By: Brianna Teel
Date Received: 03/13/2019 14:37
Cooler Temperature: 0.2

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Houston

IOS #: 123615

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

Sent By: Brenda Ward **Date Sent:** 03/04/2019 12:31 PM

Received By: Taha Hedib **Date Received:** 03/05/2019 09:50 AM

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

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

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

Checklist reviewed by: _____ Date: 03/05/2019

Taha Hedib

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 124268

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used : R8

Sent By: Angelica Martinez **Date Sent:** 03/12/2019 11:51 AM

Received By: Brianna Teel **Date Received:** 03/13/2019 02:37 PM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	.2	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received with appropriate temperature?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**No**	
#5 *Custody Seals Signed and dated for Containers/coolers	**No**	
#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: Brianna Teel Date: 03/13/2019

Brianna Teel

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Terracon-Lubbock

Date/ Time Received: 03/04/2019 10:40:00 AM

Work Order #: 616318

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)?	4.8	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 Custody Seals intact on sample bottles?	**N/A**	
#6*Custody Seals Signed and dated?	**N/A**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**Yes**	Chlorides sent to Stafford
#18 Water VOC samples have zero headspace?	**N/A**	

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

Analyst: PH Device/Lot#:

Checklist completed by: Brenda Ward Date: 03/04/2019
Brenda Ward

Checklist reviewed by: Jessica Kramer Date: 03/04/2019
Jessica Kramer

Certificate of Analysis Summary 627214

Terracon-Lubbock, Lubbock, TX

Project Name: Solaris Okeanos SWD

Project Id: AR197105
Contact: John Fergerson
Project Location:

Date Received in Lab: Mon Jun-10-19 05:45 pm
Report Date: 29-JUN-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	627214-001		627214-002		627214-003		627214-004		627214-005		627214-006	
	Field Id:	CS-1 (1.5-2)		CS-4 (0.5-1)		CS-5 (0.5-1)		CS-6 (0.5-1)		CS-8 (2-2.5)		CS-11 (0-0.5)	
	Depth:	1.5-2		0.5-1		0.5-1		0.5-1		2-2.5		0-0.5	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-10-19 12:30		Jun-10-19 12:48		Jun-10-19 12:52		Jun-10-19 12:58		Jun-10-19 13:16		Jun-10-19 13:20	
BTEX by EPA 8021B	***Extracted:***	Jun-12-19 15:00		Jun-12-19 15:00		Jun-12-19 15:00		Jun-12-19 15:00		Jun-12-19 15:00		Jun-12-19 15:00	
	Analyzed:	Jun-12-19 20:24		Jun-12-19 22:01		Jun-12-19 22:25		Jun-12-19 22:48		Jun-12-19 23:13		Jun-12-19 23:37	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00904	0.0200	<0.00904	0.0200	<0.00904	0.0200	<0.00904	0.0200	<0.00904	0.0200	<0.0904	0.200
Toluene		<0.00468	0.0200	0.0120 J	0.0200	<0.00468	0.0200	0.0140 J	0.0200	0.00800 J	0.0200	0.0800 J	0.200
Ethylbenzene		<0.00616	0.0200	<0.00616	0.0200	<0.00616	0.0200	<0.00616	0.0200	<0.00616	0.0200	<0.0616	0.200
m,p-Xylenes		<0.00682	0.0400	0.0140 J	0.0400	<0.00682	0.0400	<0.00682	0.0400	0.0560	0.0400	0.400 J	0.400
o-Xylene		<0.00682	0.0200	<0.00682	0.0200	0.0200 J	0.0200	0.0300	0.0200	0.0420	0.0200	0.340	0.200
Total Xylenes		<0.00682	0.0200	0.0140 J	0.0200	0.0200 J	0.0200	0.0300	0.0200	0.0980	0.0200	0.740	0.200
Total BTEX		<0.00468	0.0200	0.0260	0.0200	0.0200 J	0.0200	0.0440	0.0200	0.106	0.0200	0.820	0.200
Chloride by EPA 300 **SUB: T104704215-19-29**	***Extracted:***	Jun-12-19 12:30		Jun-26-19 09:56		Jun-26-19 09:56		Jun-26-19 09:56		Jun-26-19 09:56		Jun-26-19 09:56	
	Analyzed:	** ** ** **		Jun-26-19 14:55		Jun-26-19 16:07		Jun-26-19 16:31		Jun-26-19 17:19		Jun-26-19 17:43	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		3800	200	6970 D	200	7200 D	99.6	13900 D	100	10500 D	100	372	9.96
TPH By SW8015 Mod **SUB: T104704215-19-29**	***Extracted:***	Jun-13-19 19:09		Jun-13-19 19:12		Jun-13-19 19:15		Jun-13-19 19:18		Jun-13-19 19:21		Jun-13-19 19:24	
	Analyzed:	Jun-14-19 16:56		Jun-14-19 17:15		Jun-17-19 16:55		Jun-17-19 17:32		Jun-18-19 13:58		Jun-18-19 03:46	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<9.98	49.9	18.7 J	49.6	15.0 J	49.6	10.5 J	50.0	27.6 J	49.8	27.0 J	49.9
Diesel Range Organics (DRO)		12.5 J	49.9	3160	49.6	837	49.6	41.9 J	50.0	313	49.8	3480	49.9
Motor Oil Range Hydrocarbons (MRO)		<9.98	49.9	586	49.6	211	49.6	18.6 J	50.0	216	49.8	785	49.9
Total TPH		12.5 J	49.9	3760	49.6	1060	49.6	71.0	50.0	557	49.8	4290	49.9

Certificate of Analysis Summary 627214

Terracon-Lubbock, Lubbock, TX

Project Name: Solaris Okeanos SWD

Project Id: AR197105
Contact: John Fergerson
Project Location:

Date Received in Lab: Mon Jun-10-19 05:45 pm
Report Date: 29-JUN-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	627214-008		627214-010		627214-012		627214-014		627214-016		627214-018	
	Field Id:	CS-12 (0-0.5)		CS-13 (0-0.5)		CS-14 (0-0.5)		CS-15 (0.5-1)		CS-16 (0-0.5)		CS-17 (0-0.5)	
	Depth:	0-0.5		0-0.5		0-0.5		0-0.5		0-0.5		0-0.5	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-10-19 12:30		Jun-10-19 13:45		Jun-10-19 14:00		Jun-10-19 14:15		Jun-10-19 14:30		Jun-10-19 12:30	
BTEX by EPA 8021B	***Extracted:***	Jun-12-19 15:00		Jun-12-19 15:00		Jun-12-19 15:00		Jun-12-19 15:00		Jun-12-19 15:00		Jun-12-19 15:00	
	Analyzed:	Jun-13-19 00:01		Jun-13-19 00:25		Jun-13-19 00:50		Jun-13-19 01:14		Jun-13-19 02:50		Jun-13-19 03:14	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00904	0.0200	<0.00904	0.0200	<0.00904	0.0200	<0.00904	0.0200	<0.00904	0.0200	<0.00904	0.0200
Toluene		0.0100 J	0.0200	<0.00468	0.0200	<0.00468	0.0200	<0.00468	0.0200	<0.00468	0.0200	<0.00468	0.0200
Ethylbenzene		<0.00616	0.0200	<0.00616	0.0200	<0.00616	0.0200	<0.00616	0.0200	<0.00616	0.0200	<0.00616	0.0200
m,p-Xylenes		0.0540	0.0400	<0.00682	0.0400	<0.00682	0.0400	<0.00682	0.0400	0.0100 J	0.0400	<0.00682	0.0400
o-Xylene		0.0440	0.0200	0.0500	0.0200	0.0200 J	0.0200	<0.00682	0.0200	<0.00682	0.0200	<0.00682	0.0200
Total Xylenes		0.0980	0.0200	0.0500	0.0200	0.0200 J	0.0200	<0.00682	0.0200	0.0100 J	0.0200	<0.00682	0.0200
Total BTEX		0.108	0.0200	0.0500	0.0200	0.0200 J	0.0200	<0.00468	0.0200	0.0100 J	0.0200	<0.00468	0.0200
Chloride by EPA 300 **SUB: T104704215-19-29**	***Extracted:***	Jun-12-19 12:30		Jun-12-19 12:30		Jun-12-19 12:30		Jun-12-19 12:30		Jun-12-19 12:30		Jun-12-19 12:30	
	Analyzed:	Jun-12-19 12:51		Jun-12-19 13:03		Jun-12-19 13:15		Jun-12-19 13:27		Jun-12-19 14:04		Jun-12-19 14:16	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		17000	99.8	12000	99.4	6270	98.4	22900	99.6	13800	100	3290	9.98
TPH By SW8015 Mod **SUB: T104704215-19-29**	***Extracted:***	Jun-13-19 19:27		Jun-13-19 19:30		Jun-13-19 19:33		Jun-13-19 19:36		Jun-13-19 19:39			
	Analyzed:	Jun-18-19 04:04		Jun-18-19 04:23		Jun-18-19 04:42		Jun-18-19 05:01		Jun-18-19 15:00			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)		<9.99	50.0	<9.91	49.6	21.0 J	49.8	<9.95	49.8	<9.90	49.5		
Diesel Range Organics (DRO)		32.8 J	50.0	65.5	49.6	3480	49.8	41.8 J	49.8	54.4	49.5		
Motor Oil Range Hydrocarbons (MRO)		64.2	50.0	52.9	49.6	740	49.8	49.9	49.8	24.3 J	49.5		
Total TPH		97.0	50.0	118	49.6	4240	49.8	91.7	49.8	78.7	49.5		

Certificate of Analysis Summary 627214

Terracon-Lubbock, Lubbock, TX

Project Name: Solaris Okeanos SWD

Project Id: AR197105
Contact: John Fergerson
Project Location:

Date Received in Lab: Mon Jun-10-19 05:45 pm
Report Date: 29-JUN-19
Project Manager: Jessica Kramer

Analysis Requested								
	Lab Id:	627214-019						
	Field Id:	CS-17 (0.5-1)						
	Depth:	0.5-1						
	Matrix:	SOIL						
	Sampled:	Jun-10-19 12:48						
TPH By SW8015 Mod **SUB: T104704215-19-29**	***Extracted:***	Jun-26-19 23:33						
	Analyzed:	** ** ** **						
	Units/RL:	mg/kg	RL					
Gasoline Range Hydrocarbons (GRO)		<9.92	49.6					
Diesel Range Organics (DRO)		<9.92	49.6					
Motor Oil Range Hydrocarbons (MRO)		<9.92	49.6					
Total TPH		<9.92	49.6					

Jessica Kramer
Project Assistant

Analytical Report 627214

for

Terracon-Lubbock

Project Manager: John Fergerson

Solaris Okeanos SWD

AR197105

29-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)

29-JUN-19

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

Reference: XENCO Report No(s): **627214**
Solaris Okeanos SWD
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) 627214. 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. 627214 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Sample Cross Reference 627214

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
CS-1 (1.5-2)	S	06-10-19 12:30	1.5 - 2	627214-001
CS-4 (0.5-1)	S	06-10-19 12:48	0.5 - 1	627214-002
CS-5 (0.5-1)	S	06-10-19 12:52	0.5 - 1	627214-003
CS-6 (0.5-1)	S	06-10-19 12:58	0.5 - 1	627214-004
CS-8 (2-2.5)	S	06-10-19 13:16	2 - 2.5	627214-005
CS-11 (0-0.5)	S	06-10-19 13:20	0 - 0.5	627214-006
CS-12 (0-0.5)	S	06-10-19 12:30	0 - 0.5	627214-008
CS-13 (0-0.5)	S	06-10-19 13:45	0 - 0.5	627214-010
CS-14 (0-0.5)	S	06-10-19 14:00	0 - 0.5	627214-012
CS-15 (0.5-1)	S	06-10-19 14:15	0 - 0.5	627214-014
CS-16 (0-0.5)	S	06-10-19 14:30	0 - 0.5	627214-016
CS-17 (0-0.5)	S	06-10-19 12:30	0 - 0.5	627214-018
CS-17 (0.5-1)	S	06-10-19 12:48	0.5 - 1	627214-019
CS-11 (0.5-1)	S	06-10-19 13:24	0.5 - 1	Not Analyzed
CS-12 (0.5-1)	S	06-10-19 12:38	0.5 - 1	Not Analyzed
CS-13 (0.5-1)	S	06-10-19 13:50	0.5 - 1	Not Analyzed
CS-14 (0.5-1)	S	06-10-19 14:05	0.5 - 1	Not Analyzed
CS-15 (0.5-1)	S	06-10-19 14:20	0.5 - 1	Not Analyzed
CS-16 (0.5-1)	S	06-10-19 14:35	0.5 - 1	Not Analyzed

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-3092153 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Sample 627214-006 required dilution due to turbidity.

Certificate of Analytical Results 627214

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos SWD

Sample Id:	**CS-1 (1.5-2)**	Matrix:	Soil	Date Received:	06.10.19 17.45
Lab Sample Id:	627214-001	Date Collected:	06.10.19 12.30	Sample Depth:	1.5 - 2

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.12.19 12.30	Basis:	Wet Weight
Seq Number:	3092027			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3800**	200	7.08	mg/kg	06.12.19 14.28		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.13.19 19.09	Basis:	Wet Weight
Seq Number:	3092485			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	06.14.19 16.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	**12.5**	49.9	9.98	mg/kg	06.14.19 16.56	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.98	49.9	9.98	mg/kg	06.14.19 16.56	U	1
Total TPH	PHC635	**12.5**	49.9	9.98	mg/kg	06.14.19 16.56	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	06.14.19 16.56	
o-Terphenyl	84-15-1	86	%	70-135	06.14.19 16.56	

Certificate of Analytical Results 627214

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos SWD

Sample Id:	**CS-1 (1.5-2)**	Matrix:	Soil	Date Received:	06.10.19 17.45
Lab Sample Id:	627214-001	Date Collected:	06.10.19 12.30	Sample Depth:	1.5 - 2
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.12.19 15.00	Basis:	Wet Weight
Seq Number:	3092153				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00904	0.0200	0.00904	mg/kg	06.12.19 20.24	U	1
Toluene	108-88-3	<0.00468	0.0200	0.00468	mg/kg	06.12.19 20.24	U	1
Ethylbenzene	100-41-4	<0.00616	0.0200	0.00616	mg/kg	06.12.19 20.24	U	1
m,p-Xylenes	179601-23-1	<0.00682	0.0400	0.00682	mg/kg	06.12.19 20.24	U	1
o-Xylene	95-47-6	<0.00682	0.0200	0.00682	mg/kg	06.12.19 20.24	U	1
Total Xylenes	1330-20-7	<0.00682	0.0200	0.00682	mg/kg	06.12.19 20.24	U	1
Total BTEX		<0.00468	0.0200	0.00468	mg/kg	06.12.19 20.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	68-120	06.12.19 20.24	
a,a,a-Trifluorotoluene	98-08-8	101	%	71-121	06.12.19 20.24	

Certificate of Analytical Results 627214

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos SWD

Sample Id:	**CS-4 (0.5-1)**	Matrix:	Soil	Date Received:	06.10.19 17.45
Lab Sample Id:	627214-002	Date Collected:	06.10.19 12.48	Sample Depth:	0.5 - 1

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.26.19 09.56	Basis:	Wet Weight
Seq Number:	3093631			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6970**	200	7.08	mg/kg	06.26.19 15.31	D	20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.13.19 19.12	Basis:	Wet Weight
Seq Number:	3092485			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**18.7**	49.6	9.91	mg/kg	06.14.19 17.15	J	1
Diesel Range Organics (DRO)	C10C28DRO	**3160**	49.6	9.91	mg/kg	06.14.19 17.15		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**586**	49.6	9.91	mg/kg	06.14.19 17.15		1
Total TPH	PHC635	**3760**	49.6	9.91	mg/kg	06.14.19 17.15		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	06.14.19 17.15	
o-Terphenyl	84-15-1	103	%	70-135	06.14.19 17.15	

Certificate of Analytical Results 627214

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos SWD

Sample Id:	**CS-4 (0.5-1)**	Matrix:	Soil	Date Received:	06.10.19 17.45
Lab Sample Id:	627214-002	Date Collected:	06.10.19 12.48	Sample Depth:	0.5 - 1
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.12.19 15.00	Basis:	Wet Weight
Seq Number:	3092153				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00904	0.0200	0.00904	mg/kg	06.12.19 22.01	U	1
Toluene	108-88-3	**0.0120**	0.0200	0.00468	mg/kg	06.12.19 22.01	J	1
Ethylbenzene	100-41-4	<0.00616	0.0200	0.00616	mg/kg	06.12.19 22.01	U	1
m,p-Xylenes	179601-23-1	**0.0140**	0.0400	0.00682	mg/kg	06.12.19 22.01	J	1
o-Xylene	95-47-6	<0.00682	0.0200	0.00682	mg/kg	06.12.19 22.01	U	1
Total Xylenes	1330-20-7	**0.0140**	0.0200	0.00682	mg/kg	06.12.19 22.01	J	1
Total BTEX		**0.0260**	0.0200	0.00468	mg/kg	06.12.19 22.01		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	87	%	68-120	06.12.19 22.01	
a,a,a-Trifluorotoluene	98-08-8	101	%	71-121	06.12.19 22.01	

Certificate of Analytical Results 627214

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos SWD

Sample Id:	**CS-5 (0.5-1)**	Matrix:	Soil	Date Received:	06.10.19 17.45
Lab Sample Id:	627214-003	Date Collected:	06.10.19 12.52	Sample Depth:	0.5 - 1

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.26.19 09.56	Basis:	Wet Weight
Seq Number:	3093631			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7200**	99.6	3.53	mg/kg	06.26.19 16.19	D	10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.13.19 19.15	Basis:	Wet Weight
Seq Number:	3092485			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**15.0**	49.6	9.92	mg/kg	06.17.19 16.55	J	1
Diesel Range Organics (DRO)	C10C28DRO	**837**	49.6	9.92	mg/kg	06.17.19 16.55		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**211**	49.6	9.92	mg/kg	06.17.19 16.55		1
Total TPH	PHC635	**1060**	49.6	9.92	mg/kg	06.17.19 16.55		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	06.17.19 16.55	
o-Terphenyl	84-15-1	83	%	70-135	06.17.19 16.55	

Certificate of Analytical Results 627214

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos SWD

Sample Id:	**CS-5 (0.5-1)**	Matrix:	Soil	Date Received:	06.10.19 17.45
Lab Sample Id:	627214-003	Date Collected:	06.10.19 12.52	Sample Depth:	0.5 - 1
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.12.19 15.00	Basis:	Wet Weight
Seq Number:	3092153				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00904	0.0200	0.00904	mg/kg	06.12.19 22.25	U	1
Toluene	108-88-3	<0.00468	0.0200	0.00468	mg/kg	06.12.19 22.25	U	1
Ethylbenzene	100-41-4	<0.00616	0.0200	0.00616	mg/kg	06.12.19 22.25	U	1
m,p-Xylenes	179601-23-1	<0.00682	0.0400	0.00682	mg/kg	06.12.19 22.25	U	1
o-Xylene	95-47-6	**0.0200**	0.0200	0.00682	mg/kg	06.12.19 22.25	J	1
Total Xylenes	1330-20-7	**0.0200**	0.0200	0.00682	mg/kg	06.12.19 22.25	J	1
Total BTEX		**0.0200**	0.0200	0.00468	mg/kg	06.12.19 22.25	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	68-120	06.12.19 22.25	
a,a,a-Trifluorotoluene	98-08-8	108	%	71-121	06.12.19 22.25	

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos SWD

Sample Id:	**CS-6 (0.5-1)**	Matrix:	Soil	Date Received:	06.10.19 17.45
Lab Sample Id:	627214-004	Date Collected:	06.10.19 12.58	Sample Depth:	0.5 - 1

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.26.19 09.56	Basis:	Wet Weight
Seq Number:	3093631			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**13900**	100	3.55	mg/kg	06.26.19 16.43	D	10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.13.19 19.18	Basis:	Wet Weight
Seq Number:	3092485			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**10.5**	50.0	9.99	mg/kg	06.17.19 17.32	J	1
Diesel Range Organics (DRO)	C10C28DRO	**41.9**	50.0	9.99	mg/kg	06.17.19 17.32	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**18.6**	50.0	9.99	mg/kg	06.17.19 17.32	J	1
Total TPH	PHC635	**71.0**	50.0	9.99	mg/kg	06.17.19 17.32		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	06.17.19 17.32	
o-Terphenyl	84-15-1	112	%	70-135	06.17.19 17.32	

Certificate of Analytical Results 627214

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos SWD

Sample Id:	**CS-6 (0.5-1)**	Matrix:	Soil	Date Received:	06.10.19 17.45
Lab Sample Id:	627214-004	Date Collected:	06.10.19 12.58	Sample Depth:	0.5 - 1
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.12.19 15.00	Basis:	Wet Weight
Seq Number:	3092153				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00904	0.0200	0.00904	mg/kg	06.12.19 22.48	U	1
Toluene	108-88-3	**0.0140**	0.0200	0.00468	mg/kg	06.12.19 22.48	J	1
Ethylbenzene	100-41-4	<0.00616	0.0200	0.00616	mg/kg	06.12.19 22.48	U	1
m,p-Xylenes	179601-23-1	<0.00682	0.0400	0.00682	mg/kg	06.12.19 22.48	U	1
o-Xylene	95-47-6	**0.0300**	0.0200	0.00682	mg/kg	06.12.19 22.48		1
Total Xylenes	1330-20-7	**0.0300**	0.0200	0.00682	mg/kg	06.12.19 22.48		1
Total BTEX		**0.0440**	0.0200	0.00468	mg/kg	06.12.19 22.48		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	83	%	68-120	06.12.19 22.48	
a,a,a-Trifluorotoluene	98-08-8	92	%	71-121	06.12.19 22.48	

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos SWD

Sample Id:	**CS-8 (2-2.5)**	Matrix:	Soil	Date Received:	06.10.19 17.45
Lab Sample Id:	627214-005	Date Collected:	06.10.19 13.16	Sample Depth:	2 - 2.5

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.26.19 09.56	Basis:	Wet Weight
Seq Number:	3093631			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**10500**	100	3.55	mg/kg	06.26.19 17.31	D	10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.13.19 19.21	Basis:	Wet Weight
Seq Number:	3092485			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**27.6**	49.8	9.96	mg/kg	06.18.19 13.58	J	1
Diesel Range Organics (DRO)	C10C28DRO	**313**	49.8	9.96	mg/kg	06.18.19 13.58		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**216**	49.8	9.96	mg/kg	06.18.19 13.58		1
Total TPH	PHC635	**557**	49.8	9.96	mg/kg	06.18.19 13.58		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	06.18.19 13.58	
o-Terphenyl	84-15-1	117	%	70-135	06.18.19 13.58	

Certificate of Analytical Results 627214

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos SWD

Sample Id:	**CS-8 (2-2.5)**	Matrix:	Soil	Date Received:	06.10.19 17.45
Lab Sample Id:	627214-005	Date Collected:	06.10.19 13.16	Sample Depth:	2 - 2.5
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.12.19 15.00	Basis:	Wet Weight
Seq Number:	3092153				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00904	0.0200	0.00904	mg/kg	06.12.19 23.13	U	1
Toluene	108-88-3	**0.00800**	0.0200	0.00468	mg/kg	06.12.19 23.13	J	1
Ethylbenzene	100-41-4	<0.00616	0.0200	0.00616	mg/kg	06.12.19 23.13	U	1
m,p-Xylenes	179601-23-1	**0.0560**	0.0400	0.00682	mg/kg	06.12.19 23.13		1
o-Xylene	95-47-6	**0.0420**	0.0200	0.00682	mg/kg	06.12.19 23.13		1
Total Xylenes	1330-20-7	**0.0980**	0.0200	0.00682	mg/kg	06.12.19 23.13		1
Total BTEX		**0.106**	0.0200	0.00468	mg/kg	06.12.19 23.13		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	68-120	06.12.19 23.13	
a,a,a-Trifluorotoluene	98-08-8	98	%	71-121	06.12.19 23.13	

Certificate of Analytical Results 627214

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos SWD

Sample Id:	**CS-11 (0-0.5)**	Matrix:	Soil	Date Received:	06.10.19 17.45
Lab Sample Id:	627214-006	Date Collected:	06.10.19 13.20	Sample Depth:	0 - 0.5

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.26.19 09.56	Basis:	Wet Weight
Seq Number:	3093631			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**372**	9.96	0.353	mg/kg	06.26.19 17.43		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.13.19 19.24	Basis:	Wet Weight
Seq Number:	3092485			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**27.0**	49.9	9.98	mg/kg	06.18.19 03.46	J	1
Diesel Range Organics (DRO)	C10C28DRO	**3480**	49.9	9.98	mg/kg	06.18.19 03.46		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**785**	49.9	9.98	mg/kg	06.18.19 03.46		1
Total TPH	PHC635	**4290**	49.9	9.98	mg/kg	06.18.19 03.46		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	06.18.19 03.46	
o-Terphenyl	84-15-1	115	%	70-135	06.18.19 03.46	

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos SWD

Sample Id:	**CS-11 (0-0.5)**	Matrix:	Soil	Date Received:	06.10.19 17.45
Lab Sample Id:	627214-006	Date Collected:	06.10.19 13.20	Sample Depth:	0 - 0.5
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.12.19 15.00	Basis:	Wet Weight
Seq Number:	3092153				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0904	0.200	0.0904	mg/kg	06.12.19 23.37	U	10
Toluene	108-88-3	**0.0800**	0.200	0.0468	mg/kg	06.12.19 23.37	J	10
Ethylbenzene	100-41-4	<0.0616	0.200	0.0616	mg/kg	06.12.19 23.37	U	10
m,p-Xylenes	179601-23-1	**0.400**	0.400	0.0682	mg/kg	06.12.19 23.37	J	10
o-Xylene	95-47-6	**0.340**	0.200	0.0682	mg/kg	06.12.19 23.37		10
Total Xylenes	1330-20-7	**0.740**	0.200	0.0682	mg/kg	06.12.19 23.37		10
Total BTEX		**0.820**	0.200	0.0468	mg/kg	06.12.19 23.37		10

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	68-120	06.12.19 23.37	
a,a,a-Trifluorotoluene	98-08-8	100	%	71-121	06.12.19 23.37	

Certificate of Analytical Results 627214

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos SWD

Sample Id:	**CS-12 (0-0.5)**	Matrix:	Soil	Date Received:	06.10.19 17.45
Lab Sample Id:	627214-008	Date Collected:	06.10.19 12.30	Sample Depth:	0 - 0.5

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.12.19 12.30	Basis:	Wet Weight
Seq Number:	3092027			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**17000**	99.8	3.53	mg/kg	06.12.19 12.51		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.13.19 19.27	Basis:	Wet Weight
Seq Number:	3092485			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	06.18.19 04.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	**32.8**	50.0	9.99	mg/kg	06.18.19 04.04	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**64.2**	50.0	9.99	mg/kg	06.18.19 04.04		1
Total TPH	PHC635	**97.0**	50.0	9.99	mg/kg	06.18.19 04.04		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	06.18.19 04.04	
o-Terphenyl	84-15-1	103	%	70-135	06.18.19 04.04	

Certificate of Analytical Results 627214

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos SWD

Sample Id:	**CS-12 (0-0.5)**	Matrix:	Soil	Date Received:	06.10.19 17.45
Lab Sample Id:	627214-008	Date Collected:	06.10.19 12.30	Sample Depth:	0 - 0.5
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.12.19 15.00	Basis:	Wet Weight
Seq Number:	3092153				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00904	0.0200	0.00904	mg/kg	06.13.19 00.01	U	1
Toluene	108-88-3	**0.0100**	0.0200	0.00468	mg/kg	06.13.19 00.01	J	1
Ethylbenzene	100-41-4	<0.00616	0.0200	0.00616	mg/kg	06.13.19 00.01	U	1
m,p-Xylenes	179601-23-1	**0.0540**	0.0400	0.00682	mg/kg	06.13.19 00.01		1
o-Xylene	95-47-6	**0.0440**	0.0200	0.00682	mg/kg	06.13.19 00.01		1
Total Xylenes	1330-20-7	**0.0980**	0.0200	0.00682	mg/kg	06.13.19 00.01		1
Total BTEX		**0.108**	0.0200	0.00468	mg/kg	06.13.19 00.01		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	68-120	06.13.19 00.01	
a,a,a-Trifluorotoluene	98-08-8	106	%	71-121	06.13.19 00.01	

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos SWD

Sample Id:	**CS-13 (0-0.5)**	Matrix:	Soil	Date Received:	06.10.19 17.45
Lab Sample Id:	627214-010	Date Collected:	06.10.19 13.45	Sample Depth:	0 - 0.5

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.12.19 12.30	Basis:	Wet Weight
Seq Number:	3092027			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**12000**	99.4	3.52	mg/kg	06.12.19 13.03		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.13.19 19.30	Basis:	Wet Weight
Seq Number:	3092485			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	06.18.19 04.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	**65.5**	49.6	9.91	mg/kg	06.18.19 04.23		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**52.9**	49.6	9.91	mg/kg	06.18.19 04.23		1
Total TPH	PHC635	**118**	49.6	9.91	mg/kg	06.18.19 04.23		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	06.18.19 04.23	
o-Terphenyl	84-15-1	101	%	70-135	06.18.19 04.23	

Certificate of Analytical Results 627214

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos SWD

Sample Id:	**CS-13 (0-0.5)**	Matrix:	Soil	Date Received:	06.10.19 17.45
Lab Sample Id:	627214-010	Date Collected:	06.10.19 13.45	Sample Depth:	0 - 0.5
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.12.19 15.00	Basis:	Wet Weight
Seq Number:	3092153				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00904	0.0200	0.00904	mg/kg	06.13.19 00.25	U	1
Toluene	108-88-3	<0.00468	0.0200	0.00468	mg/kg	06.13.19 00.25	U	1
Ethylbenzene	100-41-4	<0.00616	0.0200	0.00616	mg/kg	06.13.19 00.25	U	1
m,p-Xylenes	179601-23-1	<0.00682	0.0400	0.00682	mg/kg	06.13.19 00.25	U	1
o-Xylene	95-47-6	**0.0500**	0.0200	0.00682	mg/kg	06.13.19 00.25		1
Total Xylenes	1330-20-7	**0.0500**	0.0200	0.00682	mg/kg	06.13.19 00.25		1
Total BTEX		**0.0500**	0.0200	0.00468	mg/kg	06.13.19 00.25		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	68-120	06.13.19 00.25	
a,a,a-Trifluorotoluene	98-08-8	101	%	71-121	06.13.19 00.25	

Certificate of Analytical Results 627214

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos SWD

Sample Id:	**CS-14 (0-0.5)**	Matrix:	Soil	Date Received:	06.10.19 17.45
Lab Sample Id:	627214-012	Date Collected:	06.10.19 14.00	Sample Depth:	0 - 0.5

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.12.19 12.30	Basis:	Wet Weight
Seq Number:	3092027			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6270**	98.4	3.48	mg/kg	06.12.19 13.15		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.13.19 19.33	Basis:	Wet Weight
Seq Number:	3092485			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**21.0**	49.8	9.96	mg/kg	06.18.19 04.42	J	1
Diesel Range Organics (DRO)	C10C28DRO	**3480**	49.8	9.96	mg/kg	06.18.19 04.42		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**740**	49.8	9.96	mg/kg	06.18.19 04.42		1
Total TPH	PHC635	**4240**	49.8	9.96	mg/kg	06.18.19 04.42		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	06.18.19 04.42	
o-Terphenyl	84-15-1	111	%	70-135	06.18.19 04.42	

Certificate of Analytical Results 627214

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos SWD

Sample Id:	**CS-14 (0-0.5)**	Matrix:	Soil	Date Received:	06.10.19 17.45
Lab Sample Id:	627214-012	Date Collected:	06.10.19 14.00	Sample Depth:	0 - 0.5
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.12.19 15.00	Basis:	Wet Weight
Seq Number:	3092153				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00904	0.0200	0.00904	mg/kg	06.13.19 00.50	U	1
Toluene	108-88-3	<0.00468	0.0200	0.00468	mg/kg	06.13.19 00.50	U	1
Ethylbenzene	100-41-4	<0.00616	0.0200	0.00616	mg/kg	06.13.19 00.50	U	1
m,p-Xylenes	179601-23-1	<0.00682	0.0400	0.00682	mg/kg	06.13.19 00.50	U	1
o-Xylene	95-47-6	**0.0200**	0.0200	0.00682	mg/kg	06.13.19 00.50	J	1
Total Xylenes	1330-20-7	**0.0200**	0.0200	0.00682	mg/kg	06.13.19 00.50	J	1
Total BTEX		**0.0200**	0.0200	0.00468	mg/kg	06.13.19 00.50	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	68-120	06.13.19 00.50	
a,a,a-Trifluorotoluene	98-08-8	107	%	71-121	06.13.19 00.50	

Certificate of Analytical Results 627214

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos SWD

Sample Id:	**CS-15 (0.5-1)**	Matrix:	Soil	Date Received:	06.10.19 17.45
Lab Sample Id:	627214-014	Date Collected:	06.10.19 14.15	Sample Depth:	0 - 0.5

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.12.19 12.30	Basis:	Wet Weight
Seq Number:	3092027			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**22900**	99.6	3.53	mg/kg	06.12.19 13.27		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.13.19 19.36	Basis:	Wet Weight
Seq Number:	3092485			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	06.18.19 05.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	**41.8**	49.8	9.95	mg/kg	06.18.19 05.01	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**49.9**	49.8	9.95	mg/kg	06.18.19 05.01		1
Total TPH	PHC635	**91.7**	49.8	9.95	mg/kg	06.18.19 05.01		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	06.18.19 05.01	
o-Terphenyl	84-15-1	98	%	70-135	06.18.19 05.01	

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos SWD

Sample Id:	**CS-15 (0.5-1)**	Matrix:	Soil	Date Received:	06.10.19 17.45
Lab Sample Id:	627214-014	Date Collected:	06.10.19 14.15	Sample Depth:	0 - 0.5
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.12.19 15.00	Basis:	Wet Weight
Seq Number:	3092153				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00904	0.0200	0.00904	mg/kg	06.13.19 01.14	U	1
Toluene	108-88-3	<0.00468	0.0200	0.00468	mg/kg	06.13.19 01.14	U	1
Ethylbenzene	100-41-4	<0.00616	0.0200	0.00616	mg/kg	06.13.19 01.14	U	1
m,p-Xylenes	179601-23-1	<0.00682	0.0400	0.00682	mg/kg	06.13.19 01.14	U	1
o-Xylene	95-47-6	<0.00682	0.0200	0.00682	mg/kg	06.13.19 01.14	U	1
Total Xylenes	1330-20-7	<0.00682	0.0200	0.00682	mg/kg	06.13.19 01.14	U	1
Total BTEX		<0.00468	0.0200	0.00468	mg/kg	06.13.19 01.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	89	%	68-120	06.13.19 01.14	
a,a,a-Trifluorotoluene	98-08-8	105	%	71-121	06.13.19 01.14	

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos SWD

Sample Id:	**CS-16 (0-0.5)**	Matrix:	Soil	Date Received:	06.10.19 17.45
Lab Sample Id:	627214-016	Date Collected:	06.10.19 14.30	Sample Depth:	0 - 0.5

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.12.19 12.30	Basis:	Wet Weight
Seq Number:	3092027			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**13800**	100	3.55	mg/kg	06.12.19 14.04		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.13.19 19.39	Basis:	Wet Weight
Seq Number:	3092485			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	06.18.19 15.00	U	1
Diesel Range Organics (DRO)	C10C28DRO	**54.4**	49.5	9.90	mg/kg	06.18.19 15.00		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**24.3**	49.5	9.90	mg/kg	06.18.19 15.00	J	1
Total TPH	PHC635	**78.7**	49.5	9.90	mg/kg	06.18.19 15.00		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	129	%	70-135	06.18.19 15.00	
o-Terphenyl	84-15-1	115	%	70-135	06.18.19 15.00	

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos SWD

Sample Id:	**CS-16 (0-0.5)**	Matrix:	Soil	Date Received:	06.10.19 17.45
Lab Sample Id:	627214-016	Date Collected:	06.10.19 14.30	Sample Depth:	0 - 0.5
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.12.19 15.00	Basis:	Wet Weight
Seq Number:	3092153				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00904	0.0200	0.00904	mg/kg	06.13.19 02.50	U	1
Toluene	108-88-3	<0.00468	0.0200	0.00468	mg/kg	06.13.19 02.50	U	1
Ethylbenzene	100-41-4	<0.00616	0.0200	0.00616	mg/kg	06.13.19 02.50	U	1
m,p-Xylenes	179601-23-1	**0.0100**	0.0400	0.00682	mg/kg	06.13.19 02.50	J	1
o-Xylene	95-47-6	<0.00682	0.0200	0.00682	mg/kg	06.13.19 02.50	U	1
Total Xylenes	1330-20-7	**0.0100**	0.0200	0.00682	mg/kg	06.13.19 02.50	J	1
Total BTEX		**0.0100**	0.0200	0.00468	mg/kg	06.13.19 02.50	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	87	%	68-120	06.13.19 02.50	
a,a,a-Trifluorotoluene	98-08-8	99	%	71-121	06.13.19 02.50	

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos SWD

Sample Id:	**CS-17 (0-0.5)**	Matrix:	Soil	Date Received:	06.10.19 17.45
Lab Sample Id:	627214-018	Date Collected:	06.10.19 12.30	Sample Depth:	0 - 0.5

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	06.12.19 12.30	Basis:	Wet Weight
Seq Number:	3092027			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3290**	9.98	0.353	mg/kg	06.12.19 14.16		1

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	06.12.19 15.00	Basis:	Wet Weight
Seq Number:	3092153				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00904	0.0200	0.00904	mg/kg	06.13.19 03.14	U	1
Toluene	108-88-3	<0.00468	0.0200	0.00468	mg/kg	06.13.19 03.14	U	1
Ethylbenzene	100-41-4	<0.00616	0.0200	0.00616	mg/kg	06.13.19 03.14	U	1
m,p-Xylenes	179601-23-1	<0.00682	0.0400	0.00682	mg/kg	06.13.19 03.14	U	1
o-Xylene	95-47-6	<0.00682	0.0200	0.00682	mg/kg	06.13.19 03.14	U	1
Total Xylenes	1330-20-7	<0.00682	0.0200	0.00682	mg/kg	06.13.19 03.14	U	1
Total BTEX		<0.00468	0.0200	0.00468	mg/kg	06.13.19 03.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	88	%	68-120	06.13.19 03.14	
a,a,a-Trifluorotoluene	98-08-8	102	%	71-121	06.13.19 03.14	

Certificate of Analytical Results 627214

Terracon-Lubbock, Lubbock, TX

Solaris Okeanos SWD

Sample Id:	**CS-17 (0.5-1)**	Matrix:	Soil	Date Received:	06.10.19 17.45
Lab Sample Id:	627214-019	Date Collected:	06.10.19 12.48	Sample Depth:	0.5 - 1
Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ISU			% Moisture:	
Analyst:	ISU	Date Prep:	06.26.19 23.33	Basis:	Wet Weight
Seq Number:	3093926			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	06.26.19 19.17	UK	1
Diesel Range Organics (DRO)	C10C28DRO	<9.92	49.6	9.92	mg/kg	06.26.19 19.17	UK	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.92	49.6	9.92	mg/kg	06.26.19 19.17	UK	1
Total TPH	PHC635	<9.92	49.6	9.92	mg/kg	06.26.19 19.17	UK	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	06.26.19 19.17	
o-Terphenyl	84-15-1	100	%	70-135	06.26.19 19.17	

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 627214

Terracon-Lubbock

Solaris Okeanos SWD

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3092027 Matrix: Solid Date Prep: 06.12.19
MB Sample Id: 7679719-1-BLK LCS Sample Id: 7679719-1-BKS LCSD Sample Id: 7679719-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	0.602	100	98.3	98	97.8	98	80-120	1	20	mg/kg	06.12.19 08:29	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3093631 Matrix: Solid Date Prep: 06.26.19
MB Sample Id: 7680714-1-BLK LCS Sample Id: 7680714-1-BKS LCSD Sample Id: 7680714-1-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	98.8	99	98.6	99	80-120	0	20	mg/kg	06.26.19 10:43	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3092027 Matrix: Soil Date Prep: 06.12.19
Parent Sample Id: 627146-003 MS Sample Id: 627146-003 S MSD Sample Id: 627146-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	466	100	553	87	552	86	80-120	0	20	mg/kg	06.12.19 16:04	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3092027 Matrix: Soil Date Prep: 06.12.19
Parent Sample Id: 627214-001 MS Sample Id: 627214-001 S MSD Sample Id: 627214-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3800	2000	5830	102	5800	100	80-120	1	20	mg/kg	06.12.19 14:40	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3093631 Matrix: Soil Date Prep: 06.26.19
Parent Sample Id: 627214-002 MS Sample Id: 627214-002 S MSD Sample Id: 627214-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6970	2000	9110	107	9090	106	80-120	0	20	mg/kg	06.26.19 15:43	

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 627214

Terracon-Lubbock

Solaris Okeanos SWD

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3092485 Matrix: Solid Date Prep: 06.13.19
MB Sample Id: 7679863-1-BLK LCS Sample Id: 7679863-1-BKS LCSD Sample Id: 7679863-1-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	1050	105	1040	104	70-135	1	35	mg/kg	06.14.19 11:20	
Diesel Range Organics (DRO)	<10.0	1000	986	99	979	98	70-135	1	35	mg/kg	06.14.19 11:20	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	80		86		88		70-135	%	06.14.19 11:20
o-Terphenyl	82		72		73		70-135	%	06.14.19 11:20

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3093926 Matrix: Solid Date Prep: 06.26.19
MB Sample Id: 7681022-1-BLK LCS Sample Id: 7681022-1-BKS LCSD Sample Id: 7681022-1-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	1140	114	1140	114	70-135	0	35	mg/kg	06.26.19 15:08	
Diesel Range Organics (DRO)	<10.0	1000	1020	102	1020	102	70-135	0	35	mg/kg	06.26.19 15:08	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	95		104		104		70-135	%	06.26.19 15:08
o-Terphenyl	100		99		101		70-135	%	06.26.19 15:08

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3092485 Matrix: Soil Date Prep: 06.13.19
Parent Sample Id: 626742-006 MS Sample Id: 626742-006 S MSD Sample Id: 626742-006 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)	<9.90	990	1080	109	1020	103	70-135	6	35	mg/kg	06.14.19 12:15	
Diesel Range Organics (DRO)	<9.90	990	1010	102	956	97	70-135	5	35	mg/kg	06.14.19 12:15	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	91		87		70-135	%	06.14.19 12:15
o-Terphenyl	75		72		70-135	%	06.14.19 12:15

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

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

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

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

QC Summary 627214

Terracon-Lubbock

Solaris Okeanos SWD

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

Seq Number: 3092153 Matrix: Solid Date Prep: 06.12.19

MB Sample Id: 7679823-1-BLK LCS Sample Id: 7679823-1-BKS LCSD Sample Id: 7679823-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00904	2.00	1.91	96	1.89	95	55-120	1	20	mg/kg	06.12.19 18:22	
Toluene	<0.00468	2.00	1.87	94	1.88	94	77-120	1	20	mg/kg	06.12.19 18:22	
Ethylbenzene	<0.00616	2.00	1.95	98	1.98	99	77-120	2	20	mg/kg	06.12.19 18:22	
m,p-Xylenes	<0.00682	4.00	3.93	98	3.99	100	78-120	2	20	mg/kg	06.12.19 18:22	
o-Xylene	<0.00682	2.00	2.03	102	2.05	103	78-120	1	20	mg/kg	06.12.19 18:22	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	95		92		94		68-120	%	06.12.19 18:22
a,a,a-Trifluorotoluene	96		99		99		71-121	%	06.12.19 18:22

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

Seq Number: 3092153 Matrix: Soil Date Prep: 06.12.19

Parent Sample Id: 627214-001 MS Sample Id: 627214-001 S MSD Sample Id: 627214-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00904	2.00	1.83	92	1.81	91	54-120	1	25	mg/kg	06.12.19 20:48	
Toluene	<0.00468	2.00	1.81	91	1.76	88	57-120	3	25	mg/kg	06.12.19 20:48	
Ethylbenzene	<0.00616	2.00	1.80	90	1.77	89	58-131	2	25	mg/kg	06.12.19 20:48	
m,p-Xylenes	<0.00682	4.00	3.61	90	3.54	89	62-124	2	25	mg/kg	06.12.19 20:48	
o-Xylene	<0.00682	2.00	1.82	91	1.81	91	62-124	1	25	mg/kg	06.12.19 20:48	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	86		82		68-120	%	06.12.19 20:48
a,a,a-Trifluorotoluene	104		103		71-121	%	06.12.19 20:48

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

627214

627214

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: AR197105
Project Name: Solaris Okeanos SWD

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C): 5.8/5.7
Page 1 of 2

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: 2 oz Glass	4 oz Glass	5035 kit	40 ml VOA	Chloride (EPA Method 300)	TPH Extended 8015	BTEX (EPA Method 8021B)	Hold	Lab Sample ID
S	6/10/2019	12:30		X	CS-1 (1.5-2)	1.5'	2'		X			X	X	X		1
S	6/10/2019	12:48		X	CS-4 (0.5-1)	0.5'	1'		X				X	X		2
S	6/10/2019	12:52		X	CS-5 (0.5-1)	0.5'	1'		X				X	X		3
S	6/10/2019	12:58		X	CS-6 (0.5-1)	0.5'	1'		X				X	X		4
S	6/10/2019	13:16		X	CS-8 (2-2.5)	2'	2.5		X				X	X		5
S	6/10/2019	13:20		X	CS-11 (0-0.5)	0'	0.5'		X				X	X		6
S	6/10/2019	13:24		X	CS-11 (0.5-1)	0.5'	1'		X						X	7
S	6/10/2019	13:30		X	CS-12 (0-0.5)	0'	0.5'		X			X	X	X		8
S	6/10/2019	13:38		X	CS-12 (0.5-1)	0.5'	1'		X						X	9
S	6/10/2019	13:45		X	CS-13 (0-0.5)	0'	0.5'		X			X	X	X		10
S	6/10/2019	13:50		X	CS-13 (0.5-1)	0.5'	1'		X						X	11
S	6/10/2019	14:00		X	CS-14 (0-0.5)	0'	0.5'		X			X	X	X		12
S	6/10/2019	14:05		X	CS-14 (0.5-1)	0.5'	1'		X						X	13
S	6/10/2019	14:15		X	CS-15 (0-0.5)	0'	0.5'		X			X	X	X		14
S	6/10/2019	14:20		X	CS-15 (0.5-1)	0.5'	1'		X						X	15
S	6/10/2019	14:30		X	CS-16 (0-0.5)	0'	0.5'		X			X	X	X		16
S	6/10/2019	14:35		X	CS-16 (0.5-1)	0.5'	1'		X						X	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
	6-10-19	17:45	Brenda Ward		

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

627214

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: AR197105
Project Name: Solaris Okeanos SWD

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C): 5.8 / 5.7

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	6/10/2019	12:30		X	CS-17 (0-0.5)	0'	0.5'		X			X	X	X		18
S	6/10/2019	12:48		X	CS-17 (0.5-1)	0.5'	1'		X						X	19

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
	5-10-19	17:45	Brenda Ward		
Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time
Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time
Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time

NOTES: Client: 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 _____

Inter-Office Shipment

IOS Number **41136**

Date/Time: 06/11/19 10:24
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.: 775447505517
E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
627214-001	S	CS-1 (1.5-2)	06/10/19 12:30	E300_CL	Chloride by EPA 300	06/12/19	12/07/19	JKR	CL	
627214-001	S	CS-1 (1.5-2)	06/10/19 12:30	SW8015MOD_NM	TPH By SW8015 Mod	06/12/19	06/24/19 12:30	JKR	PHCC10C28 PHCC28C35	
627214-002	S	CS-4 (0.5-1)	06/10/19 12:48	E300_CL	Chloride by EPA 300	06/12/19	12/07/19	JKR	CL	
627214-002	S	CS-4 (0.5-1)	06/10/19 12:48	SW8015MOD_NM	TPH By SW8015 Mod	06/12/19	06/24/19 12:48	JKR	PHCC10C28 PHCC28C35	
627214-003	S	CS-5 (0.5-1)	06/10/19 12:52	E300_CL	Chloride by EPA 300	06/12/19	12/07/19	JKR	CL	
627214-003	S	CS-5 (0.5-1)	06/10/19 12:52	SW8015MOD_NM	TPH By SW8015 Mod	06/12/19	06/24/19 12:52	JKR	PHCC10C28 PHCC28C35	
627214-004	S	CS-6 (0.5-1)	06/10/19 12:58	E300_CL	Chloride by EPA 300	06/12/19	12/07/19	JKR	CL	
627214-004	S	CS-6 (0.5-1)	06/10/19 12:58	SW8015MOD_NM	TPH By SW8015 Mod	06/12/19	06/24/19 12:58	JKR	PHCC10C28 PHCC28C35	
627214-005	S	CS-8 (2-2.5)	06/10/19 13:16	SW8015MOD_NM	TPH By SW8015 Mod	06/12/19	06/24/19 13:16	JKR	PHCC10C28 PHCC28C35	
627214-005	S	CS-8 (2-2.5)	06/10/19 13:16	E300_CL	Chloride by EPA 300	06/12/19	12/07/19	JKR	CL	
627214-006	S	CS-11 (0-0.5)	06/10/19 13:20	SW8015MOD_NM	TPH By SW8015 Mod	06/12/19	06/24/19 13:20	JKR	PHCC10C28 PHCC28C35	
627214-006	S	CS-11 (0-0.5)	06/10/19 13:20	E300_CL	Chloride by EPA 300	06/12/19	12/07/19	JKR	CL	
627214-008	S	CS-12 (0-0.5)	06/10/19 12:30	SW8015MOD_NM	TPH By SW8015 Mod	06/12/19	06/24/19 12:30	JKR	PHCC10C28 PHCC28C35	
627214-008	S	CS-12 (0-0.5)	06/10/19 12:30	E300_CL	Chloride by EPA 300	06/12/19	12/07/19	JKR	CL	
627214-010	S	CS-13 (0-0.5)	06/10/19 13:45	E300_CL	Chloride by EPA 300	06/12/19	12/07/19	JKR	CL	
627214-010	S	CS-13 (0-0.5)	06/10/19 13:45	SW8015MOD_NM	TPH By SW8015 Mod	06/12/19	06/24/19 13:45	JKR	PHCC10C28 PHCC28C35	
627214-012	S	CS-14 (0-0.5)	06/10/19 14:00	SW8015MOD_NM	TPH By SW8015 Mod	06/12/19	06/24/19 14:00	JKR	PHCC10C28 PHCC28C35	
627214-012	S	CS-14 (0-0.5)	06/10/19 14:00	E300_CL	Chloride by EPA 300	06/12/19	06/24/19 14:00	JKR	CL	
627214-012	S	CS-14 (0-0.5)	06/10/19 14:00	E300_CL	Chloride by EPA 300	06/12/19	12/07/19	JKR	CL	
627214-014	S	CS-15 (0.5-1)	06/10/19 14:15	E300_CL	Chloride by EPA 300	06/12/19	12/07/19	JKR	CL	
627214-014	S	CS-15 (0.5-1)	06/10/19 14:15	SW8015MOD_NM	TPH By SW8015 Mod	06/12/19	06/24/19 14:15	JKR	PHCC10C28 PHCC28C35	
627214-016	S	CS-16 (0-0.5)	06/10/19 14:30	SW8015MOD_NM	TPH By SW8015 Mod	06/12/19	06/24/19 14:30	JKR	PHCC10C28 PHCC28C35	
627214-016	S	CS-16 (0-0.5)	06/10/19 14:30	E300_CL	Chloride by EPA 300	06/12/19	12/07/19	JKR	CL	
627214-018	S	CS-17 (0-0.5)	06/10/19 12:30	E300_CL	Chloride by EPA 300	06/12/19	12/07/19	JKR	CL	
627214-019	S	CS-17 (0.5-1)	06/10/19 12:48	SW8015MOD_NM	TPH By SW8015 Mod	06/12/19	06/24/19 12:48	JKR	PHCC10C28 PHCC28C35	

Inter-Office Shipment

IOS Number **41136**

Date/Time: 06/11/19 10:24
Lab# From: **Lubbock**
Lab# To: **Houston**

Created by: Brenda Ward
Delivery Priority:
Air Bill No.: 775447505517

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

Inter Office Shipment or Sample Comments:

Jessica message me today to day that these test neede to be SW8015 MOD. Made a IOS earlier for just the Chlordies so replace this one for it please and thank you.

Added 002, 003, 004, 005, 006, for Chlorides 06-25-19 BW

Relinquished By: Brenda Ward
Brenda Ward

Date Relinquished: 06/11/2019

Received By: Travis Simmons
Travis Simmons

Date Received: 06/12/2019 09:50

Cooler Temperature: 4.4

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Houston

IOS #: 41136

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:** 06.11.2019 10.24 AM

Received By: Travis Simmons **Date Received:** 06.12.2019 09.50 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	4.4	
#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:

Jessica message me today to day that these test neede to be SW8015 MOD. Made a IOS earlier for just the Chlordies so replace this one for it please and thank you.

Corrective Action Taken:

Nonconformance Documentation

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

Checklist reviewed by: Travis Simmons Date: 06.12.2019

Travis Simmons

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Terracon-Lubbock

Date/ Time Received: 06/10/2019 05:45:00 PM

Work Order #: 627214

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)?	5.7	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 Custody Seals intact on sample bottles?	**N/A**	
#6*Custody Seals Signed and dated?	**N/A**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**Yes**	Chlorides sent to Stafford
#18 Water VOC samples have zero headspace?	**N/A**	

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

Analyst: PH Device/Lot#:

Checklist completed by: Brenda Ward Date: 06/11/2019
Brenda Ward

Checklist reviewed by: Jessica Kramer Date: 06/12/2019
Jessica Kramer

Analytical Report 631980

for

Terracon-Lubbock

Project Manager: John Fergerson

Okeanos

AR197105

05-AUG-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), North Carolina (681)

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

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

Table of Contents

05-AUG-19

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

Reference: XENCO Report No(s): **631980**
Okeanos
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) 631980. 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. 631980 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Sample Cross Reference 631980

Terracon-Lubbock, Lubbock, TX

Okeanos

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TT-1 (2.5-3)	S	07-23-19 13:00	2.5 - 3 ft	631980-001
TT-2 (2.5-3)	S	07-23-19 13:30	2.5 - 3 ft	631980-002
TT-3 (2.5-3)	S	07-23-19 14:00	2.5 - 3 ft	631980-003
TT-4 (2.5-3)	S	07-23-19 14:30	2.5 - 3 ft	631980-004

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-3096506 Chloride by EPA 300

Lab Sample ID 631980-002 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 631980-001, -002, -003, -004.

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

Batch: LBA-3096550 Benzene By EPA 8021B

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

Certificate of Analytical Results
631980
Terracon-Lubbock, Lubbock, TX
Okeanos

Sample Id: **TT-1 (2.5-3)** Matrix: Soil Sample Depth: 2.5 - 3 ft

Lab Sample Id: 631980-001 Date Collected: 07.23.19 13.00 Date Received: 07.24.19 12.24

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: JYM % Moist: Tech: JYM

Seq Number: 3096506 Date Prep: 07.25.19 12.04

Subcontractor: SUB: T104704215-19-29 Prep seq: 7682764

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**2770**	10.0	0.354	mg/kg	07.25.19 19:15		1

Analytical Method: TPH By SW8015 Mod Prep Method: 1005

Analyst: ISU % Moist: Tech: ISU

Seq Number: 3097314 Date Prep: 07.31.19 15.33

Subcontractor: SUB: T104704215-19-29 Prep seq: 7683241

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.95	49.8	9.95	mg/kg	08.01.19 02:38	U	1
Diesel Range Organics (DRO)	C10C28DRO	**272**	49.8	9.95	mg/kg	08.01.19 02:38		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**80.8**	49.8	9.95	mg/kg	08.01.19 02:38		1
Total TPH	PHC635	**353**		9.95	mg/kg	08.01.19 02:38		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	102	70 - 135	%		
o-Terphenyl	100	70 - 135	%		

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

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3096550 Date Prep: 07.25.19 14.05

Prep seq: 7682863

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00829	0.0183	0.00829	mg/kg	07.25.19 19:33	U	18
Toluene	108-88-3	<0.00429	0.0183	0.00429	mg/kg	07.25.19 19:33	U	18
Ethylbenzene	100-41-4	<0.00565	0.0183	0.00565	mg/kg	07.25.19 19:33	U	18
m,p-Xylenes	179601-23-1	<0.00626	0.0367	0.00626	mg/kg	07.25.19 19:33	U	18
o-Xylene	95-47-6	<0.00626	0.0183	0.00626	mg/kg	07.25.19 19:33	U	18
Total Xylenes	1330-20-7	<0.00626		0.00626	mg/kg	07.25.19 19:33	U	
Total BTEX		<0.00429		0.00429	mg/kg	07.25.19 19:33	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	100	68 - 120	%		
a,a,a-Trifluorotoluene	111	71 - 121	%		

Certificate of Analytical Results
631980
Terracon-Lubbock, Lubbock, TX
Okeanos

Sample Id: **TT-2 (2.5-3)** Matrix: Soil Sample Depth: 2.5 - 3 ft

Lab Sample Id: 631980-002 Date Collected: 07.23.19 13.30 Date Received: 07.24.19 12.24

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: JYM % Moist: Tech: JYM

Seq Number: 3096506 Date Prep: 07.25.19 12.04

Subcontractor: SUB: T104704215-19-29 Prep seq: 7682764

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**2220**	9.98	0.353	mg/kg	07.25.19 19:51		1

Analytical Method: TPH By SW8015 Mod Prep Method: 1005

Analyst: ISU % Moist: Tech: ISU

Seq Number: 3097314 Date Prep: 07.31.19 15.36

Subcontractor: SUB: T104704215-19-29 Prep seq: 7683241

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<10.0	50.0	10.0	mg/kg	08.01.19 02:57	U	1
Diesel Range Organics (DRO)	C10C28DRO	**31.4**	50.0	10.0	mg/kg	08.01.19 02:57	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**14.4**	50.0	10.0	mg/kg	08.01.19 02:57	J	1
Total TPH	PHC635	**45.8**		10.0	mg/kg	08.01.19 02:57	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	101	70 - 135	%		
o-Terphenyl	119	70 - 135	%		

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

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3096550 Date Prep: 07.25.19 14.05

Prep seq: 7682863

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00895	0.0198	0.00895	mg/kg	07.25.19 21:11	U	20
Toluene	108-88-3	<0.00463	0.0198	0.00463	mg/kg	07.25.19 21:11	U	20
Ethylbenzene	100-41-4	<0.00610	0.0198	0.00610	mg/kg	07.25.19 21:11	U	20
m,p-Xylenes	179601-23-1	<0.00675	0.0396	0.00675	mg/kg	07.25.19 21:11	U	20
o-Xylene	95-47-6	<0.00675	0.0198	0.00675	mg/kg	07.25.19 21:11	U	20
Total Xylenes	1330-20-7	<0.00675		0.00675	mg/kg	07.25.19 21:11	U	
Total BTEX		<0.00463		0.00463	mg/kg	07.25.19 21:11	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	89	68 - 120	%		
a,a,a-Trifluorotoluene	95	71 - 121	%		

Certificate of Analytical Results
631980
Terracon-Lubbock, Lubbock, TX
Okeanos

Sample Id: **TT-3 (2.5-3)** Matrix: Soil Sample Depth: 2.5 - 3 ft

Lab Sample Id: 631980-003 Date Collected: 07.23.19 14.00 Date Received: 07.24.19 12.24

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: JYM % Moist: Tech: JYM

Seq Number: 3096506 Date Prep: 07.25.19 12.04

Subcontractor: SUB: T104704215-19-29 Prep seq: 7682764

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**6590**	101	3.57	mg/kg	07.26.19 10:05	D	10

Analytical Method: TPH By SW8015 Mod Prep Method: 1005

Analyst: ISU % Moist: Tech: ISU

Seq Number: 3097314 Date Prep: 07.31.19 15.39

Subcontractor: SUB: T104704215-19-29 Prep seq: 7683241

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.98	49.9	9.98	mg/kg	08.01.19 03:15	U	1
Diesel Range Organics (DRO)	C10C28DRO	**29.4**	49.9	9.98	mg/kg	08.01.19 03:15	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**10.9**	49.9	9.98	mg/kg	08.01.19 03:15	J	1
Total TPH	PHC635	**40.3**		9.98	mg/kg	08.01.19 03:15	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	101	70 - 135	%		
o-Terphenyl	121	70 - 135	%		

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

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3096550 Date Prep: 07.25.19 14.05

Prep seq: 7682863

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00899	0.0199	0.00899	mg/kg	07.25.19 21:35	U	20
Toluene	108-88-3	<0.00465	0.0199	0.00465	mg/kg	07.25.19 21:35	U	20
Ethylbenzene	100-41-4	<0.00612	0.0199	0.00612	mg/kg	07.25.19 21:35	U	20
m,p-Xylenes	179601-23-1	<0.00678	0.0398	0.00678	mg/kg	07.25.19 21:35	U	20
o-Xylene	95-47-6	<0.00678	0.0199	0.00678	mg/kg	07.25.19 21:35	U	20
Total Xylenes	1330-20-7	<0.00678		0.00678	mg/kg	07.25.19 21:35	U	
Total BTEX		<0.00465		0.00465	mg/kg	07.25.19 21:35	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	102	68 - 120	%		
a,a,a-Trifluorotoluene	111	71 - 121	%		

Certificate of Analytical Results
631980
Terracon-Lubbock, Lubbock, TX
Okeanos

Sample Id: **TT-4 (2.5-3)** Matrix: Soil Sample Depth: 2.5 - 3 ft

Lab Sample Id: 631980-004 Date Collected: 07.23.19 14.30 Date Received: 07.24.19 12.24

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: JYM % Moist: Tech: JYM

Seq Number: 3096506 Date Prep: 07.25.19 12.04

Subcontractor: SUB: T104704215-19-29 Prep seq: 7682764

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**2850**	10.0	0.355	mg/kg	07.25.19 21:03		1

Analytical Method: TPH By SW8015 Mod Prep Method: 1005

Analyst: ISU % Moist: Tech: ISU

Seq Number: 3097314 Date Prep: 07.31.19 15.42

Subcontractor: SUB: T104704215-19-29 Prep seq: 7683241

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.97	49.9	9.97	mg/kg	08.01.19 03:34	U	1
Diesel Range Organics (DRO)	C10C28DRO	**25.6**	49.9	9.97	mg/kg	08.01.19 03:34	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.97	49.9	9.97	mg/kg	08.01.19 03:34	U	1
Total TPH	PHC635	**25.6**		9.97	mg/kg	08.01.19 03:34	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	100	70 - 135	%		
o-Terphenyl	119	70 - 135	%		

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

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3096550 Date Prep: 07.25.19 14.05

Prep seq: 7682863

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00826	0.0183	0.00826	mg/kg	07.25.19 21:59	U	18
Toluene	108-88-3	<0.00428	0.0183	0.00428	mg/kg	07.25.19 21:59	U	18
Ethylbenzene	100-41-4	<0.00563	0.0183	0.00563	mg/kg	07.25.19 21:59	U	18
m,p-Xylenes	179601-23-1	<0.00623	0.0366	0.00623	mg/kg	07.25.19 21:59	U	18
o-Xylene	95-47-6	<0.00623	0.0183	0.00623	mg/kg	07.25.19 21:59	U	18
Total Xylenes	1330-20-7	<0.00623		0.00623	mg/kg	07.25.19 21:59	U	
Total BTEX		<0.00428		0.00428	mg/kg	07.25.19 21:59	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	95	68 - 120	%		
a,a,a-Trifluorotoluene	107	71 - 121	%		

Certificate of Analytical Results
631980
Terracon-Lubbock, Lubbock, TX
Okeanos

Sample Id: **7682764-1-BLK** Matrix: Solid Sample Depth:

Lab Sample Id: 7682764-1-BLK Date Collected: Date Received:

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: JYM % Moist: Tech: JYM

Seq Number: 3096506 Date Prep: 07.25.19 12.04

Subcontractor: SUB: T104704215-19-29 Prep seq: 7682764

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<0.354	10.0	0.354	mg/kg	07.25.19 18:39	U	1

Sample Id: **7682863-1-BLK** Matrix: Solid Sample Depth:

Lab Sample Id: 7682863-1-BLK Date Collected: Date Received:

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

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3096550 Date Prep: 07.25.19 14.05

Prep seq: 7682863

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00904	0.0200	0.00904	mg/kg	07.25.19 19:09	U	20
Toluene	108-88-3	<0.00468	0.0200	0.00468	mg/kg	07.25.19 19:09	U	20
Ethylbenzene	100-41-4	<0.00616	0.0200	0.00616	mg/kg	07.25.19 19:09	U	20
m,p-Xylenes	179601-23-1	<0.00682	0.0400	0.00682	mg/kg	07.25.19 19:09	U	20
o-Xylene	95-47-6	<0.00682	0.0200	0.00682	mg/kg	07.25.19 19:09	U	20
Total Xylenes	1330-20-7	<0.00682		0.00682	mg/kg	07.25.19 19:09	U	
Total BTEX		<0.00468		0.00468	mg/kg	07.25.19 19:09	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	92	68 - 120	%		
a,a,a-Trifluorotoluene	99	71 - 121	%		

Certificate of Analytical Results
631980
Terracon-Lubbock, Lubbock, TX
Okeanos

Sample Id:	**7683241-1-BLK**	Matrix:	Solid	Sample Depth:	
Lab Sample Id:	7683241-1-BLK	Date Collected:		Date Received:	
Analytical Method:	TPH By SW8015 Mod			Prep Method:	1005
Analyst:	ISU	% Moist:		Tech:	ISU
Seq Number:	3097314	Date Prep:	07.31.19 15.00		
Subcontractor:	SUB: T104704215-19-29	Prep seq:	7683241		

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<10.0	50.0	10.0	mg/kg	07.31.19 22:52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<10.0	50.0	10.0	mg/kg	07.31.19 22:52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<10.0	50.0	10.0	mg/kg	07.31.19 22:52	U	1
Total TPH	PHC635	<10.0		10.0	mg/kg	07.31.19 22:52	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	102	70 - 135	%		
o-Terphenyl	122	70 - 135	%		

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

Form 2 - Surrogate Recoveries

Project Name: Okeanos

Work Orders : 631980,

Project ID: AR197105

Lab Batch #: 3096550 **Sample:** 7682863-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/25/19 17:33

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0978	0.100	98	68-120	
a,a,a-Trifluorotoluene	2.09	2.00	105	71-121	

Lab Batch #: 3096550 **Sample:** 7682863-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/25/19 17:57

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0954	0.100	95	68-120	
a,a,a-Trifluorotoluene	2.04	2.00	102	71-121	

Lab Batch #: 3096550 **Sample:** 7682863-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/25/19 19:09

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0922	0.100	92	68-120	
a,a,a-Trifluorotoluene	1.98	2.00	99	71-121	

Lab Batch #: 3096550 **Sample:** 631980-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/25/19 19:58

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0861	0.100	86	68-120	
a,a,a-Trifluorotoluene	2.04	1.98	103	71-121	

Lab Batch #: 3096550 **Sample:** 631980-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/25/19 20:22

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0895	0.100	90	68-120	
a,a,a-Trifluorotoluene	2.16	2.00	108	71-121	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Okeanos

Work Orders : 631980,

Project ID: AR197105

Lab Batch #: 3097314 **Sample:** 7683241-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/31/19 22:52

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	100	102	70-135	
o-Terphenyl	61.2	50.0	122	70-135	

Lab Batch #: 3097314 **Sample:** 7683241-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/31/19 23:11

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	57.6	50.0	115	70-135	

Lab Batch #: 3097314 **Sample:** 7683241-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/31/19 23:29

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	100	112	70-135	
o-Terphenyl	57.8	50.0	116	70-135	

Lab Batch #: 3097314 **Sample:** 631951-040 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/01/19 00:25

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	100	106	70-135	
o-Terphenyl	52.7	50.0	105	70-135	

Lab Batch #: 3097314 **Sample:** 631951-040 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/01/19 00:44

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	99.6	104	70-135	
o-Terphenyl	52.0	49.8	104	70-135	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

BS / BSD Recoveries

Project Name: Okeanos

Work Order #: 631980 **Project ID:** AR197105

Analyst: MIT **Date Prepared:** 07/25/2019 **Date Analyzed:** 07/25/2019

Lab Batch ID: 3096550 **Sample:** 7682863-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00904	2.00	1.90	95	2.00	1.88	94	1	55-120	20	
Toluene	<0.00468	2.00	1.88	94	2.00	1.87	94	1	77-120	20	
Ethylbenzene	<0.00616	2.00	2.00	100	2.00	2.02	101	1	77-120	20	
m,p-Xylenes	<0.00682	4.00	3.94	99	4.00	3.95	99	0	78-120	20	
o-Xylene	<0.00682	2.00	2.01	101	2.00	2.02	101	0	78-120	20	

Analyst: JYM **Date Prepared:** 07/25/2019 **Date Analyzed:** 07/25/2019

Lab Batch ID: 3096506 **Sample:** 7682764-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<0.354	100	103	103	100	102	102	1	80-120	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

BS / BSD Recoveries

Project Name: Okeanos

Work Order #: 631980 **Project ID:** AR197105

Analyst: ISU **Date Prepared:** 07/31/2019 **Date Analyzed:** 07/31/2019

Lab Batch ID: 3097314 **Sample:** 7683241-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<10.0	1000	1060	106	1000	1080	108	2	70-135	35	
Diesel Range Organics (DRO)	<10.0	1000	1140	114	1000	1180	118	3	70-135	35	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS / MSD Recoveries

Project Name: Okeanos

Work Order # : 631980 **Project ID:** AR197105

Lab Batch ID: 3096550 **QC- Sample ID:** 631980-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/25/2019 **Date Prepared:** 07/25/2019 **Analyst:** MIT

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00897	1.98	1.79	90	2.00	1.86	93	4	54-120	25	
Toluene	<0.00464	1.98	1.69	85	2.00	1.80	90	6	57-120	25	
Ethylbenzene	<0.00611	1.98	1.75	88	2.00	1.87	94	7	58-131	25	
m,p-Xylenes	<0.00677	3.97	3.48	88	4.00	3.73	93	7	62-124	25	
o-Xylene	<0.00677	1.98	1.79	90	2.00	1.90	95	6	62-124	25	

Lab Batch ID: 3096506 **QC- Sample ID:** 631980-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/25/2019 **Date Prepared:** 07/25/2019 **Analyst:** JYM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	2770	99.8	2840	70	100	2850	80	0	80-120	20	X

Lab Batch ID: 3096506 **QC- Sample ID:** 631980-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/25/2019 **Date Prepared:** 07/25/2019 **Analyst:** JYM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	2220	99.8	2310	90	99.6	2300	80	0	80-120	20	

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

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

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

Form 3 - MS / MSD Recoveries

Project Name: Okeanos

Work Order # : 631980 **Project ID:** AR197105

Lab Batch ID: 3097314 **QC- Sample ID:** 631951-040 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 08/01/2019 **Date Prepared:** 07/31/2019 **Analyst:** ISU

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<10.0	1000	1070	107	996	1020	102	5	70-135	35	
Diesel Range Organics (DRO)	<10.0	1000	1160	116	996	1120	112	4	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

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

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

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

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

631980

631980

CHAIN OF CUSTODY RECORD

Terracon

Laboratory: Xenco
Address: 6701 Aberdeen
Lubbock, Texas 79424

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

Project Number: AR197105
Project Name: Okeanos

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:

TEMP OF COOLER WHEN RECEIVED (°C) 1.9/2.1 IR-3 +a2

Page ___ of ___

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: 2 oz Glass	4 oz Glass	5035 kit	40 ml VOA	Chloride (EPA Method 300)	TPH Extended 8015	BTEX (EPA Method 8021B)	Hold				Lab Sample ID
S	7/23/2019	13:00	X		TT-1 (2.5-3)	2.5'	3'		X			X	X	X					1
S	7/23/2019	13:30	X		TT-2 (2.5-3)	2.5'	3'		X			X	X	X					2
S	7/23/2019	14:00	X		~~TT-3~~ TT-1 (2.5-3)	2.5'	3'		X			X	X	X					3
S	7/23/2019	14:30	X		~~TT-4~~ TT-1 (2.5-3)	2.5'	3'		X			X	X	X					4

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

TRRP Laboratory Review Checklist ☐ Yes ☐ No

Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
	7-24-19	12:24	Brenda Ward	7/24/19	12:24

NOTES: Client: Solaris

e-mail results to:

john.fergerson@terracon.com

jrguesnier@terracon.com

Matrix: WW-Wastewater; W - Water; S - Soil; L - Liquid; A - Air Bag; C - Charcoal tube; SL - Sludge

Container: VOA - 40 ml vial; A/G - Amber Glass 1L; 250 ml = Glass wide mouth; P/O - Plastic or other _____

Inter-Office Shipment

IOS Number : 44916

Date/Time:	07.24.2019 16:12	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.:	775827605482	E-Mail:	jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
631980-001	S	TT-1 (2.5-3)	07.23.2019 13:00	E300_CL	Chloride by EPA 300	07.30.2019	01.19.2020	JKR	CL	
631980-001	S	TT-1 (2.5-3)	07.23.2019 13:00	SW8015MOD_NM	TPH By SW8015 Mod	07.30.2019	08.06.2019	JKR	PHCC10C28 PHCC28C3	
631980-002	S	TT-2 (2.5-3)	07.23.2019 13:30	E300_CL	Chloride by EPA 300	07.30.2019	01.19.2020	JKR	CL	
631980-002	S	TT-2 (2.5-3)	07.23.2019 13:30	SW8015MOD_NM	TPH By SW8015 Mod	07.30.2019	08.06.2019	JKR	PHCC10C28 PHCC28C3	
631980-003	S	TT-3 (2.5-3)	07.23.2019 14:00	SW8015MOD_NM	TPH By SW8015 Mod	07.30.2019	08.06.2019	JKR	PHCC10C28 PHCC28C3	
631980-003	S	TT-3 (2.5-3)	07.23.2019 14:00	E300_CL	Chloride by EPA 300	07.30.2019	01.19.2020	JKR	CL	
631980-004	S	TT-4 (2.5-3)	07.23.2019 14:30	SW8015MOD_NM	TPH By SW8015 Mod	07.30.2019	08.06.2019	JKR	PHCC10C28 PHCC28C3	
631980-004	S	TT-4 (2.5-3)	07.23.2019 14:30	E300_CL	Chloride by EPA 300	07.30.2019	01.19.2020	JKR	CL	

Inter Office Shipment or Sample Comments:

Relinquished By: Brenda Ward

Brenda Ward

Date Relinquished: 07.24.2019

Received By: Travis Simmons

Travis Simmons

Date Received: 07.25.2019 09:20

Cooler Temperature: 1.3

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Houston

IOS #: 44916

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:** 07.24.2019 04.12 PM

Received By: Travis Simmons **Date Received:** 07.25.2019 09.20 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	1.3	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received with appropriate temperature?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 *Custody Seals Signed and dated for Containers/coolers	**N/A**	
#6 *IOS present?	**Yes**	
#7 Any missing/extra samples?	**No**	
#8 IOS agrees with sample label(s)/matrix?	**Yes**	
#9 Sample matrix/ properties agree with IOS?	**Yes**	
#10 Samples in proper container/ bottle?	**Yes**	
#11 Samples properly preserved?	**Yes**	
#12 Sample container(s) intact?	**Yes**	
#13 Sufficient sample amount for indicated test(s)?	**Yes**	
#14 All samples received within hold time?	**Yes**	

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

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

Checklist reviewed by: Travis Simmons Date: 07.25.2019

Travis Simmons

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Terracon-Lubbock

Date/ Time Received: 07/24/2019 12:24:00 PM

Work Order #: 631980

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)?	2.1	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 Custody Seals intact on sample bottles?	**N/A**	
#6*Custody Seals Signed and dated?	**N/A**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**Yes**	All test but BTEX sent to Stafford
#18 Water VOC samples have zero headspace?	**N/A**	

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

Analyst: PH Device/Lot#:

Checklist completed by: Brenda Ward Date: 07/24/2019
Brenda Ward

Checklist reviewed by: Jessica Kramer Date: 07/25/2019
Jessica Kramer

APPENDIX D – TERRACON STANDARD OF CARE, LIMITATION, AND RELIANCE

Standard of Care

Terracon's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time. Terracon makes no warranties, either express or implied, regarding the findings, conclusions, or recommendations. Please note that Terracon does not warrant the work of laboratories, regulatory agencies, or other third parties supplying information used in the preparation of the report. These services were performed in accordance with the scope of work agreed with you, Solaris Water Midstream, as reflected in our proposal (PA4197040).

Additional Scope Limitations

Development of this RAP is based upon information provided by the Client and Terracon's remediation and construction services line. Such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, nondetectable, or not present during these services. We cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those by information provided by the Client. The data, interpretations, findings, and our recommendations are based solely upon reformation executed within the scope of these services.

Reliance

This report has been prepared for the exclusive use of Solaris Water Midstream, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the site) is prohibited without the express written authorization of Solaris Water Midstream and Terracon. Any unauthorized distribution or reuse is at Solaris Water Midstream sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions, and limitations stated in the proposal and Solaris Water Midstream and Terracon's Master Services Agreement. The limitation of liability defined in the terms and conditions is the aggregate limit of Terracon's liability to Solaris Water Midstream and all relying parties unless otherwise agreed in writing.