



March 12, 2019

Ms. Christina Hernandez
Environmental Engineer Specialist
Oil Conservation Division, District 1
1625 North French Drive
Hobbs, New Mexico, 88240

Re: Closure Report for the EOG Resources, Lotus SWD #2, Unit G, Section 32, Township 22 South, Range 32 East, Lea County, New Mexico. 1RP-3721.

Ms. Hernandez:

Tetra Tech, Inc. (Tetra Tech) was contacted by EOG Resources to assess a release that occurred at the Lotus SWD #2, Unit G, Section 32, Township 22 South, Range 32 East, Lea County, New Mexico (Site). The spill site coordinates are N 32.350083°, W 103.694825°. The site location is shown on Figures 1 and 2.

Background

The release occurred under Yates Petroleum Corporation, however the facility has since been acquired by EOG Resources, Inc. According to the State of New Mexico C-141 Initial Report, the leak was discovered on June 19, 2015, and released approximately 1 barrel of oil and 559 barrels of produced water due to a failed motor valve. The release was contained inside the lined berm. Vacuum trucks were used to remove all freestanding fluids, recovering approximately 1 barrel of oil and 550 barrels of produced water. The release impacted an area inside the berm measuring approximately 20' x 80'. A copy of the initial C-141 Form is included in Appendix A.

Groundwater

No water wells were listed within Section 32 on the New Mexico Office of the State Engineer's (NMOSE) database, the Geology and Groundwater Resources of Southern Lea County (Report 6), or the USGS National Water Information Database. The nearest well is listed on the USGS National Water Information System in Section 03, Township 23 South, Range 32 East, approximately 1.81 miles southeast of the site, and has a reported depth to groundwater of 480' below surface. According to the Chevron Texaco Groundwater Trend map, the average depth to groundwater in the area is between 325' and 350' below surface. The groundwater data is shown in Appendix B.

Tetra Tech

4000 North Big Spring, Suite 401, Midland, TX 79705

Tel 432.682.4559 Fax 432.682.3946 www.tetrattech.com



Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, updated August 14, 2018. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 2,500 mg/kg (GRO + DRO + ORO). Additionally, based on the reported depth to groundwater in the area, the proposed RRAL for chlorides is 20,000 mg/kg.

Soil Assessment and Analytical Results

On September 5, 2018, Tetra Tech personnel were onsite to supervise the removal of gravel from inside the bermed facility and visually inspect the liner for integrity. During the visual inspection of the liner, multiple tears were discovered in the liner.

On October 2, 2018, Tetra Tech personnel returned to the site to evaluate and sample the release area. Five (5) auger holes (AH-1 through AH-5) were installed at the liner breaches to total depths of 5'-5.5' below surface. Selected soil samples were submitted to the laboratory for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B, and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The sample location is shown on Figure 3.

Referring to Table 1, none of the samples analyzed for benzene, total BTEX, or chlorides showed concentrations in exceedance of the RRAL's. Additionally, none of the samples collected in the areas of auger holes (AH-1, AH-3, AH-4, and AH-5) showed TPH concentrations above the RRAL. However, the area of auger hole (AH-2) showed elevated TPH concentrations to the shallow soils with a TPH high of 9,190 mg/kg at 2'-2.5' below surface. The TPH concentrations in this area then declined with depth to 766 mg/kg at 5'-5.5' below surface.

Remediation Activities

On November 28, 2018 to December 4, 2018, Tetra Tech personnel were onsite to oversee the remediation activities performed at the site. The area of auger hole (AH-2) was excavated to 4.0' below surface. Five-point composite confirmation samples were taken every 200 square feet to ensure proper removal of the impacted areas. A total of three bottom hole confirmation samples (Bottom Hole #1, Bottom Hole #2, and Bottom Hole #3) and six sidewall confirmation samples (North Sidewall #1, South Sidewall #1, South Sidewall #2, West Sidewall #1, East Sidewall #1, and East Sidewall #2) were collected. The samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C.



Referring to Table 1, none of the confirmation samples collected showed benzene, total BTEX, TPH, or chloride concentrations above the RRALs.

Approximately 162 cubic yards of contaminated soil was transported offsite for proper disposal and the areas were backfilled with clean material to surface grade.

The liner at the facility has been replaced and photo documentation is included.

Conclusion

Based on the remediation activities performed and laboratory data, EOG requests closure of this spill issue. If you have any questions or comments concerning the assessment or the proposed remediation activities for this site, please call at (432) 682-4559.

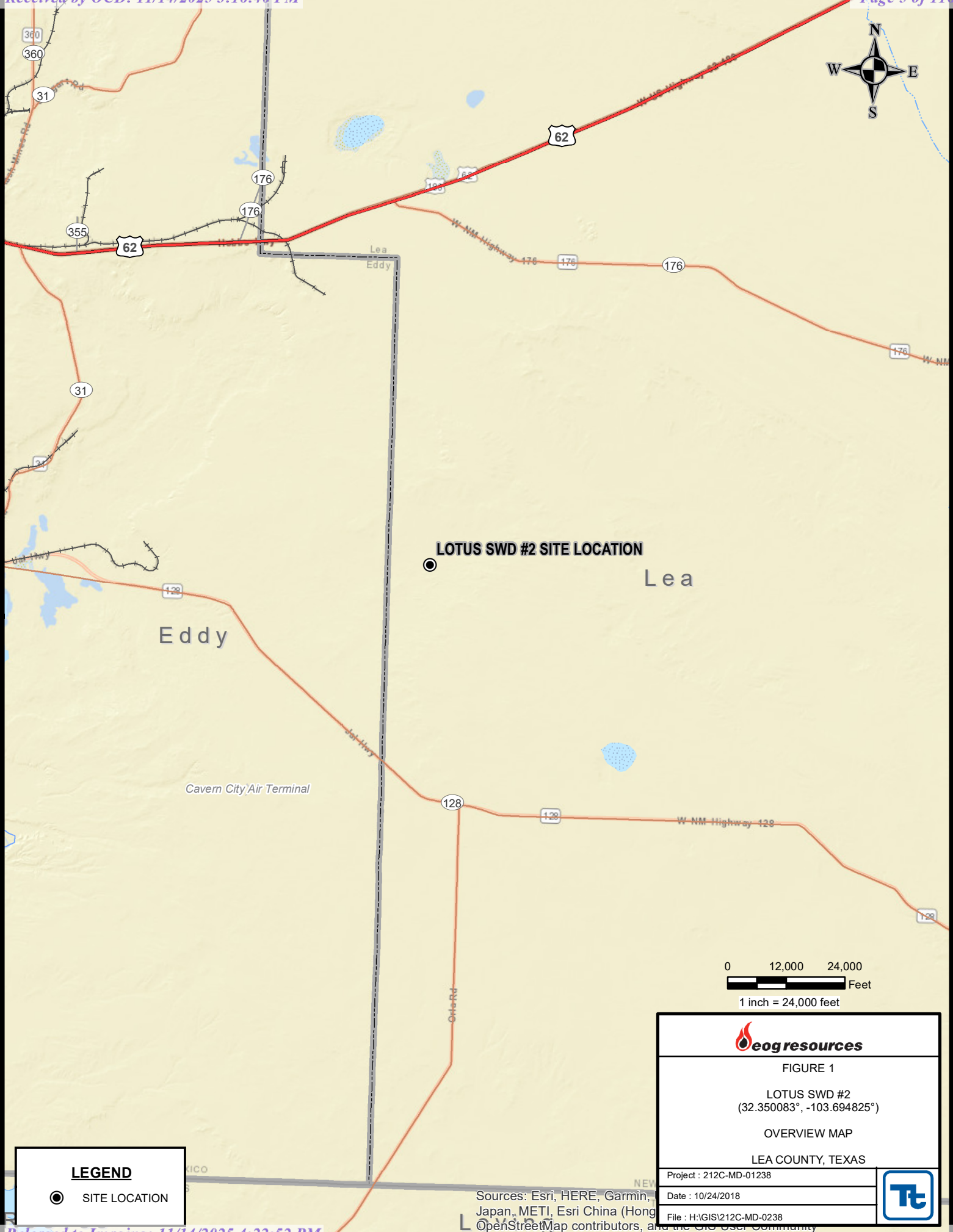
Respectfully submitted,
TETRA TECH

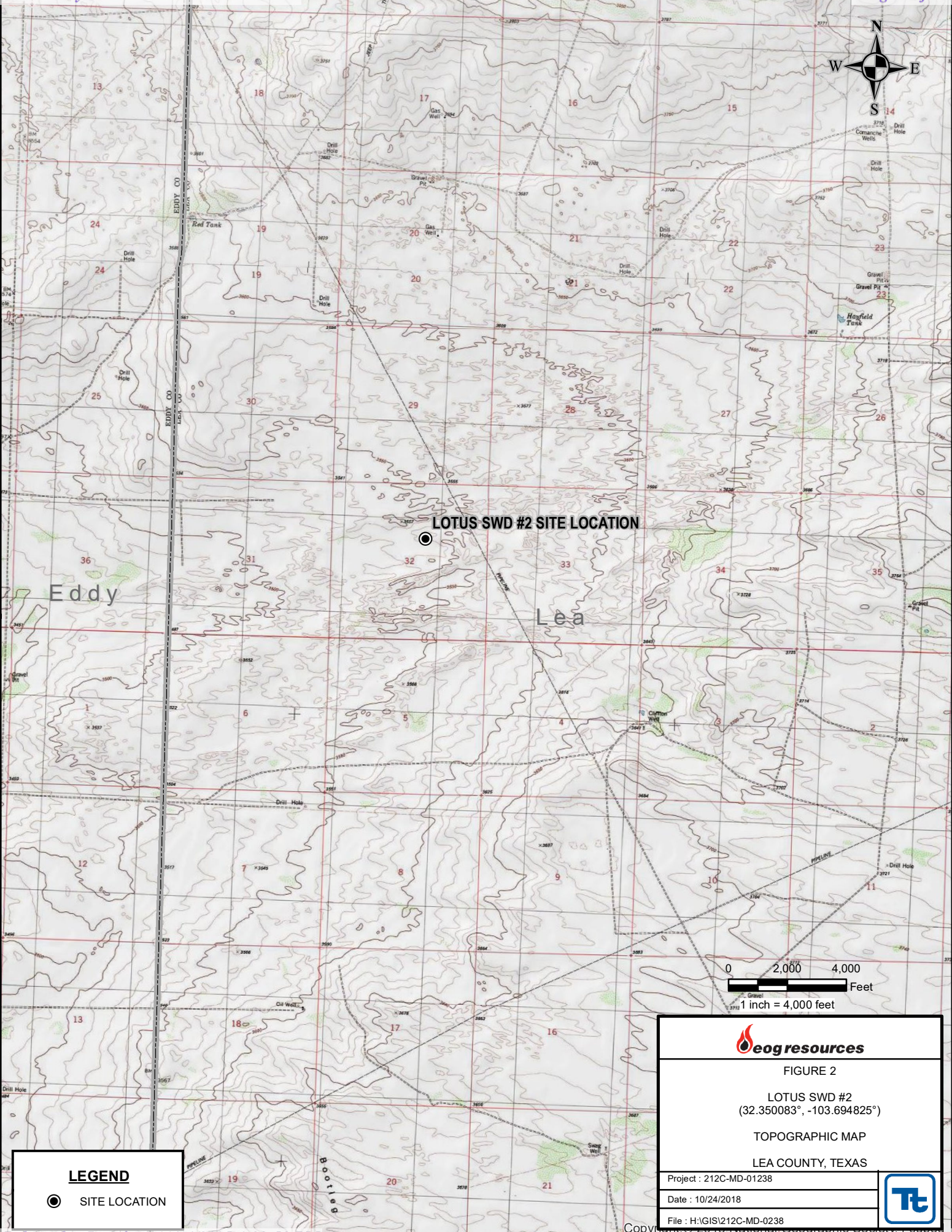
A handwritten signature in blue ink that reads 'Clair Gonzales'.

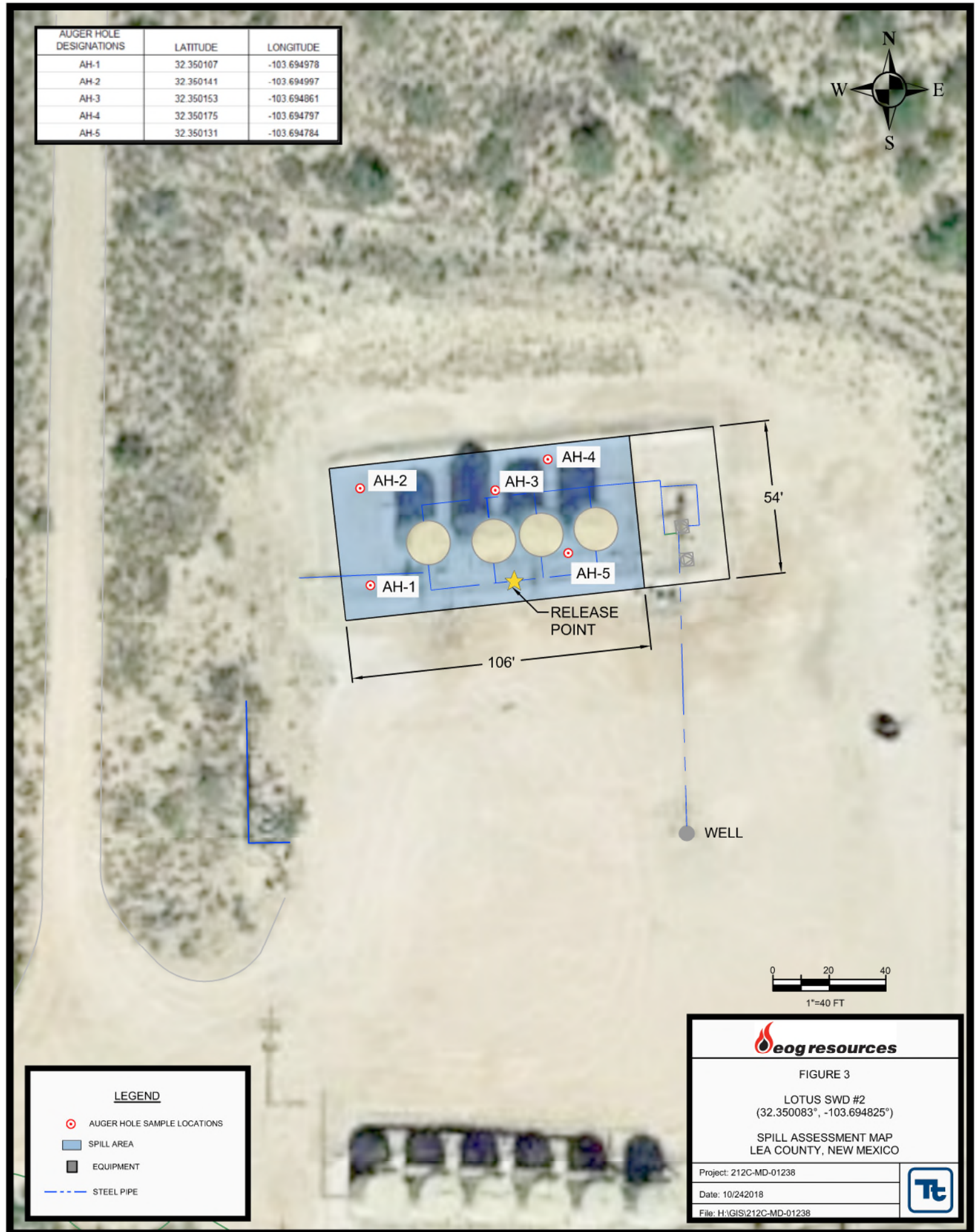
Clair Gonzales,
Project Manager

cc: Ryann Mann - NMSLO
Christina Hernandez - NMOCD
James Kennedy - EOG

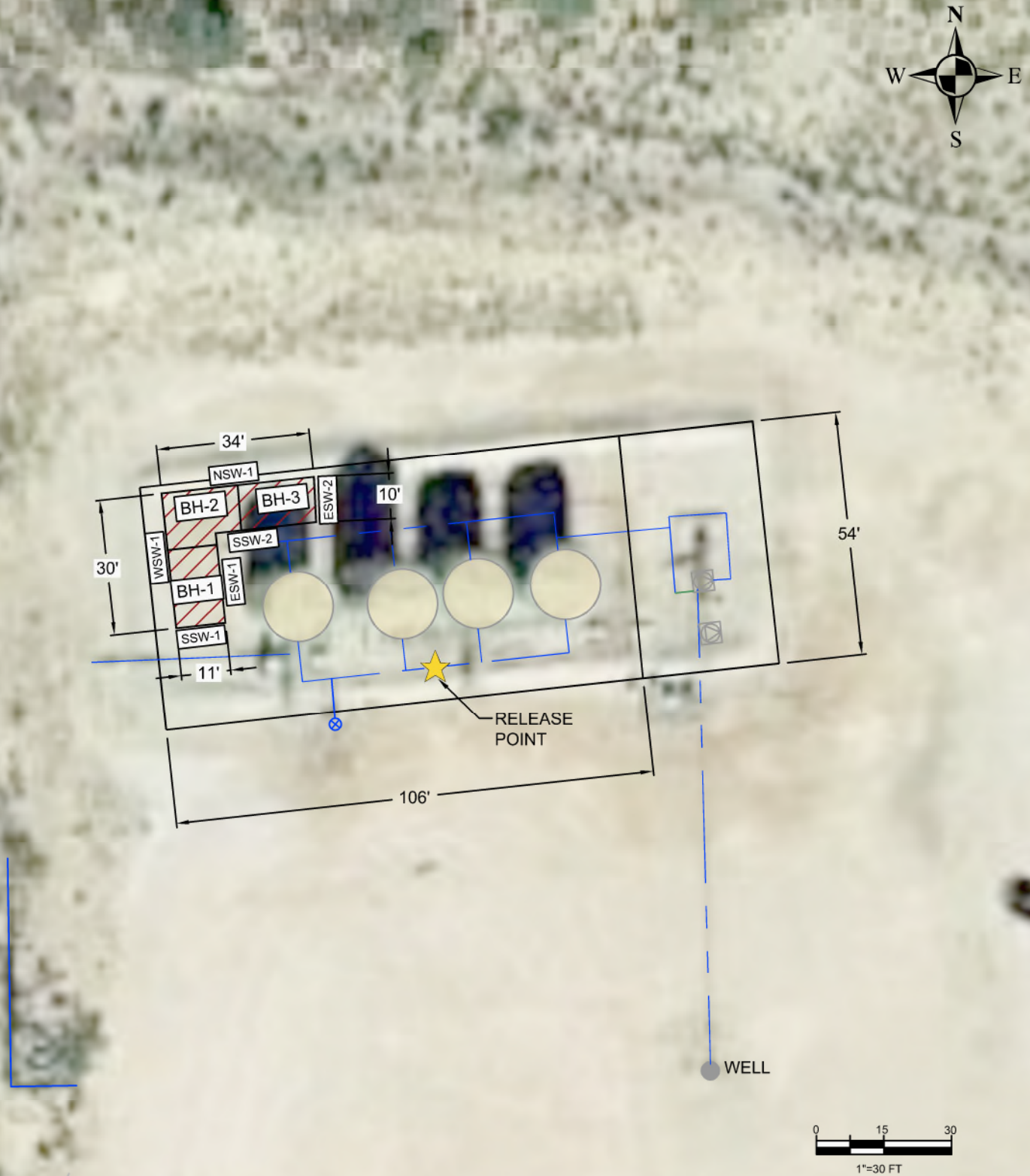
Figures







Drawn By: MISTI MORGAN



LEGEND

- 4.0' EXCAVATION AREA
- EQUIPMENT
- STEEL PIPE



FIGURE 4

LOTUS SWD #2
(32.350083°, -103.694825°)

EXCAVATION AREA &
DEPTH MAP
LEA COUNTY, NEW MEXICO

Project: 212C-MD-01238

Date: 10/24/2018

File: H:\GIS\212C-MD-01238



Tables

Table 1
EOG Resources
Lotus SWD #2
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB Sample Depth (in)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	MRO	Total						
AH-1	10/2/2018	0-1	-	X		<15.0	32.9	<15.0	32.9	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	268
	"	1-1.5	-	X		<15.0	80.7	<15.0	80.7	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	124
	"	2-2.5	-	X		<15.0	<15.0	<15.0	<15.0	-	-	-	-	-	113
	"	3-3.5	-	X		<15.0	<15.0	<15.0	<15.0	-	-	-	-	-	113
	"	4-4.5	-	X		<14.9	<14.9	<14.9	<14.9	-	-	-	-	-	30.0
	"	5-5.5	-	X		<15.0	<15.0	<15.0	<15.0	-	-	-	-	-	118
AH-2	10/2/2018	0-1	-		X	746	7,610	384	8,740	<0.00201	0.00289	0.0729	0.375	0.451	158
	"	1-1.5	-		X	765	6,950	395	8,110	<0.00201	<0.00201	0.0596	0.144	0.203	178
	"	2-2.5	-		X	689	7,840	660	9,190	-	-	-	-	-	214
	"	3-3.5	-		X	37.9	1,870	60.8	1,970	-	-	-	-	-	180
	"	4-4.5	-		X	25.8	1,010	103	1,140	-	-	-	-	-	94.0
	"	5-5.5	-	X		24.3	664	77.6	766	-	-	-	-	-	268
Bottom Hole #1	11/29/2018	-	4'	X		<10.0	37.2	<10.0	37.2	<0.050	<0.050	<0.050	<0.150	<0.300	368
Bottom Hole #2	11/29/2018	-	4'	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	64.0
Bottom Hole #3	11/29/2018	-	4'	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	1,490
North Sidewall #1	11/29/2018	-	-	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	480
South Sidewall #1	11/29/2018	-	-	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	176
South Sidewall #2	11/29/2018	-	-	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	256
West Sidewall #1	11/29/2018	-	-	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	288
East Sidewall #1	11/29/2018	-	-	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	224
East Sidewall #2	11/29/2018	-	-	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	416
AH-3	10/2/2018	0-1	-	X		18.2	18.2	19.5	220	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	718
	"	1-1.5	-	X		<15.0	<15.0	<15.0	<15.0	<0.00196	<0.00196	<0.00196	<0.00196	<0.00196	121
	"	2-2.5	-	X		<15.0	<15.0	<15.0	<15.0	-	-	-	-	-	89.0
	"	3-3.5	-	X		<15.0	<15.0	<15.0	<15.0	-	-	-	-	-	439
	"	4-4.5	-	X		<15.0	<15.0	<15.0	<15.0	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	156
	"	5-5.5	-	X		<15.0	<15.0	<15.0	<15.0	-	-	-	-	-	631
AH-4	10/2/2018	0-1	-	X		<14.9	<14.9	<14.9	<14.9	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	1,000
	"	1-1.5	-	X		<15.0	<15.0	<15.0	<15.0	<0.00199	<0.00199	<0.00199	0.00736	0.00736	208
	"	2-2.5	-	X		<15.0	<15.0	<15.0	<15.0	-	-	-	-	-	162
	"	3-3.5	-	X		<15.0	<15.0	<15.0	<15.0	-	-	-	-	-	524
	"	4-4.5	-	X		<15.0	<15.0	<15.0	<15.0	-	-	-	-	-	459
	"	5-5.5	-	X		<15.0	<15.0	<15.0	<15.0	-	-	-	-	-	470
AH-5	10/2/2018	0-1	-	X		<15.0	133	<15.0	133	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	290
	"	1-1.5	-	X		<14.9	61.9	<14.9	61.9	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	400
	"	2-2.5	-	X		<15.0	<15.0	<15.0	<15.0	-	-	-	-	-	204
	"	3-3.5	-	X		<15.0	<15.0	<15.0	<15.0	-	-	-	-	-	679
	"	4-4.5	-	X		<15.0	<15.0	<15.0	<15.0	-	-	-	-	-	182
	"	5-5.5	-	X		<15.0	<15.0	<15.0	<15.0	-	-	-	-	-	127

(-) Not Analyzed

 Excavation Depths

Photos

EOG Resources
Lotus SWD #2
Lea County, New Mexico



TETRA TECH



View East – Area of AH-1



View South – Area of AH-2

EOG Resources
Lotus SWD #2
Lea County, New Mexico



View Southeast – Area of AH-3



View East – Area of AH-4

EOG Resources
Lotus SWD #2
Lea County, New Mexico



TETRA TECH



View Southwest – Area of AH-5

EOG Resources
Lotus SWD #2
Lea County, New Mexico



View North – Excavated Area of AH-2



View South – Excavated Area of AH-2

EOG Resources
Lotus SWD #2
Lea County, New Mexico



View Southeast – Backfilled Area of AH-2



View North – Backfilled Area of AH-2

EOG Resources
Lotus SWD #2
Lea County, New Mexico



View East – Liner Installation



View South – Liner Installation

EOG Resources
Lotus SWD #2
Lea County, New Mexico



TETRA TECH



View Southeast – Liner Installation



View West – Liner Installation

Appendix A

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☒ Final Report

Name of Company Yates Petroleum Corporation	OGRID Number 25575	Contact Robert Asher
Address 104 S. 4 th Street	Telephone No. 575-748-1471	<div style="border: 2px solid blue; padding: 5px; text-align: center;"> RECEIVED <i>By OCD District 1 at 3:21 pm, Jul 09, 2015</i> </div>
Facility Name Lotus SWD #2	Facility Type Battery	

Surface Owner State	Mineral Owner State	API No. 30-025-31694
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LOCATION OF RELEASE

Unit Letter G	Section 32	Township 22S	Range 32E	Feet from the 1980	North/South Line North	Feet from the 1980	East/West Line East	County Lea
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Latitude 32.34961 Longitude 103.69412

NATURE OF RELEASE

Type of Release Crude Oil & Produced Water	Volume of Release 1 B/O & 559 B/PW	Volume Recovered 1 B/O & 550 B/PW
Source of Release Motor Valve	Date and Hour of Occurrence 6/19/2015; AM	Date and Hour of Discovery 6/19/2015; AM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Kellie Jones, Ian Dolly, Mathew Hagman, Mark Naranjo & Dana Strang	
By Whom? Robert Asher/Yates Petroleum Corporation	Date and Hour 6/19/2015; PM (Email)	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*



Describe Cause of Problem and Remedial Action Taken.*

The motor valve system failed, causing the release. Vacuum truck(s) and clean- up crews were called.

Describe Area Affected and Cleanup Action Taken.*

An approximate area of 80'X 20' within the lined/bermed battery was affected. The valves were closed; 100% of the released crude oil and approximately 98% of the produced water was recovered. Impacted gravel was excavated /hauled to a NMOCD approved facility. **Depth to Ground Water: > 100' (approximately 325', per ChevronTexaco Trend Map), Wellhead Protection Area: No, Distance to Surface Water Body: >1000', SITE RANKING IS 0. Based on the battery being lined and bermed and the majority of the produced water recovered, Yates Petroleum Corporation requests closure.**

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: 	<u>OIL CONSERVATION DIVISION</u>	
Printed Name: Robert Asher	Approved by Environmental Specialist: 	
Title: NM Environmental Regulatory Supervisor	Approval Date: 07/09/2015	Expiration Date:
E-mail Address: boba@yatespetroleum.com	Conditions of Approval: Site samples required. Delineate and remediate as per NMOCD guidelines.	Attached <input type="checkbox"/>
Date: June 30, 2015 Phone: 575-748-4217	1RP- 3721	25575

* Attach Additional Sheets If Necessary

pTO1519056190

nTO1519055552

Geotagged photographs of remediation required.

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

- ☐ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☐ Field data
- ☐ Data table of soil contaminant concentration data
- ☐ Depth to water determination
- ☐ Determination of water sources and significant watercourses within 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

Page 4

Incident ID	
District RP	
Facility ID	
Application ID	

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

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: Each of the following items must be included in the closure report.

- ☐ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☐ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☐ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☐ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
EOG - Lotus SWD #2

21 South			31 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

22 South			31 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

23 South			31 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

21 South			32 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

22 South			32 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19 (S)	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

23 South			32 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

21 South			33 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

22 South			33 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

23 South			33 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

88 New Mexico State Engineers Well Reports

105 USGS Well Reports

90 Geology and Groundwater Conditions in Southern Lea, County, NM (Report 6)

90 Geology and Groundwater Resources of Eddy County, NM (Report 3)

34 NMOCD - Groundwater Data

121 Abandoned Waterwell (recently measured)



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

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

(In feet)

POD Number	POD Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	DepthWell	DepthWater	Water Column
C 02096		CUB	ED	2	3	14	22S	32E		627204	3584464*	435	360	75
C 02821		C	LE	2	2	3	14	22S	32E	627303	3584563*	540	340	200
C 02939		C	LE	3	3	1	19	22S	32E	620234	3583042*	280		
C 03717 POD1		C	LE	4	4	1	09	22S	32E	624094	3586365	650		
C 04144 POD1		CUB	LE	3	1	3	07	22S	32E	620240	3585844	58	49	9
C 04144 POD2		CUB	LE	3	1	3	07	22S	32E	620147	3585768	60	55	5
C 04144 POD3		CUB	LE	3	1	3	07	22S	32E	620240	3585842			
C 04144 POD4		CUB	LE	3	1	3	07	22S	32E	620200	3585808			
C 04144 POD9		CUB	LE	1	3	3	07	22S	32E	620126	3585667	63	0	63

Average Depth to Water: **160 feet**

Minimum Depth: **0 feet**

Maximum Depth: **360 feet**

Record Count: 9

PLSS Search:

Township: 22S **Range:** 32E

*UTM location was derived from PLSS - see Help

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

10/16/18 12:40 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER



USGS Home
Contact USGS
Search USGS

National Water Information System: Web Interface

USGS Water Resources

Data Category:

Groundwater

Geographic Area:

New Mexico

GO

Click to hideNews Bulletins

- [Please see news on new formats](#)
- [Full News](#) 

Groundwater levels for New Mexico

Click to hide state-specific text

Search Results -- 1 sites found

site_no list =

- 321952103400801

Minimum number of levels = 1

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

USGS 321952103400801 23S.32E.03.311114

Available data for this site

Groundwater: Field measurements

GO

Lea County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°19'59.2", Longitude 103°40'12.6" NAD83

Land-surface elevation 3,648.00 feet above NGVD29

The depth of the well is 630 feet below land surface.

This well is completed in the Santa Rosa Sandstone (231SNRS) local aquifer.

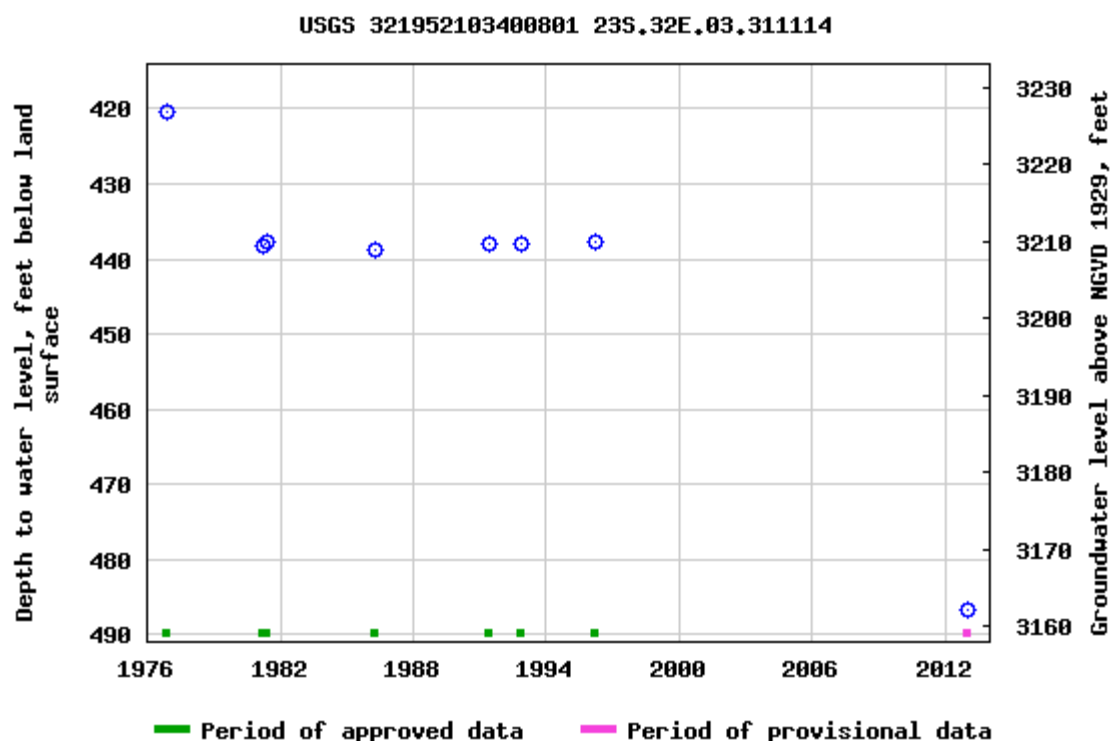
Output formats

[Table of data](#)

[Tab-separated data](#)

[Graph of data](#)

[Reselect period](#)



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

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

Title: Groundwater for New Mexico: Water Levels

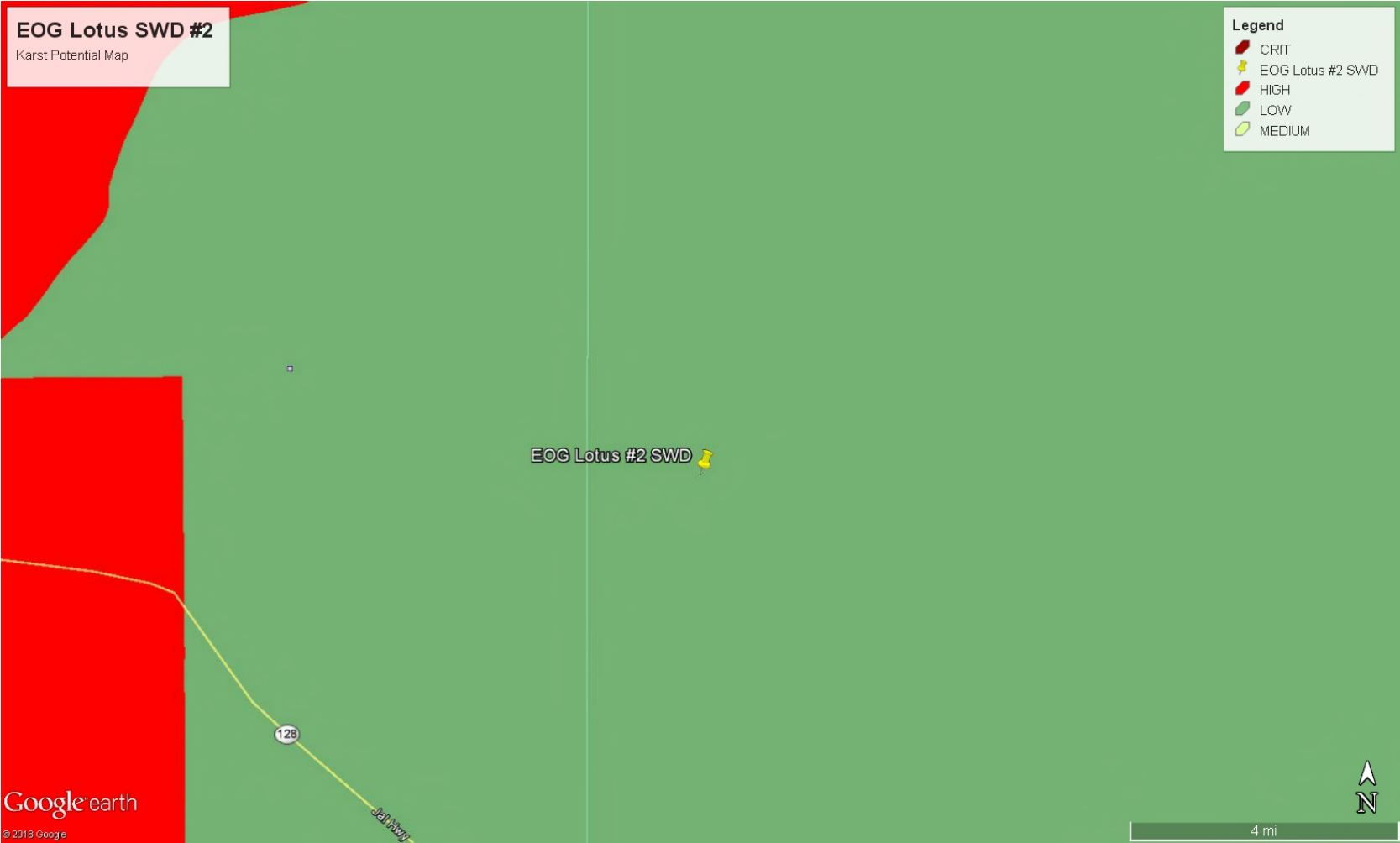
URL: <https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?>



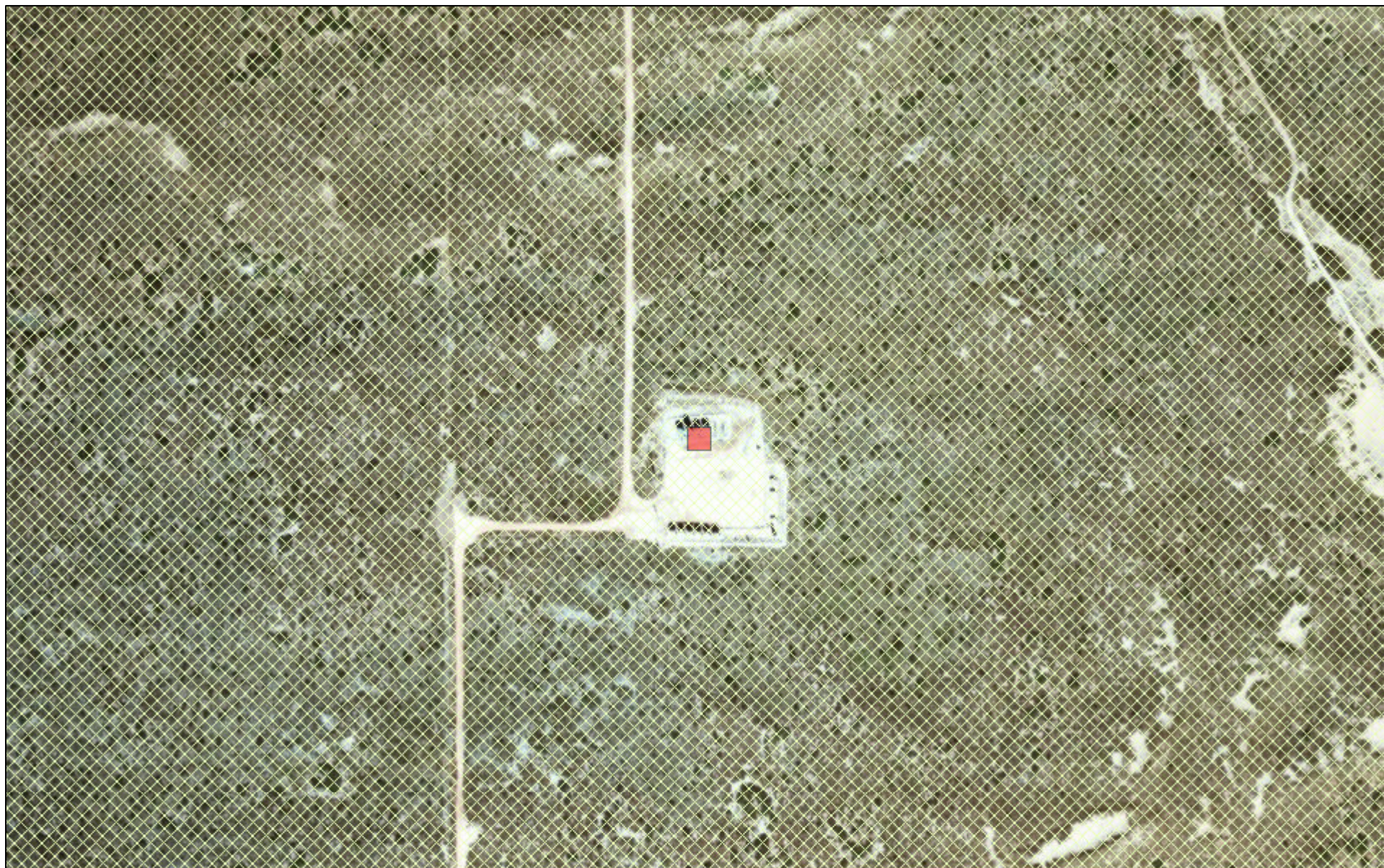
Page Contact Information: [New Mexico Water Data Maintainer](#)

Page Last Modified: 2018-10-16 14:41:51 EDT

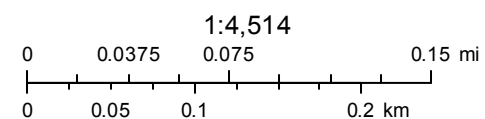
1.04 0.9 nadww01



New Mexico NFHL Data



October 16, 2018



FEMA
Esri, HERE, Garmin, © OpenStreetMap contributors, and the GIS user

Appendix C



Certificate of Analysis Summary 601608

Tetra Tech- Midland, Midland, TX

Project Name: EOG-Lotus SWD #2



Project Id: 212C-MD-01238
Contact: Stephen Reyes
Project Location: Lea County, New Mexico

Date Received in Lab: Fri Oct-05-18 03:47 pm
Report Date: 16-OCT-18
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	601608-001	601608-002	601608-003	601608-004	601608-005	601608-006
	<i>Field Id:</i>	AH#1 (0-1')	AH#1 (1-1.5')	AH#1 (2-2.5')	AH#1 (3-3.5')	AH#1 (4-4.5')	AH#1 (5-5.5')
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Oct-02-18 00:00	Oct-02-18 00:00	Oct-02-18 00:00	Oct-02-18 00:00	Oct-02-18 00:00	Oct-02-18 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	Oct-14-18 09:30	Oct-14-18 09:15				
	<i>Analyzed:</i>	Oct-15-18 05:03	Oct-14-18 19:14				
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL				
Benzene		<0.00198 0.00198	<0.00199 0.00199				
Toluene		<0.00198 0.00198	<0.00199 0.00199				
Ethylbenzene		<0.00198 0.00198	<0.00199 0.00199				
m,p-Xylenes		<0.00397 0.00397	<0.00398 0.00398				
o-Xylene		<0.00198 0.00198	<0.00199 0.00199				
Total Xylenes		<0.00198 0.00198	<0.00199 0.00199				
Total BTEX		<0.00198 0.00198	<0.00199 0.00199				
Chloride by EPA 300	<i>Extracted:</i>	Oct-13-18 15:15	Oct-13-18 15:15	Oct-13-18 15:15	Oct-13-18 15:15	Oct-13-18 15:15	Oct-13-18 15:15
	<i>Analyzed:</i>	Oct-14-18 16:27	Oct-15-18 10:21	Oct-14-18 16:33	Oct-14-18 16:56	Oct-14-18 17:13	Oct-14-18 17:18
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		268 5.00	124 5.00	113 5.00	113 4.95	30.0 4.99	118 4.95
TPH By SW8015 Mod	<i>Extracted:</i>	Oct-12-18 07:00	Oct-12-18 07:00	Oct-12-18 07:00	Oct-12-18 07:00	Oct-12-18 07:00	Oct-12-18 07:00
	<i>Analyzed:</i>	Oct-12-18 11:31	Oct-12-18 12:27	Oct-12-18 12:45	Oct-12-18 13:04	Oct-12-18 13:22	Oct-12-18 13:41
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0
Diesel Range Organics (DRO)		32.9 15.0	80.7 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0
Total TPH		32.9 15.0	80.7 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0

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Kelsey Brooks
Project Manager



Certificate of Analysis Summary 601608

Tetra Tech- Midland, Midland, TX

Project Name: EOG-Lotus SWD #2



Project Id: 212C-MD-01238
Contact: Stephen Reyes
Project Location: Lea County, New Mexico

Date Received in Lab: Fri Oct-05-18 03:47 pm
Report Date: 16-OCT-18
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	601608-007	601608-008	601608-009	601608-010	601608-011	601608-012
	<i>Field Id:</i>	AH#2 (0-1')	AH#2 (1-1.5')	AH#2 (2-2.5')	AH#2 (3-3.5')	AH#2 (4-4.5')	AH#2 (5-5.5')
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Oct-02-18 00:00	Oct-02-18 00:00	Oct-02-18 00:00	Oct-02-18 00:00	Oct-02-18 00:00	Oct-02-18 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	Oct-14-18 09:15	Oct-14-18 09:15				
	<i>Analyzed:</i>	Oct-14-18 19:54	Oct-14-18 19:54				
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL				
Benzene		<0.00201 0.00201	<0.00201 0.00201				
Toluene		0.00289 0.00201	<0.00201 0.00201				
Ethylbenzene		0.0729 0.00201	0.0596 0.00201				
m,p-Xylenes		0.182 0.00402	0.0843 0.00402				
o-Xylene		0.193 0.00201	0.0594 0.00201				
Total Xylenes		0.375 0.00201	0.144 0.00201				
Total BTEX		0.451 0.00201	0.203 0.00201				
Chloride by EPA 300	<i>Extracted:</i>	Oct-13-18 15:15	Oct-13-18 15:15	Oct-13-18 15:15	Oct-13-18 15:15	Oct-13-18 15:15	Oct-13-18 15:30
	<i>Analyzed:</i>	Oct-14-18 17:24	Oct-14-18 17:30	Oct-14-18 17:35	Oct-14-18 17:41	Oct-14-18 17:47	Oct-14-18 18:32
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		158 4.97	178 4.95	214 24.9	180 24.8	94.0 4.95	268 5.00
TPH By SW8015 Mod	<i>Extracted:</i>	Oct-12-18 07:00	Oct-12-18 07:00	Oct-12-18 07:00	Oct-12-18 07:00	Oct-12-18 07:00	Oct-12-18 07:00
	<i>Analyzed:</i>	Oct-12-18 14:00	Oct-12-18 14:18	Oct-12-18 14:37	Oct-13-18 07:44	Oct-12-18 15:51	Oct-12-18 16:09
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		746 74.7	765 74.9	689 75.0	37.9 15.0	25.8 15.0	24.3 15.0
Diesel Range Organics (DRO)		7610 74.7	6950 74.9	7840 75.0	1870 15.0	1010 15.0	664 15.0
Motor Oil Range Hydrocarbons (MRO)		384 74.7	395 74.9	660 75.0	60.8 15.0	103 15.0	77.6 15.0
Total TPH		8740 74.7	8110 74.9	9190 75.0	1970 15.0	1140 15.0	766 15.0

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Kelsey Brooks
Project Manager



Certificate of Analysis Summary 601608

Tetra Tech- Midland, Midland, TX

Project Name: EOG-Lotus SWD #2



Project Id: 212C-MD-01238
Contact: Stephen Reyes
Project Location: Lea County, New Mexico

Date Received in Lab: Fri Oct-05-18 03:47 pm
Report Date: 16-OCT-18
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	601608-013	601608-014	601608-015	601608-016	601608-017	601608-018
	<i>Field Id:</i>	AH#3 (0-1')	AH#3 (1-1.5')	AH#3 (2-2.5')	AH#3 (3-3.5')	AH#3 (4-4.5')	AH#3 (5-5.5')
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Oct-02-18 00:00	Oct-02-18 00:00	Oct-02-18 00:00	Oct-02-18 00:00	Oct-02-18 00:00	Oct-02-18 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	Oct-14-18 09:15	Oct-14-18 09:15			Oct-14-18 09:15	
	<i>Analyzed:</i>	Oct-14-18 18:53	Oct-14-18 18:33			Oct-14-18 18:13	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL			mg/kg RL	
Benzene		<0.00202 0.00202	<0.00196 0.00196			<0.00202 0.00202	
Toluene		<0.00202 0.00202	<0.00196 0.00196			<0.00202 0.00202	
Ethylbenzene		<0.00202 0.00202	<0.00196 0.00196			<0.00202 0.00202	
m,p-Xylenes		<0.00404 0.00404	<0.00392 0.00392			<0.00403 0.00403	
o-Xylene		<0.00202 0.00202	<0.00196 0.00196			<0.00202 0.00202	
Total Xylenes		<0.00202 0.00202	<0.00196 0.00196			<0.00202 0.00202	
Total BTEX		<0.00202 0.00202	<0.00196 0.00196			<0.00202 0.00202	
Chloride by EPA 300	<i>Extracted:</i>	Oct-13-18 15:30	Oct-13-18 15:30	Oct-13-18 15:30	Oct-13-18 15:30	Oct-13-18 15:30	Oct-13-18 15:30
	<i>Analyzed:</i>	Oct-14-18 18:49	Oct-14-18 18:55	Oct-14-18 19:01	Oct-14-18 19:06	Oct-14-18 19:23	Oct-14-18 19:29
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		718 24.9	121 4.99	89.0 4.99	439 4.95	156 5.00	631 5.00
TPH By SW8015 Mod	<i>Extracted:</i>	Oct-12-18 07:00	Oct-12-18 07:00	Oct-12-18 07:00	Oct-12-18 07:00	Oct-12-18 07:00	Oct-12-18 07:00
	<i>Analyzed:</i>	Oct-12-18 16:28	Oct-12-18 16:46	Oct-12-18 17:05	Oct-12-18 17:23	Oct-12-18 17:42	Oct-12-18 18:00
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		18.2 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		182 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		19.5 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total TPH		220 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0

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Kelsey Brooks
Project Manager



Certificate of Analysis Summary 601608

Tetra Tech- Midland, Midland, TX

Project Name: EOG-Lotus SWD #2



Project Id: 212C-MD-01238
Contact: Stephen Reyes
Project Location: Lea County, New Mexico

Date Received in Lab: Fri Oct-05-18 03:47 pm
Report Date: 16-OCT-18
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	601608-019	601608-020	601608-021	601608-022	601608-023	601608-024
	<i>Field Id:</i>	AH#4 (0-1')	AH#4 (1-1.5')	AH#4 (2-2.5')	AH#4 (3-3.5')	AH#4 (4-4.5')	AH#4 (5-5.5')
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Oct-02-18 00:00	Oct-02-18 00:00	Oct-02-18 00:00	Oct-02-18 00:00	Oct-02-18 00:00	Oct-02-18 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	Oct-14-18 09:15	Oct-14-18 09:15				
	<i>Analyzed:</i>	Oct-14-18 17:53	Oct-14-18 17:33				
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL				
Benzene		<0.00201 0.00201	<0.00199 0.00199				
Toluene		<0.00201 0.00201	<0.00199 0.00199				
Ethylbenzene		<0.00201 0.00201	<0.00199 0.00199				
m,p-Xylenes		<0.00402 0.00402	<0.00398 0.00398				
o-Xylene		<0.00201 0.00201	0.00736 0.00199				
Total Xylenes		<0.00201 0.00201	0.00736 0.00199				
Total BTEX		<0.00201 0.00201	0.00736 0.00199				
Chloride by EPA 300	<i>Extracted:</i>	Oct-13-18 15:30	Oct-13-18 15:30	Oct-13-18 15:30	Oct-13-18 15:30	Oct-13-18 15:30	Oct-13-18 15:30
	<i>Analyzed:</i>	Oct-14-18 19:35	Oct-14-18 19:40	Oct-14-18 19:46	Oct-14-18 19:52	Oct-14-18 20:09	Oct-14-18 20:15
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		1000 24.8	208 25.0	162 24.8	524 4.95	459 4.96	470 4.98
TPH By SW8015 Mod	<i>Extracted:</i>	Oct-12-18 07:00	Oct-12-18 07:00	Oct-12-18 15:00	Oct-12-18 15:00	Oct-12-18 15:00	Oct-12-18 15:00
	<i>Analyzed:</i>	Oct-12-18 18:19	Oct-12-18 18:37	Oct-13-18 11:31	Oct-13-18 12:27	Oct-13-18 12:45	Oct-13-18 13:04
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Diesel Range Organics (DRO)		<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Motor Oil Range Hydrocarbons (MRO)		<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Total TPH		<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9

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Kelsey Brooks
Project Manager



Certificate of Analysis Summary 601608

Tetra Tech- Midland, Midland, TX

Project Name: EOG-Lotus SWD #2



Project Id: 212C-MD-01238
Contact: Stephen Reyes
Project Location: Lea County, New Mexico

Date Received in Lab: Fri Oct-05-18 03:47 pm
Report Date: 16-OCT-18
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	601608-025	601608-026	601608-027	601608-028	601608-029	601608-030
	<i>Field Id:</i>	AH#5 (0-1')	AH#5 (1-1.5')	AH#5 (2-2.5')	AH#5 (3-3.5')	AH#5 (4-4.5')	AH#5 (5-5.5')
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Oct-02-18 00:00	Oct-02-18 00:00	Oct-02-18 00:00	Oct-02-18 00:00	Oct-02-18 00:00	Oct-02-18 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	Oct-14-18 09:15	Oct-14-18 09:15				
	<i>Analyzed:</i>	Oct-14-18 17:13	Oct-14-18 16:53				
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL				
Benzene		<0.00200 0.00200	<0.00200 0.00200				
Toluene		<0.00200 0.00200	<0.00200 0.00200				
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200				
m,p-Xylenes		<0.00399 0.00399	<0.00401 0.00401				
o-Xylene		<0.00200 0.00200	<0.00200 0.00200				
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200				
Total BTEX		<0.00200 0.00200	<0.00200 0.00200				
Chloride by EPA 300	<i>Extracted:</i>	Oct-13-18 15:30	Oct-13-18 15:30	Oct-13-18 15:30	Oct-13-18 15:30	Oct-13-18 15:30	Oct-13-18 15:30
	<i>Analyzed:</i>	Oct-14-18 20:32	Oct-14-18 20:37	Oct-14-18 20:43	Oct-14-18 20:49	Oct-14-18 20:54	Oct-14-18 21:00
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		290 5.00	400 4.95	204 4.98	679 4.96	182 5.00	127 5.00
TPH By SW8015 Mod	<i>Extracted:</i>	Oct-12-18 15:00	Oct-12-18 15:00	Oct-12-18 15:00	Oct-12-18 15:00	Oct-12-18 15:00	Oct-12-18 15:00
	<i>Analyzed:</i>	Oct-13-18 13:23	Oct-13-18 13:41	Oct-13-18 14:00	Oct-13-18 14:18	Oct-13-18 14:36	Oct-13-18 14:55
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		133 15.0	61.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total TPH		133 15.0	61.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0

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

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
Project Manager

Analytical Report 601608

for
Tetra Tech- Midland

Project Manager: Stephen Reyes

EOG-Lotus SWD #2

212C-MD-01238

16-OCT-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-27), 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 (T104704221-18-13)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-17)
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)
Xenco-Lakeland: Florida (E84098)



16-OCT-18

Project Manager: **Stephen Reyes**

Tetra Tech- Midland

901 West Wall ST

Midland, TX 79701

Reference: XENCO Report No(s): **601608**

EOG-Lotus SWD #2

Project Address: Lea County, New Mexico

Stephen Reyes:

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) 601608. 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. 601608 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

A handwritten signature in black ink, appearing to read 'Kelsey Brooks', written over a horizontal line.

Kelsey Brooks

Project Manager

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

Certified and approved by numerous States and Agencies.

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

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



Sample Cross Reference 601608

Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
AH#1 (0-1')	S	10-02-18 00:00		601608-001
AH#1 (1-1.5')	S	10-02-18 00:00		601608-002
AH#1 (2-2.5')	S	10-02-18 00:00		601608-003
AH#1 (3-3.5')	S	10-02-18 00:00		601608-004
AH#1 (4-4.5')	S	10-02-18 00:00		601608-005
AH#1 (5-5.5')	S	10-02-18 00:00		601608-006
AH#2 (0-1')	S	10-02-18 00:00		601608-007
AH#2 (1-1.5')	S	10-02-18 00:00		601608-008
AH#2 (2-2.5')	S	10-02-18 00:00		601608-009
AH#2 (3-3.5')	S	10-02-18 00:00		601608-010
AH#2 (4-4.5')	S	10-02-18 00:00		601608-011
AH#2 (5-5.5')	S	10-02-18 00:00		601608-012
AH#3 (0-1')	S	10-02-18 00:00		601608-013
AH#3 (1-1.5')	S	10-02-18 00:00		601608-014
AH#3 (2-2.5')	S	10-02-18 00:00		601608-015
AH#3 (3-3.5')	S	10-02-18 00:00		601608-016
AH#3 (4-4.5')	S	10-02-18 00:00		601608-017
AH#3 (5-5.5')	S	10-02-18 00:00		601608-018
AH#4 (0-1')	S	10-02-18 00:00		601608-019
AH#4 (1-1.5')	S	10-02-18 00:00		601608-020
AH#4 (2-2.5')	S	10-02-18 00:00		601608-021
AH#4 (3-3.5')	S	10-02-18 00:00		601608-022
AH#4 (4-4.5')	S	10-02-18 00:00		601608-023
AH#4 (5-5.5')	S	10-02-18 00:00		601608-024
AH#5 (0-1')	S	10-02-18 00:00		601608-025
AH#5 (1-1.5')	S	10-02-18 00:00		601608-026
AH#5 (2-2.5')	S	10-02-18 00:00		601608-027
AH#5 (3-3.5')	S	10-02-18 00:00		601608-028
AH#5 (4-4.5')	S	10-02-18 00:00		601608-029
AH#5 (5-5.5')	S	10-02-18 00:00		601608-030

**CASE NARRATIVE****Client Name: Tetra Tech- Midland****Project Name: EOG-Lotus SWD #2**

Project ID: 212C-MD-01238
Work Order Number(s): 601608

Report Date: 16-OCT-18
Date Received: 10/05/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3066356 BTEX by EPA 8021B

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

Batch: LBA-3066374 BTEX by EPA 8021B

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

Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 601608-007,601608-008.

Batch: LBA-3066389 TPH By SW8015 Mod

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

Samples affected are: 601608-008,601608-007.



Certificate of Analytical Results 601608



Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: AH#1 (0-1')

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-001

Date Collected: 10.02.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 10.13.18 15.15

Basis: Wet Weight

Seq Number: 3066332

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	268	5.00	mg/kg	10.14.18 16.27		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 10.12.18 07.00

Basis: Wet Weight

Seq Number: 3066389

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.12.18 11.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	32.9	15.0	mg/kg	10.12.18 11.31		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.12.18 11.31	U	1
Total TPH	PHC635	32.9	15.0	mg/kg	10.12.18 11.31		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	10.12.18 11.31	
o-Terphenyl	84-15-1	102	%	70-135	10.12.18 11.31	



Certificate of Analytical Results 601608



Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: AH#1 (0-1')

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-001

Date Collected: 10.02.18 00.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 10.14.18 09.30

Basis: Wet Weight

Seq Number: 3066356

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	10.15.18 05.03	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	10.15.18 05.03	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	10.15.18 05.03	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	10.15.18 05.03	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	10.15.18 05.03	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	10.15.18 05.03	U	1
Total BTEX		<0.00198	0.00198	mg/kg	10.15.18 05.03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	121	%	70-130	10.15.18 05.03		
1,4-Difluorobenzene	540-36-3	111	%	70-130	10.15.18 05.03		



Certificate of Analytical Results 601608



Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: AH#1 (1-1.5')

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-002

Date Collected: 10.02.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 10.13.18 15.15

Basis: Wet Weight

Seq Number: 3066332

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	124	5.00	mg/kg	10.15.18 10.21		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 10.12.18 07.00

Basis: Wet Weight

Seq Number: 3066389

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.12.18 12.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	80.7	15.0	mg/kg	10.12.18 12.27		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.12.18 12.27	U	1
Total TPH	PHC635	80.7	15.0	mg/kg	10.12.18 12.27		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	10.12.18 12.27	
o-Terphenyl	84-15-1	101	%	70-135	10.12.18 12.27	



Certificate of Analytical Results 601608



Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: AH#1 (1-1.5')

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-002

Date Collected: 10.02.18 00.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 10.14.18 09.15

Basis: Wet Weight

Seq Number: 3066374

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.14.18 19.14	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.14.18 19.14	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.14.18 19.14	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.14.18 19.14	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.14.18 19.14	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.14.18 19.14	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.14.18 19.14	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	124	%	70-130	10.14.18 19.14		
4-Bromofluorobenzene	460-00-4	112	%	70-130	10.14.18 19.14		



Certificate of Analytical Results 601608



Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: AH#1 (2-2.5')

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-003

Date Collected: 10.02.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 10.13.18 15.15

Basis: Wet Weight

Seq Number: 3066332

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	113	5.00	mg/kg	10.14.18 16.33		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 10.12.18 07.00

Basis: Wet Weight

Seq Number: 3066389

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.12.18 12.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.12.18 12.45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.12.18 12.45	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.12.18 12.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	10.12.18 12.45	
o-Terphenyl	84-15-1	103	%	70-135	10.12.18 12.45	



Certificate of Analytical Results 601608



Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: AH#1 (3-3.5')

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-004

Date Collected: 10.02.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 10.13.18 15.15

Basis: Wet Weight

Seq Number: 3066332

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	113	4.95	mg/kg	10.14.18 16.56		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 10.12.18 07.00

Basis: Wet Weight

Seq Number: 3066389

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.12.18 13.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.12.18 13.04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.12.18 13.04	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.12.18 13.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	10.12.18 13.04	
o-Terphenyl	84-15-1	99	%	70-135	10.12.18 13.04	



Certificate of Analytical Results 601608

Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: AH#1 (4-4.5')

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-005

Date Collected: 10.02.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 10.13.18 15.15

Basis: Wet Weight

Seq Number: 3066332

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	30.0	4.99	mg/kg	10.14.18 17.13		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 10.12.18 07.00

Basis: Wet Weight

Seq Number: 3066389

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	10.12.18 13.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	10.12.18 13.22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	10.12.18 13.22	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	10.12.18 13.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	10.12.18 13.22	
o-Terphenyl	84-15-1	97	%	70-135	10.12.18 13.22	



Certificate of Analytical Results 601608



Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: AH#1 (5-5.5')

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-006

Date Collected: 10.02.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 10.13.18 15.15

Basis: Wet Weight

Seq Number: 3066332

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	118	4.95	mg/kg	10.14.18 17.18		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 10.12.18 07.00

Basis: Wet Weight

Seq Number: 3066389

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.12.18 13.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.12.18 13.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.12.18 13.41	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.12.18 13.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	10.12.18 13.41	
o-Terphenyl	84-15-1	100	%	70-135	10.12.18 13.41	



Certificate of Analytical Results 601608



Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: **AH#2 (0-1')**

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-007

Date Collected: 10.02.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 10.13.18 15.15

Basis: Wet Weight

Seq Number: 3066332

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	158	4.97	mg/kg	10.14.18 17.24		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 10.12.18 07.00

Basis: Wet Weight

Seq Number: 3066389

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	746	74.7	mg/kg	10.12.18 14.00		5
Diesel Range Organics (DRO)	C10C28DRO	7610	74.7	mg/kg	10.12.18 14.00		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	384	74.7	mg/kg	10.12.18 14.00		5
Total TPH	PHC635	8740	74.7	mg/kg	10.12.18 14.00		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	129	%	70-135	10.12.18 14.00	
o-Terphenyl	84-15-1	227	%	70-135	10.12.18 14.00	**



Certificate of Analytical Results 601608



Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: **AH#2 (0-1')**

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-007

Date Collected: 10.02.18 00.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 10.14.18 09.15

Basis: Wet Weight

Seq Number: 3066374

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.14.18 19.54	U	1
Toluene	108-88-3	0.00289	0.00201	mg/kg	10.14.18 19.54		1
Ethylbenzene	100-41-4	0.0729	0.00201	mg/kg	10.14.18 19.54		1
m,p-Xylenes	179601-23-1	0.182	0.00402	mg/kg	10.14.18 19.54		1
o-Xylene	95-47-6	0.193	0.00201	mg/kg	10.14.18 19.54		1
Total Xylenes	1330-20-7	0.375	0.00201	mg/kg	10.14.18 19.54		1
Total BTEX		0.451	0.00201	mg/kg	10.14.18 19.54		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	115	%	70-130	10.14.18 19.54		
4-Bromofluorobenzene	460-00-4	520	%	70-130	10.14.18 19.54	**	



Certificate of Analytical Results 601608



Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: **AH#2 (1-1.5')**

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-008

Date Collected: 10.02.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 10.13.18 15.15

Basis: Wet Weight

Seq Number: 3066332

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	178	4.95	mg/kg	10.14.18 17.30		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 10.12.18 07.00

Basis: Wet Weight

Seq Number: 3066389

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	765	74.9	mg/kg	10.12.18 14.18		5
Diesel Range Organics (DRO)	C10C28DRO	6950	74.9	mg/kg	10.12.18 14.18		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	395	74.9	mg/kg	10.12.18 14.18		5
Total TPH	PHC635	8110	74.9	mg/kg	10.12.18 14.18		5
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	116	%	70-135	10.12.18 14.18		
o-Terphenyl	84-15-1	208	%	70-135	10.12.18 14.18	**	



Certificate of Analytical Results 601608



Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: **AH#2 (1-1.5')**

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-008

Date Collected: 10.02.18 00.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 10.14.18 09.15

Basis: Wet Weight

Seq Number: 3066374

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.14.18 19.34	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	10.14.18 19.34	U	1
Ethylbenzene	100-41-4	0.0596	0.00201	mg/kg	10.14.18 19.34		1
m,p-Xylenes	179601-23-1	0.0843	0.00402	mg/kg	10.14.18 19.34		1
o-Xylene	95-47-6	0.0594	0.00201	mg/kg	10.14.18 19.34		1
Total Xylenes	1330-20-7	0.144	0.00201	mg/kg	10.14.18 19.34		1
Total BTEX		0.203	0.00201	mg/kg	10.14.18 19.34		1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101		%	70-130	10.14.18 19.34	
4-Bromofluorobenzene	460-00-4	337		%	70-130	10.14.18 19.34	**



Certificate of Analytical Results 601608



Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: AH#2 (2-2.5')

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-009

Date Collected: 10.02.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 10.13.18 15.15

Basis: Wet Weight

Seq Number: 3066332

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	214	24.9	mg/kg	10.14.18 17.35		5

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 10.12.18 07.00

Basis: Wet Weight

Seq Number: 3066389

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	689	75.0	mg/kg	10.12.18 14.37		5
Diesel Range Organics (DRO)	C10C28DRO	7840	75.0	mg/kg	10.12.18 14.37		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	660	75.0	mg/kg	10.12.18 14.37		5
Total TPH	PHC635	9190	75.0	mg/kg	10.12.18 14.37		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	121	%	70-135	10.12.18 14.37	
o-Terphenyl	84-15-1	112	%	70-135	10.12.18 14.37	



Certificate of Analytical Results 601608



Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: AH#2 (3-3.5')

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-010

Date Collected: 10.02.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 10.13.18 15.15

Basis: Wet Weight

Seq Number: 3066332

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	180	24.8	mg/kg	10.14.18 17.41		5

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 10.12.18 07.00

Basis: Wet Weight

Seq Number: 3066389

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	37.9	15.0	mg/kg	10.13.18 07.44		1
Diesel Range Organics (DRO)	C10C28DRO	1870	15.0	mg/kg	10.13.18 07.44		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	60.8	15.0	mg/kg	10.13.18 07.44		1
Total TPH	PHC635	1970	15.0	mg/kg	10.13.18 07.44		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	10.13.18 07.44	
o-Terphenyl	84-15-1	114	%	70-135	10.13.18 07.44	



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Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: **AH#2 (4-4.5')**

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-011

Date Collected: 10.02.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 10.13.18 15.15

Basis: Wet Weight

Seq Number: 3066332

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	94.0	4.95	mg/kg	10.14.18 17.47		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 10.12.18 07.00

Basis: Wet Weight

Seq Number: 3066389

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	25.8	15.0	mg/kg	10.12.18 15.51		1
Diesel Range Organics (DRO)	C10C28DRO	1010	15.0	mg/kg	10.12.18 15.51		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	103	15.0	mg/kg	10.12.18 15.51		1
Total TPH	PHC635	1140	15.0	mg/kg	10.12.18 15.51		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	10.12.18 15.51	
o-Terphenyl	84-15-1	119	%	70-135	10.12.18 15.51	



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Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: **AH#2 (5-5.5')**

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-012

Date Collected: 10.02.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: CHE

Date Prep: 10.13.18 15.30

Basis: Wet Weight

Seq Number: 3066335

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	268	5.00	mg/kg	10.14.18 18.32		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 10.12.18 07.00

Basis: Wet Weight

Seq Number: 3066389

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	24.3	15.0	mg/kg	10.12.18 16.09		1
Diesel Range Organics (DRO)	C10C28DRO	664	15.0	mg/kg	10.12.18 16.09		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	77.6	15.0	mg/kg	10.12.18 16.09		1
Total TPH	PHC635	766	15.0	mg/kg	10.12.18 16.09		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	98	%	70-135	10.12.18 16.09		
o-Terphenyl	84-15-1	111	%	70-135	10.12.18 16.09		



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Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: AH#3 (0-1')

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-013

Date Collected: 10.02.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: CHE

Date Prep: 10.13.18 15.30

Basis: Wet Weight

Seq Number: 3066335

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	718	24.9	mg/kg	10.14.18 18.49		5

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 10.12.18 07.00

Basis: Wet Weight

Seq Number: 3066389

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	18.2	14.9	mg/kg	10.12.18 16.28		1
Diesel Range Organics (DRO)	C10C28DRO	182	14.9	mg/kg	10.12.18 16.28		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	19.5	14.9	mg/kg	10.12.18 16.28		1
Total TPH	PHC635	220	14.9	mg/kg	10.12.18 16.28		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	10.12.18 16.28	
o-Terphenyl	84-15-1	108	%	70-135	10.12.18 16.28	



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Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: AH#3 (0-1')

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-013

Date Collected: 10.02.18 00.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 10.14.18 09.15

Basis: Wet Weight

Seq Number: 3066374

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	10.14.18 18.53	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	10.14.18 18.53	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	10.14.18 18.53	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	10.14.18 18.53	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	10.14.18 18.53	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	10.14.18 18.53	U	1
Total BTEX		<0.00202	0.00202	mg/kg	10.14.18 18.53	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	111	%	70-130	10.14.18 18.53		
4-Bromofluorobenzene	460-00-4	121	%	70-130	10.14.18 18.53		



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Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: AH#3 (1-1.5')

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-014

Date Collected: 10.02.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: CHE

Date Prep: 10.13.18 15.30

Basis: Wet Weight

Seq Number: 3066335

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	121	4.99	mg/kg	10.14.18 18.55		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 10.12.18 07.00

Basis: Wet Weight

Seq Number: 3066389

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.12.18 16.46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.12.18 16.46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.12.18 16.46	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.12.18 16.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	10.12.18 16.46	
o-Terphenyl	84-15-1	97	%	70-135	10.12.18 16.46	



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Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: AH#3 (1-1.5')

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-014

Date Collected: 10.02.18 00.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 10.14.18 09.15

Basis: Wet Weight

Seq Number: 3066374

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00196	0.00196	mg/kg	10.14.18 18.33	U	1
Toluene	108-88-3	<0.00196	0.00196	mg/kg	10.14.18 18.33	U	1
Ethylbenzene	100-41-4	<0.00196	0.00196	mg/kg	10.14.18 18.33	U	1
m,p-Xylenes	179601-23-1	<0.00392	0.00392	mg/kg	10.14.18 18.33	U	1
o-Xylene	95-47-6	<0.00196	0.00196	mg/kg	10.14.18 18.33	U	1
Total Xylenes	1330-20-7	<0.00196	0.00196	mg/kg	10.14.18 18.33	U	1
Total BTEX		<0.00196	0.00196	mg/kg	10.14.18 18.33	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	110	%	70-130	10.14.18 18.33		
4-Bromofluorobenzene	460-00-4	128	%	70-130	10.14.18 18.33		



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Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: AH#3 (2-2.5')

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-015

Date Collected: 10.02.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: CHE

Date Prep: 10.13.18 15.30

Basis: Wet Weight

Seq Number: 3066335

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	89.0	4.99	mg/kg	10.14.18 19.01		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 10.12.18 07.00

Basis: Wet Weight

Seq Number: 3066389

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.12.18 17.05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.12.18 17.05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.12.18 17.05	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.12.18 17.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	10.12.18 17.05	
o-Terphenyl	84-15-1	96	%	70-135	10.12.18 17.05	



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Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: **AH#3 (3-3.5')**

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-016

Date Collected: 10.02.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: CHE

Date Prep: 10.13.18 15.30

Basis: Wet Weight

Seq Number: 3066335

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	439	4.95	mg/kg	10.14.18 19.06		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 10.12.18 07.00

Basis: Wet Weight

Seq Number: 3066389

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.12.18 17.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.12.18 17.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.12.18 17.23	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.12.18 17.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	10.12.18 17.23	
o-Terphenyl	84-15-1	97	%	70-135	10.12.18 17.23	



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Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: AH#3 (4-4.5')

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-017

Date Collected: 10.02.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: CHE

Date Prep: 10.13.18 15.30

Basis: Wet Weight

Seq Number: 3066335

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	156	5.00	mg/kg	10.14.18 19.23		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 10.12.18 07.00

Basis: Wet Weight

Seq Number: 3066389

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.12.18 17.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.12.18 17.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.12.18 17.42	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.12.18 17.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	10.12.18 17.42	
o-Terphenyl	84-15-1	97	%	70-135	10.12.18 17.42	



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Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: AH#3 (4-4.5')

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-017

Date Collected: 10.02.18 00.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 10.14.18 09.15

Basis: Wet Weight

Seq Number: 3066374

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	10.14.18 18.13	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	10.14.18 18.13	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	10.14.18 18.13	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	10.14.18 18.13	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	10.14.18 18.13	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	10.14.18 18.13	U	1
Total BTEX		<0.00202	0.00202	mg/kg	10.14.18 18.13	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	121	%	70-130	10.14.18 18.13		
1,4-Difluorobenzene	540-36-3	123	%	70-130	10.14.18 18.13		



Certificate of Analytical Results 601608



Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: AH#3 (5-5.5')

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-018

Date Collected: 10.02.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: CHE

Date Prep: 10.13.18 15.30

Basis: Wet Weight

Seq Number: 3066335

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	631	5.00	mg/kg	10.14.18 19.29		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 10.12.18 07.00

Basis: Wet Weight

Seq Number: 3066389

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.12.18 18.00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.12.18 18.00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.12.18 18.00	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.12.18 18.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	10.12.18 18.00	
o-Terphenyl	84-15-1	101	%	70-135	10.12.18 18.00	



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Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: AH#4 (0-1')

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-019

Date Collected: 10.02.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: CHE

Date Prep: 10.13.18 15.30

Basis: Wet Weight

Seq Number: 3066335

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1000	24.8	mg/kg	10.14.18 19.35		5

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 10.12.18 07.00

Basis: Wet Weight

Seq Number: 3066389

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	10.12.18 18.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	10.12.18 18.19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	10.12.18 18.19	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	10.12.18 18.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	10.12.18 18.19	
o-Terphenyl	84-15-1	101	%	70-135	10.12.18 18.19	



Certificate of Analytical Results 601608



Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: AH#4 (0-1')

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-019

Date Collected: 10.02.18 00.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 10.14.18 09.15

Basis: Wet Weight

Seq Number: 3066374

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.14.18 17.53	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	10.14.18 17.53	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.14.18 17.53	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.14.18 17.53	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.14.18 17.53	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.14.18 17.53	U	1
Total BTEX		<0.00201	0.00201	mg/kg	10.14.18 17.53	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	122	%	70-130	10.14.18 17.53		
4-Bromofluorobenzene	460-00-4	109	%	70-130	10.14.18 17.53		



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Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: **AH#4 (1-1.5')**

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-020

Date Collected: 10.02.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: CHE

Date Prep: 10.13.18 15.30

Basis: Wet Weight

Seq Number: 3066335

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	208	25.0	mg/kg	10.14.18 19.40		5

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 10.12.18 07.00

Basis: Wet Weight

Seq Number: 3066389

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.12.18 18.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.12.18 18.37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.12.18 18.37	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.12.18 18.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	10.12.18 18.37	
o-Terphenyl	84-15-1	98	%	70-135	10.12.18 18.37	



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Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: AH#4 (1-1.5')

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-020

Date Collected: 10.02.18 00.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 10.14.18 09.15

Basis: Wet Weight

Seq Number: 3066374

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.14.18 17.33	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.14.18 17.33	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.14.18 17.33	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.14.18 17.33	U	1
o-Xylene	95-47-6	0.00736	0.00199	mg/kg	10.14.18 17.33		1
Total Xylenes	1330-20-7	0.00736	0.00199	mg/kg	10.14.18 17.33		1
Total BTEX		0.00736	0.00199	mg/kg	10.14.18 17.33		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	118	%	70-130	10.14.18 17.33		
1,4-Difluorobenzene	540-36-3	125	%	70-130	10.14.18 17.33		



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Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: AH#4 (2-2.5')

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-021

Date Collected: 10.02.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: CHE

Date Prep: 10.13.18 15.30

Basis: Wet Weight

Seq Number: 3066335

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	162	24.8	mg/kg	10.14.18 19.46		5

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 10.12.18 15.00

Basis: Wet Weight

Seq Number: 3066395

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.13.18 11.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.13.18 11.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.13.18 11.31	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.13.18 11.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	10.13.18 11.31	
o-Terphenyl	84-15-1	96	%	70-135	10.13.18 11.31	



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Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: AH#4 (3-3.5')

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-022

Date Collected: 10.02.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: CHE

Date Prep: 10.13.18 15.30

Basis: Wet Weight

Seq Number: 3066335

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	524	4.95	mg/kg	10.14.18 19.52		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 10.12.18 15.00

Basis: Wet Weight

Seq Number: 3066395

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.13.18 12.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.13.18 12.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.13.18 12.27	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.13.18 12.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	10.13.18 12.27	
o-Terphenyl	84-15-1	95	%	70-135	10.13.18 12.27	



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Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: AH#4 (4-4.5')

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-023

Date Collected: 10.02.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: CHE

Date Prep: 10.13.18 15.30

Basis: Wet Weight

Seq Number: 3066335

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	459	4.96	mg/kg	10.14.18 20.09		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 10.12.18 15.00

Basis: Wet Weight

Seq Number: 3066395

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.13.18 12.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.13.18 12.45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.13.18 12.45	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.13.18 12.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	10.13.18 12.45	
o-Terphenyl	84-15-1	99	%	70-135	10.13.18 12.45	



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Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: AH#4 (5-5.5')

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-024

Date Collected: 10.02.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: CHE

Date Prep: 10.13.18 15.30

Basis: Wet Weight

Seq Number: 3066335

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	470	4.98	mg/kg	10.14.18 20.15		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 10.12.18 15.00

Basis: Wet Weight

Seq Number: 3066395

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	10.13.18 13.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	10.13.18 13.04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	10.13.18 13.04	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	10.13.18 13.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	10.13.18 13.04	
o-Terphenyl	84-15-1	99	%	70-135	10.13.18 13.04	



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Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: AH#5 (0-1')

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-025

Date Collected: 10.02.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: CHE

Date Prep: 10.13.18 15.30

Basis: Wet Weight

Seq Number: 3066335

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	290	5.00	mg/kg	10.14.18 20.32		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 10.12.18 15.00

Basis: Wet Weight

Seq Number: 3066395

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.13.18 13.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	133	15.0	mg/kg	10.13.18 13.23		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.13.18 13.23	U	1
Total TPH	PHC635	133	15.0	mg/kg	10.13.18 13.23		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	10.13.18 13.23	
o-Terphenyl	84-15-1	102	%	70-135	10.13.18 13.23	



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Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: AH#5 (0-1')

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-025

Date Collected: 10.02.18 00.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 10.14.18 09.15

Basis: Wet Weight

Seq Number: 3066374

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.14.18 17.13	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.14.18 17.13	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.14.18 17.13	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	10.14.18 17.13	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.14.18 17.13	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.14.18 17.13	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.14.18 17.13	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	123	%	70-130	10.14.18 17.13		
1,4-Difluorobenzene	540-36-3	122	%	70-130	10.14.18 17.13		



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Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: **AH#5 (1-1.5')**

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-026

Date Collected: 10.02.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: CHE

Date Prep: 10.13.18 15.30

Basis: Wet Weight

Seq Number: 3066335

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	400	4.95	mg/kg	10.14.18 20.37		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 10.12.18 15.00

Basis: Wet Weight

Seq Number: 3066395

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	10.13.18 13.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	61.9	14.9	mg/kg	10.13.18 13.41		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	10.13.18 13.41	U	1
Total TPH	PHC635	61.9	14.9	mg/kg	10.13.18 13.41		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	10.13.18 13.41	
o-Terphenyl	84-15-1	94	%	70-135	10.13.18 13.41	



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Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: AH#5 (1-1.5')

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-026

Date Collected: 10.02.18 00.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 10.14.18 09.15

Basis: Wet Weight

Seq Number: 3066374

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.14.18 16.53	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.14.18 16.53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.14.18 16.53	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	10.14.18 16.53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.14.18 16.53	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.14.18 16.53	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.14.18 16.53	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	121	%	70-130	10.14.18 16.53		
4-Bromofluorobenzene	460-00-4	113	%	70-130	10.14.18 16.53		



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Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: AH#5 (2-2.5')

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-027

Date Collected: 10.02.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: CHE

Date Prep: 10.13.18 15.30

Basis: Wet Weight

Seq Number: 3066335

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	204	4.98	mg/kg	10.14.18 20.43		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 10.12.18 15.00

Basis: Wet Weight

Seq Number: 3066395

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.13.18 14.00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.13.18 14.00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.13.18 14.00	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.13.18 14.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	10.13.18 14.00	
o-Terphenyl	84-15-1	105	%	70-135	10.13.18 14.00	



Certificate of Analytical Results 601608



Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: **AH#5 (3-3.5')**

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-028

Date Collected: 10.02.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: CHE

Date Prep: 10.13.18 15.30

Basis: Wet Weight

Seq Number: 3066335

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	679	4.96	mg/kg	10.14.18 20.49		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 10.12.18 15.00

Basis: Wet Weight

Seq Number: 3066395

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.13.18 14.18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.13.18 14.18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.13.18 14.18	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.13.18 14.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	10.13.18 14.18	
o-Terphenyl	84-15-1	101	%	70-135	10.13.18 14.18	



Certificate of Analytical Results 601608



Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: AH#5 (4-4.5')

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-029

Date Collected: 10.02.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: CHE

Date Prep: 10.13.18 15.30

Basis: Wet Weight

Seq Number: 3066335

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	182	5.00	mg/kg	10.14.18 20.54		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 10.12.18 15.00

Basis: Wet Weight

Seq Number: 3066395

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.13.18 14.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.13.18 14.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.13.18 14.36	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.13.18 14.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	10.13.18 14.36	
o-Terphenyl	84-15-1	93	%	70-135	10.13.18 14.36	



Certificate of Analytical Results 601608



Tetra Tech- Midland, Midland, TX

EOG-Lotus SWD #2

Sample Id: AH#5 (5-5.5')

Matrix: Soil

Date Received: 10.05.18 15.47

Lab Sample Id: 601608-030

Date Collected: 10.02.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: CHE

Date Prep: 10.13.18 15.30

Basis: Wet Weight

Seq Number: 3066335

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	127	5.00	mg/kg	10.14.18 21.00		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 10.12.18 15.00

Basis: Wet Weight

Seq Number: 3066395

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.13.18 14.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.13.18 14.55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.13.18 14.55	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.13.18 14.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	10.13.18 14.55	
o-Terphenyl	84-15-1	97	%	70-135	10.13.18 14.55	



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



Tetra Tech- Midland
EOG-Lotus SWD #2

Analytical Method: Chloride by EPA 300

Seq Number: 3066332

MB Sample Id: 7664092-1-BLK

Matrix: Solid

LCS Sample Id: 7664092-1-BKS

Prep Method: E300P

Date Prep: 10.13.18

LCSD Sample Id: 7664092-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	264	106	262	105	90-110	1	20	mg/kg	10.14.18 15:02	

Analytical Method: Chloride by EPA 300

Seq Number: 3066332

MB Sample Id: 7664117-1-BLK

Matrix: Solid

LCS Sample Id: 7664117-1-BKS

Prep Method: E300P

Date Prep: 10.13.18

LCSD Sample Id: 7664117-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	259	104	259	104	90-110	0	20	mg/kg	10.14.18 18:21	

Analytical Method: Chloride by EPA 300

Seq Number: 3066332

Parent Sample Id: 601595-072

Matrix: Soil

MS Sample Id: 601595-072 S

Prep Method: E300P

Date Prep: 10.13.18

MSD Sample Id: 601595-072 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	23.4	252	291	106	290	106	90-110	0	20	mg/kg	10.14.18 15:19	

Analytical Method: Chloride by EPA 300

Seq Number: 3066332

Parent Sample Id: 601608-003

Matrix: Soil

MS Sample Id: 601608-003 S

Prep Method: E300P

Date Prep: 10.13.18

MSD Sample Id: 601608-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	113	250	373	104	375	105	90-110	1	20	mg/kg	10.14.18 16:39	

Analytical Method: Chloride by EPA 300

Seq Number: 3066332

Parent Sample Id: 601608-012

Matrix: Soil

MS Sample Id: 601608-012 S

Prep Method: E300P

Date Prep: 10.13.18

MSD Sample Id: 601608-012 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	268	250	516	99	517	100	90-110	0	20	mg/kg	10.14.18 18:38	

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



Tetra Tech- Midland
EOG-Lotus SWD #2

Analytical Method: Chloride by EPA 300

Seq Number: 3066335

Parent Sample Id: 601608-022

Matrix: Soil

MS Sample Id: 601608-022 S

Prep Method: E300P

Date Prep: 10.13.18

MSD Sample Id: 601608-022 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	524	248	777	102	772	100	90-110	1	20	mg/kg	10.14.18 19:58	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3066389

MB Sample Id: 7664100-1-BLK

Matrix: Solid

LCS Sample Id: 7664100-1-BKS

Prep Method: TX1005P

Date Prep: 10.12.18

LCSD Sample Id: 7664100-1-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	1040	104	982	98	70-135	6	20	mg/kg	10.12.18 10:54	
Diesel Range Organics (DRO)	<8.13	1000	1040	104	990	99	70-135	5	20	mg/kg	10.12.18 10:54	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	91		120		128		70-135	%	10.12.18 10:54
o-Terphenyl	95		104		104		70-135	%	10.12.18 10:54

Analytical Method: TPH By SW8015 Mod

Seq Number: 3066395

MB Sample Id: 7664104-1-BLK

Matrix: Solid

LCS Sample Id: 7664104-1-BKS

Prep Method: TX1005P

Date Prep: 10.12.18

LCSD Sample Id: 7664104-1-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)	12.8	1000	1140	114	985	99	70-135	15	20	mg/kg	10.13.18 10:53	
Diesel Range Organics (DRO)	<8.13	1000	1100	110	967	97	70-135	13	20	mg/kg	10.13.18 10:53	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	90		127		127		70-135	%	10.13.18 10:53
o-Terphenyl	93		116		100		70-135	%	10.13.18 10:53

Analytical Method: TPH By SW8015 Mod

Seq Number: 3066389

Parent Sample Id: 601608-001

Matrix: Soil

MS Sample Id: 601608-001 S

Prep Method: TX1005P

Date Prep: 10.12.18

MSD Sample Id: 601608-001 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)	13.5	998	927	92	929	92	70-135	0	20	mg/kg	10.12.18 11:49	
Diesel Range Organics (DRO)	32.9	998	953	92	952	92	70-135	0	20	mg/kg	10.12.18 11:49	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	125		124		70-135	%	10.12.18 11:49
o-Terphenyl	99		101		70-135	%	10.12.18 11:49

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

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

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

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



Tetra Tech- Midland
EOG-Lotus SWD #2

Analytical Method: TPH By SW8015 Mod

Seq Number: 3066395

Parent Sample Id: 601608-021

Matrix: Soil

MS Sample Id: 601608-021 S

Prep Method: TX1005P

Date Prep: 10.12.18

MSD Sample Id: 601608-021 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)	13.1	999	937	92	934	92	70-135	0	20	mg/kg	10.13.18 11:49	
Diesel Range Organics (DRO)	<8.12	999	930	93	928	93	70-135	0	20	mg/kg	10.13.18 11:49	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	116		113		70-135	%	10.13.18 11:49
o-Terphenyl	107		102		70-135	%	10.13.18 11:49

Analytical Method: BTEX by EPA 8021B

Seq Number: 3066374

MB Sample Id: 7664160-1-BLK

Matrix: Solid

LCS Sample Id: 7664160-1-BKS

Prep Method: SW5030B

Date Prep: 10.14.18

LCSD Sample Id: 7664160-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0992	99	0.0920	91	70-130	8	35	mg/kg	10.14.18 20:53	
Toluene	<0.00200	0.100	0.0915	92	0.0901	89	70-130	2	35	mg/kg	10.14.18 20:53	
Ethylbenzene	<0.00200	0.100	0.0901	90	0.0868	86	70-130	4	35	mg/kg	10.14.18 20:53	
m,p-Xylenes	<0.00401	0.200	0.179	90	0.183	91	70-130	2	35	mg/kg	10.14.18 20:53	
o-Xylene	<0.00200	0.100	0.116	116	0.104	103	70-130	11	35	mg/kg	10.14.18 20:53	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	119		100		102		70-130	%	10.14.18 20:53
4-Bromofluorobenzene	104		75		95		70-130	%	10.14.18 20:53

Analytical Method: BTEX by EPA 8021B

Seq Number: 3066356

MB Sample Id: 7664156-1-BLK

Matrix: Solid

LCS Sample Id: 7664156-1-BKS

Prep Method: SW5030B

Date Prep: 10.14.18

LCSD Sample Id: 7664156-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.122	122	0.117	117	70-130	4	35	mg/kg	10.14.18 19:29	
Toluene	<0.00200	0.100	0.106	106	0.107	107	70-130	1	35	mg/kg	10.14.18 19:29	
Ethylbenzene	<0.00200	0.100	0.121	121	0.121	121	70-130	0	35	mg/kg	10.14.18 19:29	
m,p-Xylenes	<0.00401	0.200	0.243	122	0.228	114	70-130	6	35	mg/kg	10.14.18 19:29	
o-Xylene	<0.00200	0.100	0.119	119	0.121	121	70-130	2	35	mg/kg	10.14.18 19:29	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		100		88		70-130	%	10.14.18 19:29
4-Bromofluorobenzene	90		102		108		70-130	%	10.14.18 19:29

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



Tetra Tech- Midland
EOG-Lotus SWD #2

Analytical Method: BTEX by EPA 8021B

Seq Number: 3066374

Parent Sample Id: 602221-035

Matrix: Soil

MS Sample Id: 602221-035 S

Prep Method: SW5030B

Date Prep: 10.14.18

MSD Sample Id: 602221-035 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0878	88	0.0876	88	70-130	0	35	mg/kg	10.14.18 11:14	
Toluene	<0.00199	0.0996	0.0842	85	0.0854	86	70-130	1	35	mg/kg	10.14.18 11:14	
Ethylbenzene	<0.00199	0.0996	0.0811	81	0.0820	82	70-130	1	35	mg/kg	10.14.18 11:14	
m,p-Xylenes	<0.00398	0.199	0.164	82	0.164	82	70-130	0	35	mg/kg	10.14.18 11:14	
o-Xylene	<0.00199	0.0996	0.0814	82	0.0826	83	70-130	1	35	mg/kg	10.14.18 11:14	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		98		70-130	%	10.14.18 11:14
4-Bromofluorobenzene	98		97		70-130	%	10.14.18 11:14

Analytical Method: BTEX by EPA 8021B

Seq Number: 3066356

Parent Sample Id: 601847-001

Matrix: Soil

MS Sample Id: 601847-001 S

Prep Method: SW5030B

Date Prep: 10.14.18

MSD Sample Id: 601847-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00222	0.111	0.0762	69	0.0765	76	70-130	0	35	mg/kg	10.14.18 20:12	X
Toluene	<0.00222	0.111	0.0534	48	0.0594	59	70-130	11	35	mg/kg	10.14.18 20:12	X
Ethylbenzene	<0.000628	0.111	0.0401	36	0.0465	46	70-130	15	35	mg/kg	10.14.18 20:12	X
m,p-Xylenes	0.00140	0.222	0.0731	32	0.0846	41	70-130	15	35	mg/kg	10.14.18 20:12	X
o-Xylene	<0.00222	0.111	0.0379	34	0.0448	44	70-130	17	35	mg/kg	10.14.18 20:12	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	86		99		70-130	%	10.14.18 20:12
4-Bromofluorobenzene	104		108		70-130	%	10.14.18 20:12

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

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

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

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

Analysis Request of Chain of Custody Record



Tetra Tech, Inc.

4000 N. Big Spring Street, Ste 401
Midland, Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

Client Name: EOG		Site Manager: Stephen Reyes														
Project Name: Lotus SWD #2																
Project Location: Lea County, New Mexico		Project #: 212C-MD-01238														
Invoice to:																
Receiving Laboratory: Xenco Midland, TX		Sampler Signature: Stephen Reyes														
Comments: Run deeper samples if GRO+DRO exceeds 1,000 mg/kg. Run deeper samples if benzene exceeds 10 mg/kg or total BTEX exceeds 50 mg/kg																
LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX					PRESERVATIVE METHOD					# CONTAINERS		FILTERED (Y/N)
		DATE	TIME	WATER	SOIL	HCL	HNO ₃	ICE	None							
												YEAR: 2018				
	AH #1 (0-1')	10/2/2018		X				X						1	N	
	AH #1 (1-1.5')	10/2/2018		X				X						1	N	
	AH #1 (2-2.5')	10/2/2018		X				X						1	N	
	AH #1 (3-3.5')	10/2/2018		X				X						1	N	
	AH #1 (4-4.5')	10/2/2018		X				X						1	N	
	AH #1 (5-5.5')	10/2/2018		X				X						1	N	
	AH #2 (0-1')	10/2/2018		X				X						1	N	
	AH #2 (1-1.5')	10/2/2018		X				X						1	N	
	AH #2 (2-2.5')	10/2/2018		X				X						1	N	
	AH #2 (3-3.5')	10/2/2018		X				X						1	N	
Relinquished by: [Signature]		Date: 10-5-18	Time: 1547	Received by: [Signature]		Date: 10-5-18	Time: 1547									
Relinquished by:		Date:	Time:	Received by:		Date:	Time:									
Relinquished by:		Date:	Time:	Received by:		Date:	Time:									

LAB USE ONLY	ANALYSIS REQUEST (Circle or Specify Method No.)														
	BTEX 8021B BTEX 8260B														
	TPH TX1005 (Ext to C35)														
	TPH 8015M (GRO - DRO - ORO - MRO)														
	PAH 8270C														
	Total Metals Ag As Ba Cd Cr Pb Se Hg														
	TCLP Metals Ag As Ba Cd Cr Pb Se Hg														
	TCLP Volatiles														
	TCLP Semi Volatiles														
	RCI														
	GC/MS Vol. 8260B / 624														
	GC/MS Semi. Vol. 8270C/625														
	PCB's 8082 / 608														
	NORM														
	PLM (Asbestos)														
Chloride															
Chloride Sulfate TDS															
General Water Chemistry (see attached list)															
Anion/Cation Balance															
Hold															

REMARKS:	<input checked="" type="checkbox"/> STANDARD
<input type="checkbox"/> RUSH: Same Day 24 hr 48 hr 72 hr	
<input type="checkbox"/> Rush Charges Authorized	
<input type="checkbox"/> Special Report Limits or TRRP Report	

Sample Temperature: 28.6°C

LAB USE ONLY

ORIGINAL COPY

Analysis Request of Chain of Custody Record



Tetra Tech, Inc.

4000 N. Big Spring Street, Ste
401 Midland, Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

De lares

Page 2 of 3

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Analysis Request of Chain of Custody Record



Tetra Tech, Inc.

4000 N. Big Spring Street, Ste 401
Midland, Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

601608

Client Name: EOG		Site Manager: Stephen Reyes								
Project Name: Lotus SWD #2										
Project Location: Lea County, New Mexico		Project #: 212C-MD-01238								
Invoice to:										
Receiving Laboratory: Xenco Midland, TX		Sampler Signature: Stephen Reyes								
Comments: Run deeper samples if GRO+DRO exceeds 1,000 mg/kg. Run deeper samples if benzene exceeds 10 mg/kg or total BTEX exceeds 50 mg/kg										
LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD		# CONTAINERS	FILTERED (Y/N)	
		YEAR: 2018								
		DATE	TIME	WATER	SOIL	HCL	HNO ₃			ICE
	AH #4 (2-2.5)	10/3/2018		X		X			1	N
	AH #4 (3-3.5)	10/3/2018		X		X			1	N
	AH #4 (4-4.5)	10/3/2018		X		X			1	N
	AH #4 (5-5.5)	10/3/2018		X		X			1	N
	AH #5 (0-1)	10/3/2018		X		X			1	N
	AH #5 (1-1.5)	10/3/2018		X		X			1	N
	AH #5 (2-2.5)	10/3/2018		X		X			1	N
	AH #5 (3-3.5)	10/3/2018		X		X			1	N
	AH #5 (4-4.5)	10/3/2018		X		X			1	N
	AH #5 (5-5.5)	10/3/2018		X		X			1	N
Relinquished by: [Signature]		Date: 10-5-18	Time: 1547	Received by: [Signature]		Date: 10/5/18	Time: 1547			
Relinquished by:		Date:	Time:	Received by:		Date:	Time:			
Relinquished by:		Date:	Time:	Received by:		Date:	Time:			

LAB USE ONLY	BTEX 8021B	BTEX 8260B
	TPH TX1005 (Ext to C35)	
	TPH 8015M (GRO - DRO - ORO - MRO)	
	PAH 8270C	
	Total Metals Ag As Ba Cd Cr Pb Se Hg	
	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	
	TCLP Volatiles	
	TCLP Semi Volatiles	
	RCI	
	GC/MS Vol. 8260B / 624	
	GC/MS Semi. Vol. 8270C/625	
	PCB's 8082 / 608	
	NORM	
	PLM (Asbestos)	
	Chloride	
Chloride Sulfate TDS		
General Water Chemistry (see attached list)		
Anion/Cation Balance		
Hold		

REMARKS:	<input checked="" type="checkbox"/> STANDARD
	<input type="checkbox"/> RUSH: Same Day 24 hr 48 hr 72 hr
	<input type="checkbox"/> Rush Charges Authorized
	<input type="checkbox"/> Special Report Limits or TRRP Report

LAB USE ONLY	Sample Temperature
	78/60.2

ORIGINAL COPY



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 10/05/2018 03:47:00 PM

Work Order #: 601608

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist**Comments**

#1 *Temperature of cooler(s)?	.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)?	N/A
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Brianna Teel

Date: 10/08/2018

Checklist reviewed by:

Kelsey Brooks

Date: 10/09/2018

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

November 30, 2018

CLAIR GONZALES

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: LOTUS SWD #2

Enclosed are the results of analyses for samples received by the laboratory on 11/29/18 16:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/ga/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Total Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: LOTUS SWD #2
Project Number: 212C -MD - 01238
Project Manager: CLAIR GONZALES
Fax To: (432) 682-3946

Reported:
30-Nov-18 16:08

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BOTTOM HOLE # 1 4' BEB	H803510-01	Soil	29-Nov-18 00:00	29-Nov-18 16:50
BOTTOM HOLE # 2 4' BEB	H803510-02	Soil	29-Nov-18 00:00	29-Nov-18 16:50
BOTTOM HOLE # 3 4' BEB	H803510-03	Soil	29-Nov-18 00:00	29-Nov-18 16:50
NORTH # 1 SIDE WALL	H803510-04	Soil	29-Nov-18 00:00	29-Nov-18 16:50
SOUTH # 1 SIDE WALL	H803510-05	Soil	29-Nov-18 00:00	29-Nov-18 16:50
SOUTH # 2 SIDE WALL	H803510-06	Soil	29-Nov-18 00:00	29-Nov-18 16:50
WEST # 1 SIDE WALL	H803510-07	Soil	29-Nov-18 00:00	29-Nov-18 16:50
EAST # 1 SIDE WALL	H803510-08	Soil	29-Nov-18 00:00	29-Nov-18 16:50
EAST # 2 SIDE WALL	H803510-09	Soil	29-Nov-18 00:00	29-Nov-18 16:50

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: LOTUS SWD #2
Project Number: 212C -MD - 01238
Project Manager: CLAIR GONZALES
Fax To: (432) 682-3946

Reported:
30-Nov-18 16:08

BOTTOM HOLE # 1 4' BEB
H803510-01 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	368		16.0	mg/kg	4	8112913	AC	30-Nov-18	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	8113003	MS	30-Nov-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8113003	MS	30-Nov-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8113003	MS	30-Nov-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8113003	MS	30-Nov-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8113003	MS	30-Nov-18	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			98.1 %	73.3-129		8113003	MS	30-Nov-18	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	8113001	MS	30-Nov-18	8015B	
DRO >C10-C28*	37.2		10.0	mg/kg	1	8113001	MS	30-Nov-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8113001	MS	30-Nov-18	8015B	

Surrogate: 1-Chlorooctane			93.6 %	41-142		8113001	MS	30-Nov-18	8015B	
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Surrogate: 1-Chlorooctadecane			98.0 %	37.6-147		8113001	MS	30-Nov-18	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: LOTUS SWD #2
Project Number: 212C -MD - 01238
Project Manager: CLAIR GONZALES
Fax To: (432) 682-3946

Reported:
30-Nov-18 16:08

BOTTOM HOLE # 2 4' BEB**H803510-02 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	64.0		16.0	mg/kg	4	8112913	AC	30-Nov-18	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	8113003	MS	30-Nov-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8113003	MS	30-Nov-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8113003	MS	30-Nov-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8113003	MS	30-Nov-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8113003	MS	30-Nov-18	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			95.4 %		73.3-129	8113003	MS	30-Nov-18	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	8113001	MS	30-Nov-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8113001	MS	30-Nov-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8113001	MS	30-Nov-18	8015B	

Surrogate: 1-Chlorooctane			98.0 %		41-142	8113001	MS	30-Nov-18	8015B	
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Surrogate: 1-Chlorooctadecane			106 %		37.6-147	8113001	MS	30-Nov-18	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: LOTUS SWD #2
Project Number: 212C -MD - 01238
Project Manager: CLAIR GONZALES
Fax To: (432) 682-3946

Reported:
30-Nov-18 16:08

BOTTOM HOLE # 3 4' BEB**H803510-03 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Chloride	1490		16.0	mg/kg	4	8112913	AC	30-Nov-18	4500-Cl-B	

Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	8113003	MS	30-Nov-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8113003	MS	30-Nov-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8113003	MS	30-Nov-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8113003	MS	30-Nov-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8113003	MS	30-Nov-18	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			95.9 %		73.3-129	8113003	MS	30-Nov-18	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	8112905	MS	30-Nov-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8112905	MS	30-Nov-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8112905	MS	30-Nov-18	8015B	

Surrogate: 1-Chlorooctane			102 %		41-142	8112905	MS	30-Nov-18	8015B	
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Surrogate: 1-Chlorooctadecane			116 %		37.6-147	8112905	MS	30-Nov-18	8015B	
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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: LOTUS SWD #2
Project Number: 212C -MD - 01238
Project Manager: CLAIR GONZALES
Fax To: (432) 682-3946

Reported:
30-Nov-18 16:08

NORTH # 1 SIDE WALL**H803510-04 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	480		16.0	mg/kg	4	8112913	AC	30-Nov-18	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	8113003	MS	30-Nov-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8113003	MS	30-Nov-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8113003	MS	30-Nov-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8113003	MS	30-Nov-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8113003	MS	30-Nov-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			95.9 %	73.3-129		8113003	MS	30-Nov-18	8021B	

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	8112905	MS	30-Nov-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8112905	MS	30-Nov-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8112905	MS	30-Nov-18	8015B	
Surrogate: 1-Chlorooctane			104 %	41-142		8112905	MS	30-Nov-18	8015B	
Surrogate: 1-Chlorooctadecane			117 %	37.6-147		8112905	MS	30-Nov-18	8015B	

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: LOTUS SWD #2
Project Number: 212C -MD - 01238
Project Manager: CLAIR GONZALES
Fax To: (432) 682-3946

Reported:
30-Nov-18 16:08

SOUTH # 1 SIDE WALL**H803510-05 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	176		16.0	mg/kg	4	8112913	AC	30-Nov-18	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	8113002	ms	30-Nov-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8113002	ms	30-Nov-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8113002	ms	30-Nov-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8113002	ms	30-Nov-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8113002	ms	30-Nov-18	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.3-129 8113002 ms 30-Nov-18 8021B

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	8112905	MS	30-Nov-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8112905	MS	30-Nov-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8112905	MS	30-Nov-18	8015B	

Surrogate: 1-Chlorooctane 99.3 % 41-142 8112905 MS 30-Nov-18 8015B

Surrogate: 1-Chlorooctadecane 114 % 37.6-147 8112905 MS 30-Nov-18 8015B

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: LOTUS SWD #2
Project Number: 212C -MD - 01238
Project Manager: CLAIR GONZALES
Fax To: (432) 682-3946

Reported:
30-Nov-18 16:08

SOUTH # 2 SIDE WALL**H803510-06 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	256		16.0	mg/kg	4	8112913	AC	30-Nov-18	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	8113002	ms	30-Nov-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8113002	ms	30-Nov-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8113002	ms	30-Nov-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8113002	ms	30-Nov-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8113002	ms	30-Nov-18	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			104 %	73.3-129		8113002	ms	30-Nov-18	8021B	
--	--	--	-------	----------	--	---------	----	-----------	-------	--

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	8112905	MS	30-Nov-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8112905	MS	30-Nov-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8112905	MS	30-Nov-18	8015B	

<i>Surrogate: 1-Chlorooctane</i>			95.7 %	41-142		8112905	MS	30-Nov-18	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			109 %	37.6-147		8112905	MS	30-Nov-18	8015B	
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Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: LOTUS SWD #2
Project Number: 212C -MD - 01238
Project Manager: CLAIR GONZALES
Fax To: (432) 682-3946

Reported:
30-Nov-18 16:08

WEST # 1 SIDE WALL**H803510-07 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	288		16.0	mg/kg	4	8112913	AC	30-Nov-18	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	8113002	ms	30-Nov-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8113002	ms	30-Nov-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8113002	ms	30-Nov-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8113002	ms	30-Nov-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8113002	ms	30-Nov-18	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			104 %		73.3-129	8113002	ms	30-Nov-18	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	8112905	MS	30-Nov-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8112905	MS	30-Nov-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8112905	MS	30-Nov-18	8015B	

Surrogate: 1-Chlorooctane			96.8 %		41-142	8112905	MS	30-Nov-18	8015B	
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Surrogate: 1-Chlorooctadecane			111 %		37.6-147	8112905	MS	30-Nov-18	8015B	
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Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: LOTUS SWD #2
Project Number: 212C -MD - 01238
Project Manager: CLAIR GONZALES
Fax To: (432) 682-3946

Reported:
30-Nov-18 16:08

EAST # 1 SIDE WALL**H803510-08 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	224		16.0	mg/kg	4	8112913	AC	30-Nov-18	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	8113002	ms	30-Nov-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8113002	ms	30-Nov-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8113002	ms	30-Nov-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8113002	ms	30-Nov-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8113002	ms	30-Nov-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			104 %	73.3-129		8113002	ms	30-Nov-18	8021B	

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	8112905	MS	30-Nov-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8112905	MS	30-Nov-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8112905	MS	30-Nov-18	8015B	
Surrogate: 1-Chlorooctane			99.5 %	41-142		8112905	MS	30-Nov-18	8015B	
Surrogate: 1-Chlorooctadecane			109 %	37.6-147		8112905	MS	30-Nov-18	8015B	

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: LOTUS SWD #2
Project Number: 212C -MD - 01238
Project Manager: CLAIR GONZALES
Fax To: (432) 682-3946

Reported:
30-Nov-18 16:08

EAST # 2 SIDE WALL**H803510-09 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	416		16.0	mg/kg	4	8112913	AC	30-Nov-18	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	8113002	ms	30-Nov-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8113002	ms	30-Nov-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8113002	ms	30-Nov-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8113002	ms	30-Nov-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8113002	ms	30-Nov-18	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			104 %	73.3-129		8113002	ms	30-Nov-18	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	8112905	MS	30-Nov-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8112905	MS	30-Nov-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8112905	MS	30-Nov-18	8015B	

Surrogate: 1-Chlorooctane			105 %	41-142		8112905	MS	30-Nov-18	8015B	
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Surrogate: 1-Chlorooctadecane			116 %	37.6-147		8112905	MS	30-Nov-18	8015B	
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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: LOTUS SWD #2
Project Number: 212C -MD - 01238
Project Manager: CLAIR GONZALES
Fax To: (432) 682-3946

Reported:
30-Nov-18 16:08

Inorganic Compounds - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch 8112913 - General Prep - Wet Chem									
Blank (8112913-BLK1)				Prepared & Analyzed: 29-Nov-18					
Chloride	ND	16.0	mg/kg						
LCS (8112913-BS1)				Prepared & Analyzed: 29-Nov-18					
Chloride	400	16.0	mg/kg	400		100	80-120		
LCS Dup (8112913-BSD1)				Prepared & Analyzed: 29-Nov-18					
Chloride	400	16.0	mg/kg	400		100	80-120	0.00	20

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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: LOTUS SWD #2
Project Number: 212C -MD - 01238
Project Manager: CLAIR GONZALES
Fax To: (432) 682-3946

Reported:
30-Nov-18 16:08

Volatile Organic Compounds by EPA Method 8021 - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 8113002 - Volatiles**Blank (8113002-BLK1)**

Prepared & Analyzed: 30-Nov-18

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.105		mg/kg	0.100		105	73.3-129			

LCS (8113002-BS1)

Prepared & Analyzed: 30-Nov-18

Benzene	1.96	0.050	mg/kg	2.00		97.9	72.2-131			
Toluene	1.92	0.050	mg/kg	2.00		95.8	71.7-126			
Ethylbenzene	1.84	0.050	mg/kg	2.00		92.2	68.9-126			
Total Xylenes	5.92	0.150	mg/kg	6.00		98.6	71.4-125			
Surrogate: 4-Bromofluorobenzene (PID)	0.102		mg/kg	0.100		102	73.3-129			

LCS Dup (8113002-BSD1)

Prepared & Analyzed: 30-Nov-18

Benzene	1.88	0.050	mg/kg	2.00		94.0	72.2-131	4.07	6.91	
Toluene	1.84	0.050	mg/kg	2.00		92.2	71.7-126	3.75	7.12	
Ethylbenzene	1.79	0.050	mg/kg	2.00		89.7	68.9-126	2.77	7.88	
Total Xylenes	5.72	0.150	mg/kg	6.00		95.4	71.4-125	3.31	7.46	
Surrogate: 4-Bromofluorobenzene (PID)	0.102		mg/kg	0.100		102	73.3-129			

Batch 8113003 - Volatiles**Blank (8113003-BLK1)**

Prepared & Analyzed: 30-Nov-18

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0953		mg/kg	0.100		95.3	73.3-129			

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: LOTUS SWD #2
Project Number: 212C -MD - 01238
Project Manager: CLAIR GONZALES
Fax To: (432) 682-3946

Reported:
30-Nov-18 16:08

Volatile Organic Compounds by EPA Method 8021 - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 8113003 - Volatiles**LCS (8113003-BS1)**

Prepared & Analyzed: 30-Nov-18

Benzene	1.97	0.050	mg/kg	2.00		98.5	72.2-131			
Toluene	1.95	0.050	mg/kg	2.00		97.3	71.7-126			
Ethylbenzene	1.88	0.050	mg/kg	2.00		93.9	68.9-126			
Total Xylenes	5.53	0.150	mg/kg	6.00		92.2	71.4-125			
Surrogate: 4-Bromofluorobenzene (PID)	0.0971		mg/kg	0.100		97.1	73.3-129			

LCS Dup (8113003-BS1)

Prepared & Analyzed: 30-Nov-18

Benzene	1.95	0.050	mg/kg	2.00		97.3	72.2-131	1.28	6.91	
Toluene	1.91	0.050	mg/kg	2.00		95.6	71.7-126	1.77	7.12	
Ethylbenzene	1.85	0.050	mg/kg	2.00		92.5	68.9-126	1.46	7.88	
Total Xylenes	5.42	0.150	mg/kg	6.00		90.4	71.4-125	1.99	7.46	
Surrogate: 4-Bromofluorobenzene (PID)	0.0975		mg/kg	0.100		97.5	73.3-129			

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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: LOTUS SWD #2
Project Number: 212C -MD - 01238
Project Manager: CLAIR GONZALES
Fax To: (432) 682-3946

Reported:
30-Nov-18 16:08

Petroleum Hydrocarbons by GC FID - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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Batch 8112905 - General Prep - Organics**Blank (8112905-BLK1)**

Prepared: 29-Nov-18 Analyzed: 30-Nov-18

GRO C6-C10	ND	10.0	mg/kg						
DRO >C10-C28	ND	10.0	mg/kg						
EXT DRO >C28-C36	ND	10.0	mg/kg						
Total TPH C6-C28	ND	10.0	mg/kg						
Surrogate: 1-Chlorooctane	53.3		mg/kg	50.0		107	41-142		
Surrogate: 1-Chlorooctadecane	57.4		mg/kg	50.0		115	37.6-147		

LCS (8112905-BS1)

Prepared: 29-Nov-18 Analyzed: 30-Nov-18

GRO C6-C10	218	10.0	mg/kg	200		109	76.5-133		
DRO >C10-C28	222	10.0	mg/kg	200		111	72.9-138		
Total TPH C6-C28	440	10.0	mg/kg	400		110	78-132		
Surrogate: 1-Chlorooctane	56.0		mg/kg	50.0		112	41-142		
Surrogate: 1-Chlorooctadecane	60.0		mg/kg	50.0		120	37.6-147		

LCS Dup (8112905-BSD1)

Prepared: 29-Nov-18 Analyzed: 30-Nov-18

GRO C6-C10	222	10.0	mg/kg	200		111	76.5-133	2.03	20.6
DRO >C10-C28	224	10.0	mg/kg	200		112	72.9-138	0.654	20.6
Total TPH C6-C28	446	10.0	mg/kg	400		111	78-132	1.34	18
Surrogate: 1-Chlorooctane	56.2		mg/kg	50.0		112	41-142		
Surrogate: 1-Chlorooctadecane	59.5		mg/kg	50.0		119	37.6-147		

Batch 8113001 - General Prep - Organics**Blank (8113001-BLK1)**

Prepared & Analyzed: 30-Nov-18

GRO C6-C10	ND	10.0	mg/kg						
DRO >C10-C28	ND	10.0	mg/kg						
EXT DRO >C28-C36	ND	10.0	mg/kg						
Total TPH C6-C28	ND	10.0	mg/kg						
Surrogate: 1-Chlorooctane	49.9		mg/kg	50.0		99.8	41-142		
Surrogate: 1-Chlorooctadecane	50.2		mg/kg	50.0		100	37.6-147		

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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: LOTUS SWD #2
Project Number: 212C -MD - 01238
Project Manager: CLAIR GONZALES
Fax To: (432) 682-3946

Reported:
30-Nov-18 16:08

Petroleum Hydrocarbons by GC FID - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 8113001 - General Prep - Organics**LCS (8113001-BS1)**

Prepared & Analyzed: 30-Nov-18

GRO C6-C10	228	10.0	mg/kg	200		114	76.5-133			
DRO >C10-C28	246	10.0	mg/kg	200		123	72.9-138			
Total TPH C6-C28	474	10.0	mg/kg	400		119	78-132			
Surrogate: 1-Chlorooctane	52.7		mg/kg	50.0		105	41-142			
Surrogate: 1-Chlorooctadecane	55.5		mg/kg	50.0		111	37.6-147			

LCS Dup (8113001-BS1)

Prepared & Analyzed: 30-Nov-18

GRO C6-C10	211	10.0	mg/kg	200		105	76.5-133	8.01	20.6	
DRO >C10-C28	232	10.0	mg/kg	200		116	72.9-138	5.69	20.6	
Total TPH C6-C28	443	10.0	mg/kg	400		111	78-132	6.80	18	
Surrogate: 1-Chlorooctane	52.4		mg/kg	50.0		105	41-142			
Surrogate: 1-Chlorooctadecane	54.3		mg/kg	50.0		109	37.6-147			

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record



Tetra Tech, Inc.

 4000 N. Big Spring Street, Ste
 401 Midland, Texas 79705
 Tel (432) 682-4559
 Fax (432) 682-3946

Client Name: EOG		Site Manager: CLAIR GONZALES	
Project Name: LOTWS SMD #2		Project #: 2122-MD-01238	
Project Location: LER CO, NM		Invoice to: EOG - James Kennedy	
Receiving Laboratory: CARDINAL		Sampler Signature: CONNER MOETHMAN	
Comments:			

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD		# CONTAINERS	FILTERED (Y/N)		
		DATE	TIME	WATER	SOIL	HCL	HNO ₃			ICE	None
1	Bottom Hole #1	11/24/18	5:05	X				X		1	2
2	Bottom Hole #2		4:15	X				X		1	2
3	Bottom Hole #3		4:15	X				X		1	2
4	North #1 Sidewall			X				X		1	2
5	South #1 Sidewall			X				X		1	2
6	South #2 Sidewall			X				X		1	2
7	West #1 Sidewall			X				X		1	2
8	East #1 Sidewall			X				X		1	2
9	East #2 Sidewall			X				X		1	2

LAB USE ONLY	REMARKS:
4.3c	<input type="checkbox"/> STANDARD
4.3c	<input checked="" type="checkbox"/> RUSH: Same Day (24 hr) 48 hr 72 hr
4.3c	<input type="checkbox"/> Rush Charges Authorized
4.3c	<input type="checkbox"/> Special Report Limits or TRRP Report

ANALYSIS REQUEST (Circle or Specify Method No.)	
<input checked="" type="checkbox"/>	BTEX 8021B BTEX 8260B
<input checked="" type="checkbox"/>	TPH TX1005 (Ext to C35)
<input checked="" type="checkbox"/>	TPH 8015M (GRO - DRO - ORO - MRO)
<input checked="" type="checkbox"/>	PAH 8270C
<input checked="" type="checkbox"/>	Total Metals Ag As Ba Cd Cr Pb Se Hg
<input checked="" type="checkbox"/>	TCLP Metals Ag As Ba Cd Cr Pb Se Hg
<input checked="" type="checkbox"/>	TCLP Volatiles
<input checked="" type="checkbox"/>	TCLP Semi Volatiles
<input checked="" type="checkbox"/>	RCI
<input checked="" type="checkbox"/>	GC/MS Vol. 8260B / 624
<input checked="" type="checkbox"/>	GC/MS Semi. Vol. 8270C/625
<input checked="" type="checkbox"/>	PCB's 8082 / 608
<input checked="" type="checkbox"/>	NORM
<input checked="" type="checkbox"/>	PLM (Asbestos)
<input checked="" type="checkbox"/>	Chloride
<input checked="" type="checkbox"/>	Chloride Sulfate TDS
<input checked="" type="checkbox"/>	General Water Chemistry (see attached list)
<input checked="" type="checkbox"/>	Anion/Cation Balance
<input checked="" type="checkbox"/>	Hold

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

QUESTIONS

Action 526709

QUESTIONS

Operator: OWL SWD OPERATING, LLC 20 Greenway Plaza Houston, TX 77046	OGRID: 308339
	Action Number: 526709
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	nTO1519055552
Incident Name	NT01519055552 LOTUS SWD #002 @ 30-025-31694
Incident Type	Oil Release
Incident Status	Remediation Closure Report Received
Incident Well	[30-025-31694] LOTUS SWD #002

Location of Release Source

Please answer all the questions in this group.

Site Name	Lotus SWD #002
Date Release Discovered	06/09/2015
Surface Owner	State

Incident Details

Please answer all the questions in this group.

Incident Type	Oil Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release

Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.

Crude Oil Released (bbls) Details	Cause: Equipment Failure Motor Crude Oil Released: 1 BBL Recovered: 1 BBL Lost: 0 BBL.
Produced Water Released (bbls) Details	Cause: Equipment Failure Motor Produced Water Released: 559 BBL Recovered: 550 BBL Lost: 9 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	No
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.

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QUESTIONS, Page 2

Action 526709

QUESTIONS (continued)

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QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	No, according to supplied volumes this does not appear to be a "gas only" report.
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	Yes
Reasons why this would be considered a submission for a notification of a major release	From paragraph A. "Major release" determine using: (1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury.

The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	Not answered.

Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.

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.

I hereby agree and sign off to the above statement	Name: Ethan Sessums Title: Environmental Regulatory Director NM Email: Ethan.Sessums@standardtx.com Date: 11/14/2025
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QUESTIONS, Page 3

Action 526709

QUESTIONS (continued)

Operator: OWL SWD OPERATING, LLC 20 Greenway Plaza Houston, TX 77046	OGRID: 308339
	Action Number: 526709
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Site Characterization	
<i>Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	Attached Document
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 1 and 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1 and 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 5 (mi.)
Any other fresh water well or spring	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1 and 5 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Between 1 and 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
Requesting a remediation plan approval with this submission	Yes
<i>Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.</i>	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	1490
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	9190
GRO+DRO (EPA SW-846 Method 8015M)	8529
BTEX (EPA SW-846 Method 8021B or 8260B)	0.4
Benzene (EPA SW-846 Method 8021B or 8260B)	0
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
On what estimated date will the remediation commence	09/05/2018
On what date will (or did) the final sampling or liner inspection occur	11/29/2018
On what date will (or was) the remediation complete(d)	12/04/2018
What is the estimated surface area (in square feet) that will be reclaimed	0
What is the estimated volume (in cubic yards) that will be reclaimed	0
What is the estimated surface area (in square feet) that will be remediated	550
What is the estimated volume (in cubic yards) that will be remediated	162
<i>These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.</i>	
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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QUESTIONS, Page 4

Action 526709

QUESTIONS (continued)

Operator: OWL SWD OPERATING, LLC 20 Greenway Plaza Houston, TX 77046	OGRID:	308339
	Action Number:	526709
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Remediation Plan (continued)	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
<i>(Select all answers below that apply.)</i>	
(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for off-site disposal	fEEM0112340644 R360 ARTESIA LLC LANDFARM
OR which OCD approved well (API) will be used for off-site disposal	Not answered.
OR is the off-site disposal site, to be used, out-of-state	No
OR is the off-site disposal site, to be used, an NMED facility	No
(Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms)	No
(In Situ) Soil Vapor Extraction	No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	No
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	No
Ground Water Abatement pursuant to 19.15.30 NMAC	No
OTHER (Non-listed remedial process)	No
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
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.	
I hereby agree and sign off to the above statement	Name: Ethan Sessums Title: Environmental Regulatory Director NM Email: Ethan.Sessums@standardtx.com Date: 11/14/2025
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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QUESTIONS, Page 5

Action 526709

QUESTIONS (continued)

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QUESTIONS

Deferral Requests Only	
Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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QUESTIONS, Page 6

Action 526709

QUESTIONS (continued)

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	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	519590
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	11/29/2018
What was the (estimated) number of samples that were to be gathered	9
What was the sampling surface area in square feet	550

Remediation Closure Request	
<i>Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.</i>	
Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	550
What was the total volume (cubic yards) remediated	162
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	0
What was the total volume (in cubic yards) reclaimed	0
Summarize any additional remediation activities not included by answers (above)	Previous closure report submission was rejected due to an incomplete C-141. No sampling notification for liner inspection or confirmation sampling was documented into the system so a sampling notification was retroactively placed into the system to allow for closure report submission.
<i>The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (in .pdf format) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.</i>	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.	
I hereby agree and sign off to the above statement	Name: Ethan Sessums Title: Environmental Regulatory Director NM Email: Ethan.Sessums@standardtx.com Date: 11/14/2025

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QUESTIONS, Page 7

Action 526709

QUESTIONS (continued)

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QUESTIONS

Reclamation Report	
Only answer the questions in this group if all reclamation steps have been completed.	
Requesting a reclamation approval with this submission	No

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CONDITIONS

Action 526709

CONDITIONS

Operator: OWL SWD OPERATING, LLC 20 Greenway Plaza Houston, TX 77046	OGRID: 308339
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CONDITIONS

Created By	Condition	Condition Date
scwells	None	11/14/2025