ENSOLUM

February 11, 2025

New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Closure Request
Poker Lake Unit #41
API Number 30-015-20933
Incident Number NAB1832354684
Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared the following *Closure Request* as a follow-up to the *Deferral Request* dated January 17, 2019. The *Deferral Request* was approved by the New Mexico Oil Conservation Division (NMOCD) on January 22, 2019. This *Closure Request* documents the excavation and soil sampling activities completed at the Poker Lake Unit #41 (Site) following final plugging and abandonment of the well and removal of the surface production equipment from the deferred area. Based on the additional remediation activities described below, XTO is submitting this *Closure Request* and requesting no further action and closure for Incident Number NAB1832354684.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit G, Section 21, Township 24 South, Range 30 East, in Eddy County, New Mexico (32.20495, -103.883872) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On October 27, 2018, a stuffing box failure resulted in the release of approximately 5.4 barrels (bbls) of produced water and 0.1 bbls of crude oil from the well head onto the surface of the pad. A vacuum truck was used to recover approximately 4.9 bbls of released fluid. XTO reported the release to the NMOCD on a Release Notification Form C-141 (Form C-141) on November 9, 2018. The release was assigned Remediation Permit (RP) Number 2RP-5052 and Incident Number NAB1832354684.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized to determine the applicability of Table I Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review were detailed in the approved *Deferral Request*. Potential Site receptors are identified on Figure 1.

Based on the results of the Site Characterization, the following NMOCD Table I Closure Criteria (Closure Criteria) were applied:

- Benzene: 10 milligrams per kilogram (mg/kg)

- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH): 100 mg/kg
- Chloride: 600 mg/kg

During November 2018 and December 2018, delineation and excavation activities were conducted at the Site to address the impacted soil resulting from the October 27, 2018, crude oil and produced water release. Impacted soil was excavated to the maximum extent possible; however, impacted soil was left in place for compliance with XTO safety policy regarding earth-moving activities within ten feet of active well heads/pumpjacks. A *Deferral Request* was submitted to the NMOCD requesting deferral of the impacted soil until final plugging and abandonment of the well. The *Deferral Request* was approved by the NMOCD on February 15, 2019. Additional details regarding the excavation and soil sampling activities can be referenced in the January 17, 2019, *Deferral Request*, which is included as an attachment to this report.

EXCAVATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

The Poker Lake Unit 041 well was plugged and abandoned (P&A) on July 29, 2024. During October 2024, Ensolum personnel were at the Site to oversee excavation activities to address the impacted soil that remained in place immediately adjacent to the well head, as indicated by original excavation sidewall sample, SC-12. The 2018 excavation extent, soil sample locations, and laboratory analytical results are presented on Figure 2 and/or detailed in the attached *Deferral Request*. The 2024 excavation activities were performed using a trackhoe and transport vehicles. To direct excavation activities, soil was field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. The excavation was completed around the P&A'd well to depths ranging from 6 feet to 24 feet below ground surface (bgs).

Following removal of the impacted soil, 5-point composite soil samples were collected every 200 square feet from the floor and sidewalls of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples FS01 through FS05 were collected from the floor of the excavation at depths ranging from 6 feet to 24 feet bgs. Composite soil samples SW01 through SW03 were collected from the sidewalls of the excavation at depths ranging from the ground surface to 24 feet bgs. The excavation extent and excavation soil sample locations are presented on Figure 2. Photographic documentation of the excavation activities are included in Appendix A.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Cardinal Laboratories (Cardinal) in Hobbs, New Mexico, for analysis of the following constituents of concern (COC): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following Standard Method SM 4500.

Laboratory analytical results for excavation floor samples FS01 through FS05 and excavation sidewall samples SW01 through SW03 indicated all COC concentrations were compliant with the Site Closure Criteria and reclamation requirements. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix B.

The excavation area measured approximately 1,000 square feet. Approximately 500 cubic yards of impacted soil were removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Facility in Hobbs, New Mexico.

RECLAMATION ACTIVITIES

Upon completion of excavation activities and receipt of final laboratory analytical results, the excavation was backfilled with locally procured soil. One representative 5-point composite sample (BF01) was collected from the topsoil backfill material. The backfill soil sample was handled and analyzed following the same procedures as described above. Laboratory analytical results for the backfill soil sample confirmed compliance with the NMOCD requirement for the reclaimed area to contain non-waste containing, uncontaminated, earthen material with chloride concentrations less than 600 mg/kg and TPH concentrations less than 100 mg/kg. The laboratory analytical results are summarized on the attached Table 1 and the complete laboratory analytical report is included as Appendix B.

Following backfill activities, the well pad was recontoured to match the surrounding topography. The well pad will be seeded during the spring of 2025 when temperatures and precipitation are more conducive to vegetation growth. The reclaimed well pad will be seeded with the below BLM sandy sites seed mix #2 at the rate specified in pounds of pure live seed (PLS) per acre.

Species/Cultivar	PLS/Acre
Sand dropseed (Sporobolus cryptandrus)	1.0
Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	2.0

The seed mix will be applied via drill seeding or broadcast seeding. If broadcast seeding is selected, the PLS/acre will be doubled and the seed will be raked in by chaining or dragging the Site. Photographs of the reclaimed excavation area are provided in Appendix A.

The Site will be monitored for vegetation growth to ensure that reclamation activities were successful. Focus for this phase will be to prevent erosion and site degradation, and to monitor for and treat invasive and noxious weed species.

- Erosion control of the newly reclaimed areas includes prompt revegetation and contouring of the surface to prevent concentrated surface water flow.
- Annual inspections will take place at the location to assess revegetation progress until vegetation is consistent with local natural vegetation density.
- If necessary, an additional application of the BLM seed mix will be applied.
- Noxious and invasive weeds will be identified and treated by a licensed contracted herbicide applicator or mechanically removed.

A *Revegetation Report* will be submitted to the NMOCD once vegetation growth in the reclaimed area has uniform vegetative cover that reflects a life-form ratio of plus or minus fifty percent of pre-disturbance levels and a total percent plant cover of at least seventy percent of pre-disturbance levels, excluding noxious weeds, per NMAC 19.15.29.13 D.(3).

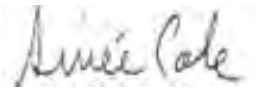
CLOSURE REQUEST

Excavation activities were conducted at the Site to address the impacted soil resulting from the October 27, 2018, crude oil and produced water release from the well head. Laboratory analytical results for the excavation soil samples, collected from the final excavation extent, indicated all COCs were compliant with the Site Closure Criteria and reclamation requirements. Based on the soil sample analytical results, no further remediation is required. A copy of the *Deferral Request* detailing the 2018 excavation activities is included as Appendix C.

Initial response efforts, natural attenuation, and excavation of impacted soil have mitigated impacts at this Site. XTO believes the remedial actions completed are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number NAB1832354684.

If you have any questions or comments, please contact Ms. Tacoma Morrissey at (337) 257-8307 or tmorrissey@ensolum.com.

Sincerely,
Ensolum, LLC



Aimee Cole
Senior Managing Scientist

Tacoma Morrissey
Senior Managing Geologist

cc: Colton Brown, XTO
Kaylan Dirkx, XTO
BLM

Appendices:

Figure 1	Site Receptor Map
Figure 2	Excavation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Photographic Log
Appendix B	Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix C	January 17, 2019, *Deferral Request*

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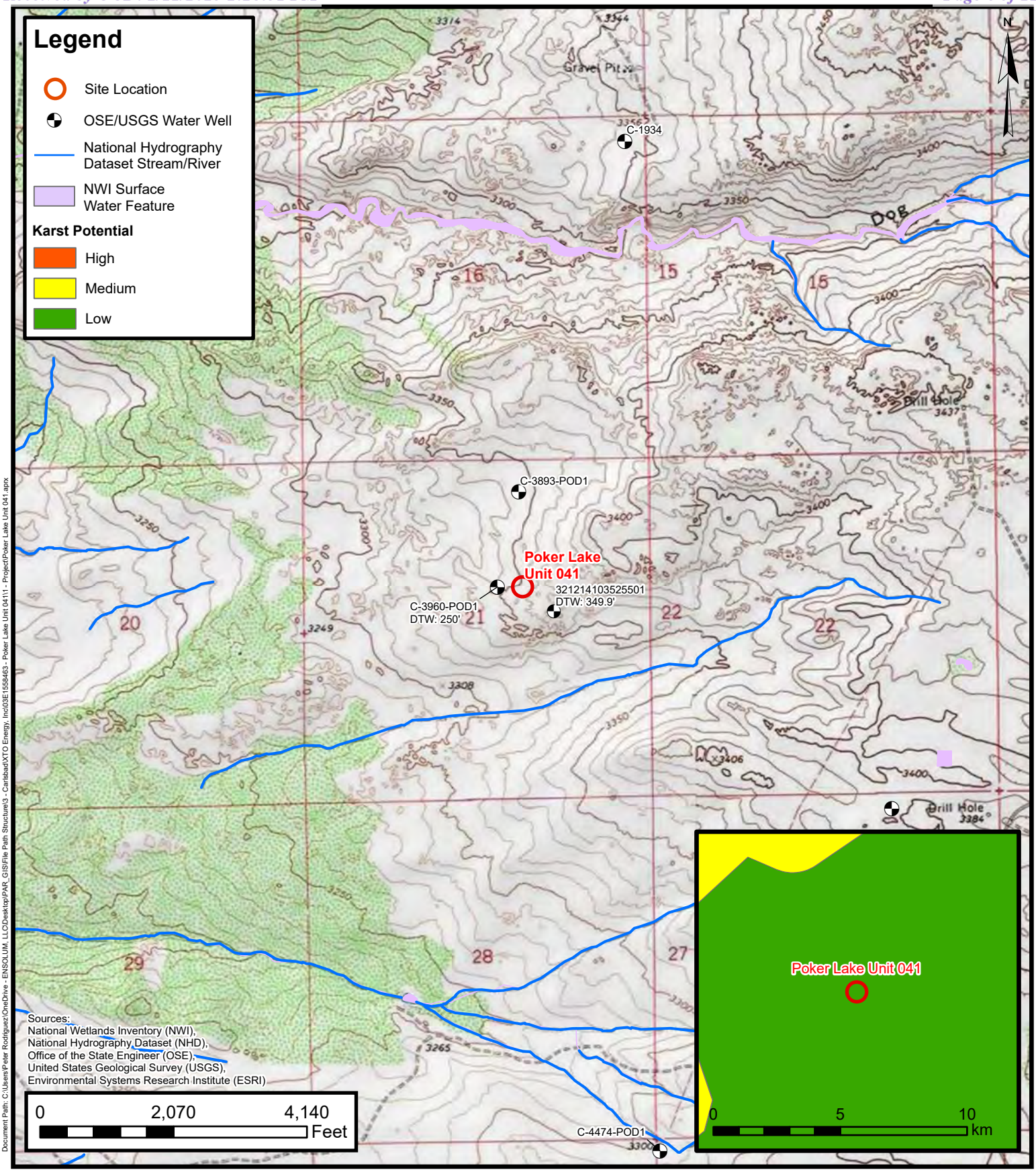
FIGURES



Document Path: C:\Users\Peter Rodriguez\OneDrive - ENSOLUM, LLC\Desktop\PAR_GIS\File Path Structure\3 - Carlsbad\XTO Energy, Inc\03E1558463 - Poker Lake Unit 041\1 - Project\Poker Lake Unit 041.aprx

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

XTO Energy, Inc.

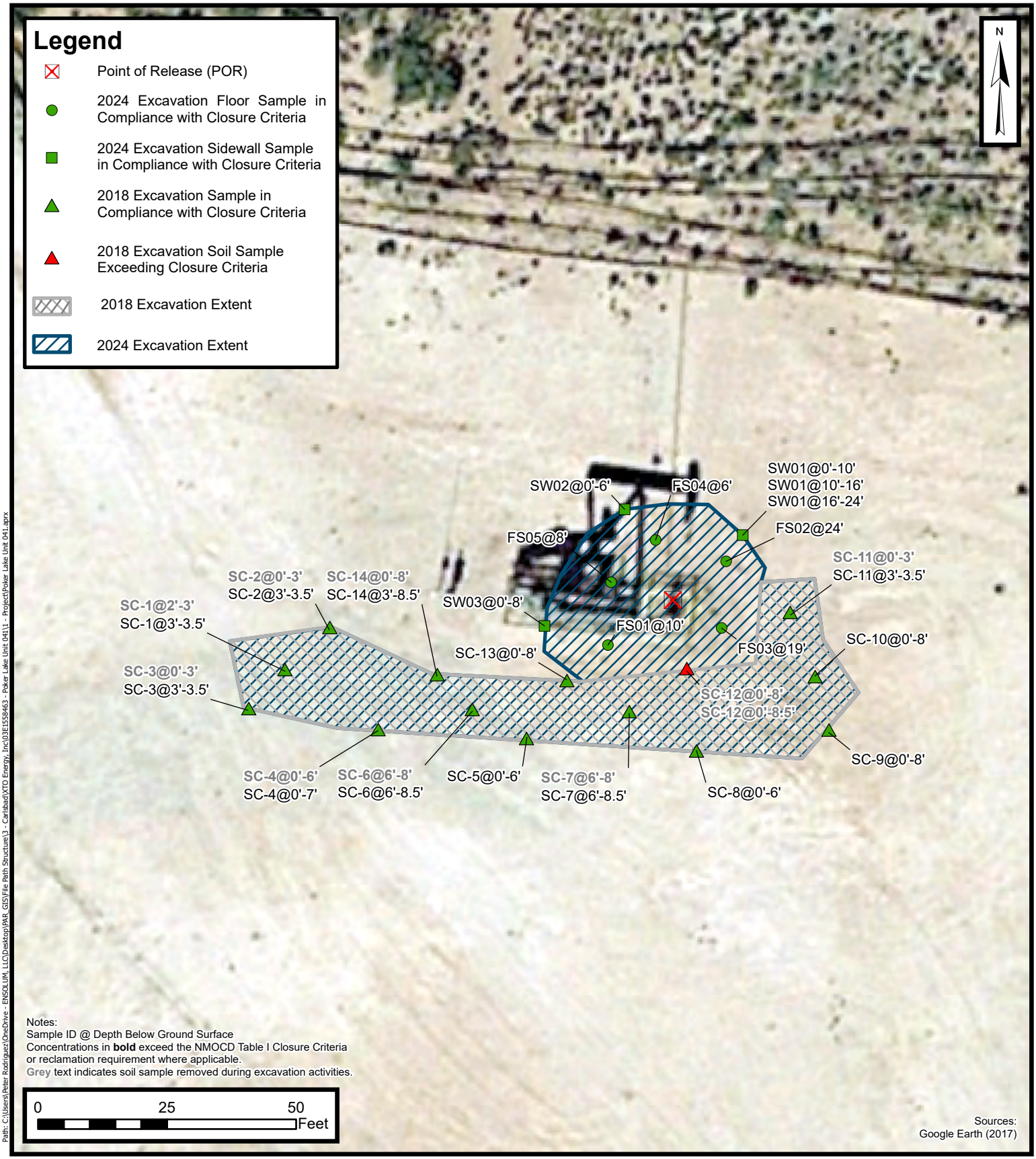
Poker Lake Unit #41

Incident Number: nAB1832354684

Unit G, Sec 21, T24S, R30E
Eddy County, New Mexico

FIGURE

1



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ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Excavation Soil Sample Locations

XTO Energy, Inc.
Poker Lake Unit #41
Incident Number: nAB1832354684
Unit G, Sec 21, T24S, R30E
Eddy County, New Mexico

FIGURE
2

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
POKER LAKE UNIT #41
XTO ENERGY, INC.
EDDY COUNTY, NEW MEXICO

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	100	600
2018 - Excavation Soil Samples									
SC-1	11/9/2018	2-3	<0.024	<0.22	<4.9	<9.5	<48	<62.4	**610**
SC-1	12/6/2018	3-3.5	--	--	--	--	--	--	<30
SC-2	11/9/2018	0-3	<0.024	<0.22	<4.8	63	70	**133**	**630**
SC-2	12/6/2018	0-3.5	--	--	<4.7	<9.5	<47	<61.2	<30
SC-3	11/9/2018	0-3	<0.024	<0.21	<4.7	40	63	**103**	410
SC-3	12/6/2018	0-3.5	--	--	<4.8	<9.7	<48	<62.5	--
SC-4	11/9/2018	0-6	<0.024	<0.22	<4.9	170	87	**257**	450
SC-4	12/6/2018	0-7	--	--	<4.8	<9.7	<48	<62.5	--
SC-5	11/9/2018	0-6	<0.023	<0.21	<4.6	<9.9	<49	<63.5	200
SC-6	11/9/2018	6-8	<0.025	<0.22	<4.9	1200	380	**1,580**	290
SC-6	12/6/2018	6-8.5	--	--	<5.0	<9.8	<49	<63.8	--
SC-7	11/9/2018	6-8	<0.025	<0.22	<4.9	<10	<50	<64.9	**1,200**
SC-7	12/6/2018	6-8.5	--	--	--	--	--	--	<30
SC-8	11/9/2018	0-6	<0.024	<0.22	<4.8	<9.8	<49	<63.6	430
SC-9	11/9/2018	0-8	<0.024	<0.22	<4.9	46	<49	46.0	<30
SC-10	11/9/2018	0-8	<0.025	<0.22	<5.0	<9.9	<50	<64.9	<30
SC-11	11/9/2018	0-3	<0.024	<0.22	<4.8	<9.5	<47	<61.3	**720**
SC-11	12/6/2018	0-3.5	--	--	--	--	--	--	<30
SC-12	11/9/2018	0-8	<0.024	<0.22	<4.9	31	<49	31.0	**1,000**
SC-12	12/6/2018	0-8.5	--	--	--	--	--	--	**1,100**
SC-13	11/9/2018	0-8	<0.025	<0.22	<4.9	<9.8	<49	<63.7	530
SC-14	11/9/2018	0-8	<0.024	<0.22	<4.8	890	770	**1,660**	260
SC-14	12/6/2018	0-8.5	--	--	<5.0	<9.8	<49	<63.8	--

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
POKER LAKE UNIT #41
XTO ENERGY, INC.
EDDY COUNTY, NEW MEXICO

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			**10**	**50**	**NE**	**NE**	**NE**	**100**	**600**
2024 - Excavation Soil Samples									
FS01	10/16/2024	10	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	432
FS02	10/21/2024	24	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	560
FS03	10/21/2024	19	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	560
FS04	10/16/2024	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	352
FS05	10/16/2024	8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	448
SW01	10/16/2024	0-10	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	192
	10/21/2024	10-16	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	400
	10/21/2024	16-24	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	400
SW02	10/16/2024	0-6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	80.0
SW03	10/16/2024	0-8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	80.0
Backfill Soil Sample									
BF01	11/21/2024	--	--	--	<10.0	<10.0	<10.0	<10.0	160

Notes:

bgs: below ground surface
mg/kg: milligrams per kilogram
NMOCD: New Mexico Oil Conservation Division
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
TPH: Total Petroleum Hydrocarbon
NE: Not Established
GRO: Gasoline Range Organics
DRO: Diesel Range Organics
ORO: Oil Range Organics
- -: Not Analyzed
*Concentrations in **bold** exceed the NMOCD Table I Closure Criteria or reclamation standard where applicable.*
Grey text represents samples that have been excavated

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APPENDIX A

Photographic Log

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Photographic Log
XTO Energy, Inc.
Poker Lake Unit #41

Photograph: 1 Date: 10/16/2024
Description: Excavation activities
View: North

Photograph: 2 Date: 10/16/2024
Description: Excavation activities
View: South

Photograph: 3 Date: 10/16/2024
Description: Excavation activities
View: Northeast

Photograph: 4 Date: 10/21/2024
Description: Excavation activities
View: West

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Photographic Log
XTO Energy, Inc.
Poker Lake Unit #41

Photograph: 5 Date: 11/21/2024
Description: Well marker and backfilled excavation
View: Northeast

Photograph: 6 Date: 11/21/2024
Description: Reclaimed pad and excavation area
View: Southeast

Photograph: 7 Date: 11/21/2024
Description: Reclaimed pad and excavation area
View: Southwest

Photograph: 8 Date: 11/21/2024
Description: Reclaimed pad and excavation area
View: Northwest

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APPENDIX B

Laboratory Analytical Reports & Chain of Custody Documentation

CARDINAL Laboratories

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

October 21, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: POKER LAKE UNIT 041 RECLAMATION SAMPLING

Enclosed are the results of analyses for samples received by the laboratory on 10/17/24 14:06.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM
AIMEE COLE
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	10/17/2024	Sampling Date:	10/16/2024
Reported:	10/21/2024	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT 041 RECLAMATION S/	Sampling Condition:	Cool & Intact
Project Number:	03C1558463	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.204951,-103.88387		

Sample ID: SW 01 0-10 (H246356-01)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/18/2024	ND	2.27	113	2.00	1.26	
Toluene*	<0.050	0.050	10/18/2024	ND	2.34	117	2.00	0.285	
Ethylbenzene*	<0.050	0.050	10/18/2024	ND	2.36	118	2.00	1.75	
Total Xylenes*	<0.150	0.150	10/18/2024	ND	7.06	118	6.00	1.13	
Total BTEX	<0.300	0.300	10/18/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *115 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**192**	16.0	10/18/2024	ND	432	108	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/18/2024	ND	188	93.9	200	2.34	
DRO >C10-C28*	<10.0	10.0	10/18/2024	ND	191	95.4	200	5.16	
EXT DRO >C28-C36	<10.0	10.0	10/18/2024	ND					

Surrogate: 1-Chlorooctane *99.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *90.6 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM
AIMEE COLE
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	10/17/2024	Sampling Date:	10/16/2024
Reported:	10/21/2024	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT 041 RECLAMATION S/	Sampling Condition:	Cool & Intact
Project Number:	03C1558463	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.204951,-103.88387		

Sample ID: SW 02 0-6 (H246356-02)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/18/2024	ND	2.27	113	2.00	1.26	
Toluene*	<0.050	0.050	10/18/2024	ND	2.34	117	2.00	0.285	
Ethylbenzene*	<0.050	0.050	10/18/2024	ND	2.36	118	2.00	1.75	
Total Xylenes*	<0.150	0.150	10/18/2024	ND	7.06	118	6.00	1.13	
Total BTEX	<0.300	0.300	10/18/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *114 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	10/18/2024	ND	432	108	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/18/2024	ND	188	93.9	200	2.34	
DRO >C10-C28*	<10.0	10.0	10/18/2024	ND	191	95.4	200	5.16	
EXT DRO >C28-C36	<10.0	10.0	10/18/2024	ND					

Surrogate: 1-Chlorooctane *101 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *93.5 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM
AIMEE COLE
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	10/17/2024	Sampling Date:	10/16/2024
Reported:	10/21/2024	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT 041 RECLAMATION S/	Sampling Condition:	Cool & Intact
Project Number:	03C1558463	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.204951,-103.88387		

Sample ID: SW 03 0-8 (H246356-03)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/18/2024	ND	2.27	113	2.00	1.26	
Toluene*	<0.050	0.050	10/18/2024	ND	2.34	117	2.00	0.285	
Ethylbenzene*	<0.050	0.050	10/18/2024	ND	2.36	118	2.00	1.75	
Total Xylenes*	<0.150	0.150	10/18/2024	ND	7.06	118	6.00	1.13	
Total BTEX	<0.300	0.300	10/18/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *111 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	10/18/2024	ND	432	108	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/18/2024	ND	188	93.9	200	2.34	
DRO >C10-C28*	<10.0	10.0	10/18/2024	ND	191	95.4	200	5.16	
EXT DRO >C28-C36	<10.0	10.0	10/18/2024	ND					

Surrogate: 1-Chlorooctane *71.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *64.3 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM
AIMEE COLE
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	10/17/2024	Sampling Date:	10/16/2024
Reported:	10/21/2024	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT 041 RECLAMATION S/	Sampling Condition:	Cool & Intact
Project Number:	03C1558463	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.204951,-103.88387		

Sample ID: FS 01 10 (H246356-04)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/18/2024	ND	2.27	113	2.00	1.26	
Toluene*	<0.050	0.050	10/18/2024	ND	2.34	117	2.00	0.285	
Ethylbenzene*	<0.050	0.050	10/18/2024	ND	2.36	118	2.00	1.75	
Total Xylenes*	<0.150	0.150	10/18/2024	ND	7.06	118	6.00	1.13	
Total BTEX	<0.300	0.300	10/18/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *114 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**432**	16.0	10/18/2024	ND	432	108	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/18/2024	ND	188	93.9	200	2.34	
DRO >C10-C28*	<10.0	10.0	10/18/2024	ND	191	95.4	200	5.16	
EXT DRO >C28-C36	<10.0	10.0	10/18/2024	ND					

Surrogate: 1-Chlorooctane *109 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *101 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM
AIMEE COLE
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	10/17/2024	Sampling Date:	10/16/2024
Reported:	10/21/2024	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT 041 RECLAMATION S/	Sampling Condition:	Cool & Intact
Project Number:	03C1558463	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.204951,-103.88387		

Sample ID: FS 04 6 (H246356-05)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/18/2024	ND	2.27	113	2.00	1.26	
Toluene*	<0.050	0.050	10/18/2024	ND	2.34	117	2.00	0.285	
Ethylbenzene*	<0.050	0.050	10/18/2024	ND	2.36	118	2.00	1.75	
Total Xylenes*	<0.150	0.150	10/18/2024	ND	7.06	118	6.00	1.13	
Total BTEX	<0.300	0.300	10/18/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *112 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**352**	16.0	10/18/2024	ND	432	108	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/18/2024	ND	188	93.9	200	2.34	
DRO >C10-C28*	<10.0	10.0	10/18/2024	ND	191	95.4	200	5.16	
EXT DRO >C28-C36	<10.0	10.0	10/18/2024	ND					

Surrogate: 1-Chlorooctane *93.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *84.2 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM
AIMEE COLE
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	10/17/2024	Sampling Date:	10/16/2024
Reported:	10/21/2024	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT 041 RECLAMATION S/	Sampling Condition:	Cool & Intact
Project Number:	03C1558463	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.204951,-103.88387		

Sample ID: FS 05 8 (H246356-06)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/18/2024	ND	2.27	113	2.00	1.26	
Toluene*	<0.050	0.050	10/18/2024	ND	2.34	117	2.00	0.285	
Ethylbenzene*	<0.050	0.050	10/18/2024	ND	2.36	118	2.00	1.75	
Total Xylenes*	<0.150	0.150	10/18/2024	ND	7.06	118	6.00	1.13	
Total BTEX	<0.300	0.300	10/18/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *113 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**448**	16.0	10/18/2024	ND	432	108	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/18/2024	ND	188	93.9	200	2.34	
DRO >C10-C28*	<10.0	10.0	10/18/2024	ND	191	95.4	200	5.16	
EXT DRO >C28-C36	<10.0	10.0	10/18/2024	ND					

Surrogate: 1-Chlorooctane *99.9 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *92.8 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

S-05	The surrogate recovery is outside of lab established statistical control limits but still within method limits. Data is not adversely affected.
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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC	BILL TO
Project Manager: Aimee Cole	P.O. #:
Address: 3122 National Parks Hwy	Company: XTO Energy
City: Carlsbad State: NM Zip: 88220	Attn: Amy Ruth
Phone #: 720-384-7365 Fax #:	Address: 3104 E. Green St.
Project #: 03C1558463 Project Owner:	City: Carlsbad
Project Name: 32.20495, -103.883875	State: NM Zip: 88220
Project Location: Poker Lake 041	Phone #:
Sampler Name: Mario Sarkis	Fax #:

FOR LAB USE ONLY Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	BTEX	TPH	Chlorides
H246035																		
1	SW01	0-10	C	1			✓					✓		10/16/24	1254	✓	✓	✓
2	SW02	0-6	C	1			✓					✓			1302	✓	✓	✓
3	SW03	0-8	C	1			✓					✓			1306	✓	✓	✓
4	FS01	10	C	1			✓					✓			1334	✓	✓	✓
5	FS04	6	C	1			✓					✓			1355	✓	✓	✓
6	FS05	8	C	1			✓					✓			1504	✓	✓	✓

Relinquished By:	Date: 10-17-24	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 1404		All Results are emailed. Please provide Email address:
Relinquished By:	Date:	Received By:	acole@ensolum.com/kthompson@ensolum.com/msarkis@ensolum.com
	Time:		REMARKS: API: 30-015-20933
			AFE: PA.2024.08325.EXP.01

Delivered By: (Circle One)	Observed Temp. °C 2.4	Sample Condition: Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No	CHECKED BY: (Initials)	Turnaround Time: Standard ☐ Rush ☑ 48-hr
Sampler - UPS - Bus - Other:	Corrected Temp. °C 1.8			Thermometer ID #113 Correction Factor -0.5°C -0.6

Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No — Observed Temp. °C — Corrected Temp. °C

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

CARDINAL Laboratories

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

October 23, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: POKER LAKE UNIT 041 RECLAMATION SAMPLING

Enclosed are the results of analyses for samples received by the laboratory on 10/22/24 13:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM
AIMEE COLE
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	10/22/2024	Sampling Date:	10/21/2024
Reported:	10/23/2024	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT 041 RECLAMATION S/	Sampling Condition:	Cool & Intact
Project Number:	03C1558463	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.204951,-103.88387		

Sample ID: FS 02 24 (H246429-01)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/22/2024	ND	2.12	106	2.00	7.45	
Toluene*	<0.050	0.050	10/22/2024	ND	2.03	102	2.00	5.60	
Ethylbenzene*	<0.050	0.050	10/22/2024	ND	2.04	102	2.00	4.93	
Total Xylenes*	<0.150	0.150	10/22/2024	ND	6.04	101	6.00	5.41	
Total BTEX	<0.300	0.300	10/22/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.2 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**560**	16.0	10/22/2024	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/22/2024	ND	218	109	200	3.37	
DRO >C10-C28*	<10.0	10.0	10/22/2024	ND	211	105	200	4.00	
EXT DRO >C28-C36	<10.0	10.0	10/22/2024	ND					

Surrogate: 1-Chlorooctane *93.2 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *91.1 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM
AIMEE COLE
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	10/22/2024	Sampling Date:	10/21/2024
Reported:	10/23/2024	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT 041 RECLAMATION S/	Sampling Condition:	Cool & Intact
Project Number:	03C1558463	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.204951,-103.88387		

Sample ID: FS 03 19 (H246429-02)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/22/2024	ND	2.12	106	2.00	7.45	
Toluene*	<0.050	0.050	10/22/2024	ND	2.03	102	2.00	5.60	
Ethylbenzene*	<0.050	0.050	10/22/2024	ND	2.04	102	2.00	4.93	
Total Xylenes*	<0.150	0.150	10/22/2024	ND	6.04	101	6.00	5.41	
Total BTEX	<0.300	0.300	10/22/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.5 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**560**	16.0	10/22/2024	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/22/2024	ND	218	109	200	3.37	
DRO >C10-C28*	<10.0	10.0	10/22/2024	ND	211	105	200	4.00	
EXT DRO >C28-C36	<10.0	10.0	10/22/2024	ND					

Surrogate: 1-Chlorooctane *99.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *96.3 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM
AIMEE COLE
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	10/22/2024	Sampling Date:	10/21/2024
Reported:	10/23/2024	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT 041 RECLAMATION S/	Sampling Condition:	Cool & Intact
Project Number:	03C1558463	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.204951,-103.88387		

Sample ID: SW 01 10-16 (H246429-03)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/22/2024	ND	2.12	106	2.00	7.45	
Toluene*	<0.050	0.050	10/22/2024	ND	2.03	102	2.00	5.60	
Ethylbenzene*	<0.050	0.050	10/22/2024	ND	2.04	102	2.00	4.93	
Total Xylenes*	<0.150	0.150	10/22/2024	ND	6.04	101	6.00	5.41	
Total BTEX	<0.300	0.300	10/22/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.3 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**400**	16.0	10/22/2024	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/22/2024	ND	218	109	200	3.37	
DRO >C10-C28*	<10.0	10.0	10/22/2024	ND	211	105	200	4.00	
EXT DRO >C28-C36	<10.0	10.0	10/22/2024	ND					

Surrogate: 1-Chlorooctane *98.4 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *95.3 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM
AIMEE COLE
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	10/22/2024	Sampling Date:	10/21/2024
Reported:	10/23/2024	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT 041 RECLAMATION S/	Sampling Condition:	Cool & Intact
Project Number:	03C1558463	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.204951,-103.88387		

Sample ID: SW 01 16-24 (H246429-04)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/22/2024	ND	2.12	106	2.00	7.45	
Toluene*	<0.050	0.050	10/22/2024	ND	2.03	102	2.00	5.60	
Ethylbenzene*	<0.050	0.050	10/22/2024	ND	2.04	102	2.00	4.93	
Total Xylenes*	<0.150	0.150	10/22/2024	ND	6.04	101	6.00	5.41	
Total BTEX	<0.300	0.300	10/22/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *95.4 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**400**	16.0	10/22/2024	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/22/2024	ND	218	109	200	3.37	
DRO >C10-C28*	<10.0	10.0	10/22/2024	ND	211	105	200	4.00	
EXT DRO >C28-C36	<10.0	10.0	10/22/2024	ND					

Surrogate: 1-Chlorooctane *104 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *98.8 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories
101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC
Project Manager: Aimee Cole
Address: 3122 National Parks Hwy
City: Carlsbad State: NM Zip: 88220
Phone #: 720-384-7365 Fax #:
Project #: 03C1558463 Project Owner:
Project Name: Poker Lake Unit 041
Project Location: 32.20495, -103.88387
Sampler Name: Mario Sarkis

BILL TO
P.O. #:
Company: XTO Energy
Attn: Amy Ruth
Address: 3104 E. Green St.
City: Carlsbad
State: NM Zip: 88220
Phone #:
Fax #:

FOR LAB USE ONLY Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	ANALYSIS REQUEST: BTEX	TPH	Chlorides
H246429																		
1	FS02	24	C	1			✓					✓		10/21/24	1404	✓	✓	✓
2	FS03	19	C	1			✓					✓			1423	✓	✓	✓
3	SW01	10-16	C	1			✓					✓			1449	✓	✓	✓
4	SW01	16-24	C	1			✓					✓			1515	✓	✓	✓

Relinquished By: Date: 10-22-24 Time: 1330 Received By: Tamara Oldaker
Relinquished By: Date: Time: Received By:

Verbal Result: ☐ Yes ☐ No Add'l Phone #:
All Results are emailed. Please provide Email address:
acole@ensolum.com/kthompson@ensolum.com/msarkis@ensolum.com
REMARKS: API: 30-015-20933
AFE: PA.2024.08325.Exp.01

Delivered By: (Circle One) Sampler - UPS - Bus - Other:
Observed Temp. °C 0.3 Corrected Temp. °C 0.3
Sample Condition: Cool ☑ Yes ☐ No Intact ☑ Yes ☐ No
CHECKED BY: (Initials) TO

Turnaround Time: Standard ☐ Rush ☑ #140 24-hr
Thermometer ID #113 Correction Factor -0.5°C
Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No
Observed Temp. °C Corrected Temp. °C
TO 10/22/24

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

FORM-006 R 3.2 10/07/21

CARDINAL Laboratories

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

November 25, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: POKER LAKE UNIT 41

Enclosed are the results of analyses for samples received by the laboratory on 11/21/24 15:13.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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,

Mike Snyder For Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM
AIMEE COLE
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	11/21/2024	Sampling Date:	11/21/2024
Reported:	11/25/2024	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT 41	Sampling Condition:	Cool & Intact
Project Number:	03E1558463	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.204971-103.884031		

Sample ID: BF 01 0.5' (H247153-01)

Chloride, SM4500Cl-B mg/kg **Analyzed By: CT**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**160**	16.0	11/25/2024	ND	448	112	400	3.64	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/22/2024	ND	211	106	200	3.12	
DRO >C10-C28*	<10.0	10.0	11/22/2024	ND	193	96.6	200	4.50	
EXT DRO >C28-C36	<10.0	10.0	11/22/2024	ND					

Surrogate: 1-Chlorooctane	*77.1 %*	*48.2-134*
Surrogate: 1-Chlorooctadecane	*69.2 %*	*49.1-148*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
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

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Ensolum LLC
Project Manager:	Aimee Cole
Address:	3122 National Parks Hwy
City:	Carlsbad State: NM Zip: 88220
Phone #:	720-384-7365 Fax #:
Project #:	03E1558463 Project Owner:
Project Name:	Poker Lake Unit 41
Project Location:	32.204971, -103.884031
Sampler Name:	Azad Voidani

BILL TO

P.O. #:	
Company:	XTO Energy
Attn:	Amy Ruth
Address:	3104 Greene St
City:	Carlsbad
State:	NM Zip: 88220
Phone #:	
Fax #:	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST		
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	BTEX	TPH	CHLORIDE
H247153-1	BF01 0.5	G	1			✓					✓		11-21-24	1322		✓	✓

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: 11-21-24	Received By:	
Relinquished By:	Time: 1513	Received By:	
	Date:		
	Time:		

Verbal Result: ☐ Yes ☒ No Add'l Phone #:
All Results are emailed. Please provide Email address:
Tmorrisse@ensolum.com, Acole@ensolum.com
REMARKS:
API: 30-015-20933 AFE: PA.2024.08325.EXP.01

Delivered By: (Circle One)	Observed Temp. °C 5.4	Sample Condition Cool Intact	CHECKED BY: (Initials)	Turnaround Time: Standard ☐ Rush ☒
Sampler - UPS - Bus - Other:	Corrected Temp. °C 4.8	☒ Yes ☒ Yes ☐ No ☐ No	AD	Thermometer ID #140 Correction Factor -0.6°C 48 TAT

Bacteria (only) Sample Condition Cool Intact Observed Temp. °C
☐ Yes ☐ Yes
☐ No ☐ No Corrected Temp. °C

FORM-006 R 3.3 08/05/24

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

ENSOLUM

APPENDIX C

January 17, 2019 *Deferral Request*

Souder, Miller & Associates♦201 S. Halagueno St.♦Carlsbad, NM 88220
(575) 689-8801

January 17, 2019

#5E26784-BG14

NMOCD District 2
Mr. Mike Bratcher
811 S First St.
Artesia, New Mexico 88210

SUBJECT: SOIL REMEDIATION CLOSURE REPORT FOR THE POKER LAKE UNIT PLU #041 RELEASE (2RP-5052), EDDY COUNTY, NEW MEXICO

Dear Mr. Bratcher:

On behalf of XTO Energy, Inc. (XTO), Souder, Miller & Associates (SMA) has prepared this Soil Remediation and Closure Report that describes the remediation of the release site located at the Poker Lake Unit (PLU) #041 site. The site is in UNIT G, SECTION 21, TOWNSHIP 24S, RANGE 30E, Eddy County, New Mexico, on land owned by the Bureau of Land Management (BLM). Figure 1 illustrates the vicinity and location of the site.

Table 1, below, summarizes information regarding the release.

Table 1: Release Information and Closure Criteria	
Name	Poker Lake Unit (PLU) #041
Company	XTO Energy, Inc.
Incident Number	2RP-5052
API Number	30-015-20933
Location	32.20495, -103.88387
Estimated Date of Release	10/27/2018
Date Reported to NMOCD	11/9/2018
Land Owner	BLM
Reported To	Mike Bratcher (NMOCD), Shelly Tucker (BLM)
Source of Release	Wellhead
Released Material	Oil and produced water
Released Volume	~5.5 bbl oil and produced water
Recovered Volume	~5.5 bbl oil and produced water
Net Release	~5.5 bbl oil and produced water
NMOCD Closure Criteria	>100 feet to groundwater, <500 feet to livestock watering well
SMA Response Dates	11/6/2018 – 11/9/2018 and 12/6/2018

1.0 Background

On October 27, 2018, a release was discovered at the PLU #041 wellhead, resulting in an estimated release of 5.5 barrels of oil and produced water due to a stuffing box packing failure. Oil and produced water flowed on the south side of the pumpjack and then west-northwest toward a dirt road that passes through the well pad area. Initial response activities included recovering free liquids via a vacuum truck and covering the remaining impacted area with nearby soils to prevent cows from tracking through the impacted area.

Figure 1 illustrates the site vicinity and wellhead protection map, and Figure 2 illustrates the site location. The initial C-141 form is included in Appendix A. Figure 3 shows the approximate impacted area from the release.

2.0 Site Information and Closure Criteria

The PLU #041 is located approximately 11 miles east of Malaga, New Mexico on BLM land.

Depth to groundwater in the area is estimated to be approximately 250 feet below grade surface (bgs), based on a nearby New Mexico Office of the State Engineer (NMOSE)–registered livestock water well, which is located 170 feet to the west-northwest.

The nearest known water source within ½-mile of the location is a livestock watering well (C-03960-POD1), according to the NMOSE online water well database. The livestock watering well pumps water to a nearby stock tank. These features are shown on Figure 2.

The nearest surface water is an unnamed arroyo located approximately 1,780 feet to the south.

Based on this information, the applicable NMOCD Closure Criteria for this site is set accordingly by the stock watering well located 170 feet northwest of the pumping unit. Additionally, the BLM has requested that chlorides are delineated to 600 mg/Kg, regardless of depth to groundwater. The site was restored to meet the standards of Table I of 19.15.29.12 NMAC and BLM's closure criteria, with the exception of the area immediately south of the wellhead (sample area SC-12), which is detailed in Section 4.0.

The attached Table 2 demonstrates the Closure Criteria justification for this location. Pertinent well data is attached in Appendix B.

3.0 Release Characterization Activities

From November 6 – 9 and December 6, 2018, SMA personnel were on site in response to the release associated with the PLU #041. SMA performed site delineation activities by collecting soil samples from potholes excavated around the release site and throughout the visibly surface-stained area using a backhoe operated by a contractor. Samples were collected to a maximum depth of 8.5 feet below grade surface (bgs).

Soil samples were field-screened for chloride using an electric conductivity (EC) meter under EPA Method 4500 and for hydrocarbon impacts using a Dexsil® PetroFLAG TPH Analyzer.

Once delineation was complete, SMA directed excavation of the impacted area using a backhoe and trackhoe. Samples continued to be field-screened to ensure the extent of the contamination was reached and removed. Photos of the excavation are shown in Appendix C, and field screening results are included in Appendix D.

4.0 Soil Remediation Summary

On November 11 and December 6, 2018, SMA collected confirmation samples from the excavation, which measured approximately 120 feet long and 58 feet wide. Confirmation samples were comprised of 5-point composites from the walls (SC-2 through SC-5, SC-8 through SC-14), and base (SC-1, SC-6, SC-7, SC-10 and SC-11) of the excavation, with each composite sample representing 200 square feet. Note that samples SC-10 and SC-11 are a composite of both the walls and base within their respective area. A total of 14 composite samples were collected for laboratory analysis for benzene and total BTEX (benzene, toluene, ethylbenzene and total xylenes) using EPA Method 8021B; MRO, DRO, and GRO (motor, diesel and gasoline range organics, respectively, also referred to as total TPH) by EPA Method 8015D; and total chlorides using EPA Method 300.0. Laboratory samples were placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico.

Laboratory results confirm that contamination was removed from all locations, with the exception of SC-12, which remains above the closure level for chlorides at 1,100 mg/Kg. However, further excavation could not be completed at SC-12 due to its proximity to the pumpjack unit. SMA recommends deferring the area of SC-12 until site plugging and abandonment.

Contaminated soils were removed from location and the excavation was filled with clean backfill and returned to previous surface grade. The contaminated soils were transported for proper disposal at an NMOCD-permitted disposal facility. Approximately 700 cubic yards of soil was impacted and hauled off for disposal.

Locations for samples SC-1 through SC-14 are depicted on Figure 3, and a summary of the laboratory results is displayed in Table 3. Laboratory reports are included in Appendix E.

5.0 Scope and Limitations

The scope of our services consisted of the performance of assessment sampling, verification of release stabilization, regulatory liaison, remediation, and preparation of this closure report. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas releases in the Permian Basin in New Mexico.

If there are any questions regarding this report, please contact either Austin Weyant at 575-689-8801 or Stephanie Hinds or Shawna Chubbuck at 505-325-7535.

Submitted by:
SOUDER, MILLER & ASSOCIATES

Stephanie Hinds
Staff EIT II

Reviewed by:

Shawna Chubbuck
Senior Scientist

ATTACHMENTS:

Figures:

Figure 1: Vicinity and Wellhead Protection Map
Figure 2: Site Map
Figure 3: Sample Location Map

Tables:

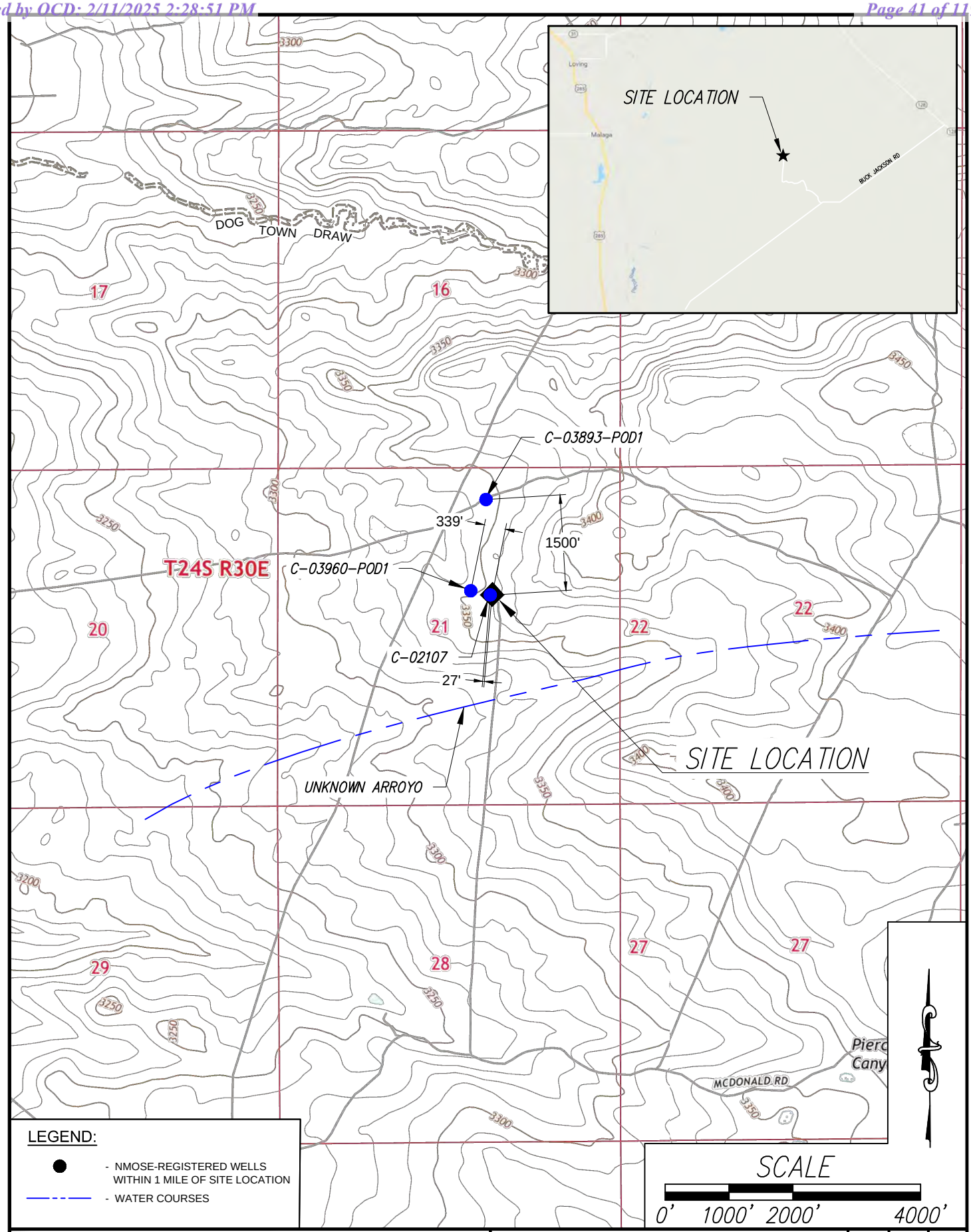
Table 2: NMOCD Remediation Closure Criteria
Table 3: Analytical Results Summary

Appendices:

Appendix A: NMOCD Form C-141 Initial and Final
Appendix B: NMOSE Wells Report
Appendix C: Photolog
Appendix D: Field Notes
Appendix E: Laboratory Analytical Reports

FIGURE 1

VICINITY AND WELLHEAD PROTECTION MAP



SMA
Engineering
Environmental
Surveying
Souder, Miller & Associates
401 West Broadway Avenue
Farmington, NM 87401-5907
Phone (505) 325-7535 Toll-Free (800) 519-0098 Fax (505) 326-0045
www.soudermiller.com
Serving the Southwest & Rocky Mountains

XTO EDDY COUNTY, NEW MEXICO

VICINITY and WELLHEAD PROTECTION MAP
PLU WELL #041
SECTION 21, T24S, R30E

Designed	Drawn	Checked
SAH	DJB	RSA

Date: January 2019
Scale: Horiz: 1" = 2000' Vert: NA
Project No: 5E26784
FIGURE 1

W:\5-XTO Carlsbad (5E26784)\BG14 - PLU Well #41\CAD-Figures\5E26784 PLU Well #41.dwg, DJB, 1/16/2019 10:18 AM

FIGURE 2
SITE MAP

THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED

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XTO

EDDY COUNTY, NEW MEXICO

SITE MAP
PLU WELL #041
SECTION 21, T24S, R30E

Designed	Drawn	Checked
SAH	DJB	RSA

Date: January 2019

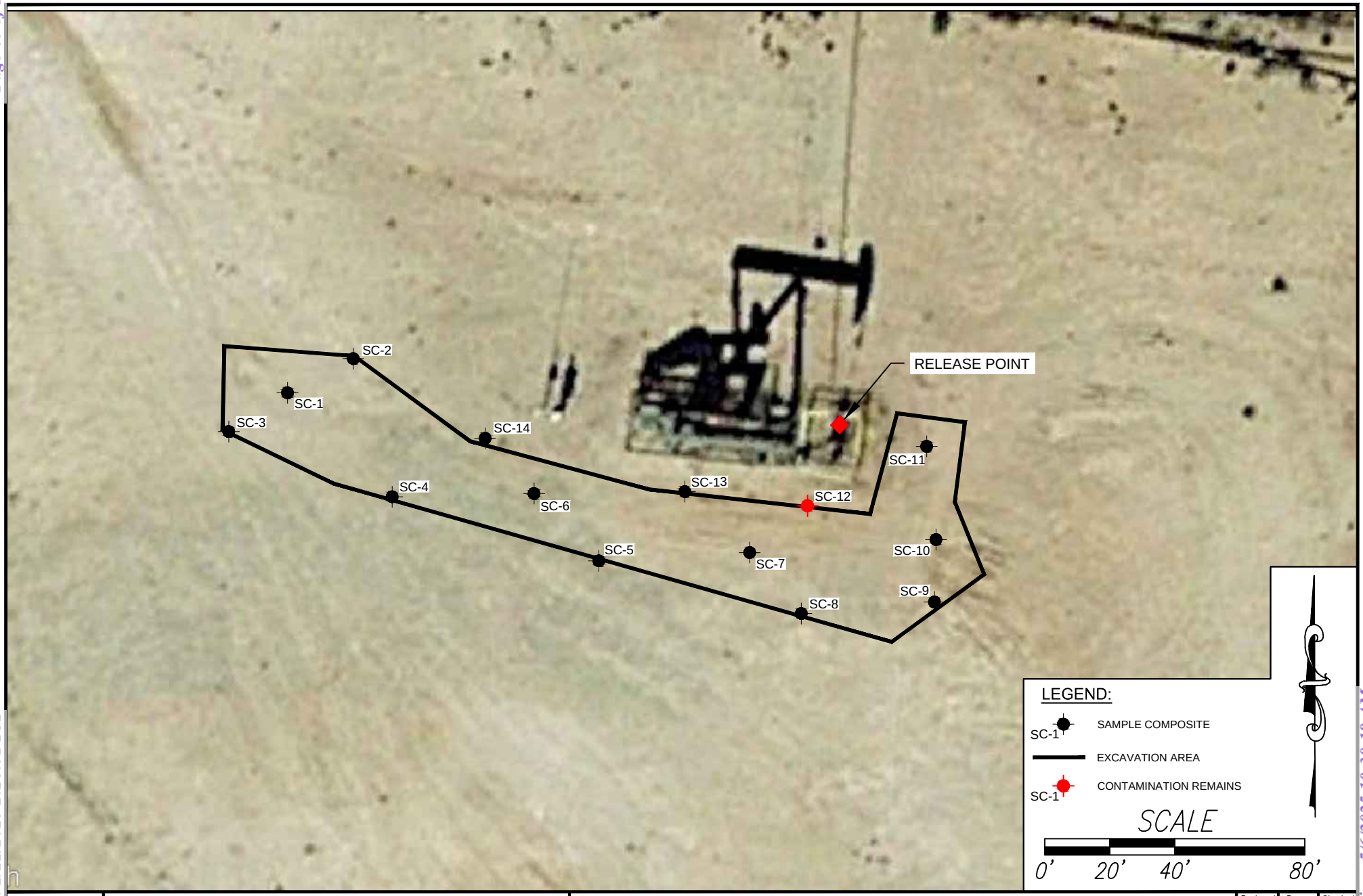
Scale: Horiz: 1"=150'
Vert: N/A

Project No: 5E26784

Figure 2

W:\5-XTO Carlsbad (5E26784)\BG14 - PLU Well #41\CAD-Figures\5E26784 PLU Well #41.dwg, DJB, 1/8/2019 10:02 AM

FIGURE 3
SAMPLE LOCATION MAP



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XTO

EDDY COUNTY, NEW MEXICO

SAMPLE LOCATION MAP
PLU WELL #041
SECTION 21, T24S, R30E

Designed	Drawn	Checked
SAH	DJB	RSA

Date: January 2019

Scale: Horiz: 1"=20'
Vert: N/A

Project No: 5E26784

Figure 3

W:\5-XTO Carlsbad (5E26784)\BG14 - PLU Well #41\CAD-Figures\5E26784 PLU Well #41.dwg, DJB, 1/8/2019 10:04 AM

TABLE 2

NMOCD REMEDIATION CLOSURE CRITERIA

Table 2. NMOCD Remediation Closure Criteria

PLU #041

Site Information (19.15.29.11.A(2, 3, and 4) NMAC)		Source/Notes
Depth to Groundwater (feet bgs)	250 ft	NMOSE online water well database, C-03960-POD1 located ~170 feet to WNW
Hortizontal Distance From All Water Sources Within 1/2 Mile (ft)	170 ft	NMOSE online water well database, livestock watering well C-03960-POD1
Hortizontal Distance to Nearest Significant Watercourse (ft)	1780 ft	Google Earth Pro and Pierce Canyon Quad 7.5-min USGS Topo Map

Closure Criteria (19.15.29.12.B(4) and Table 1 NMAC)						
Depth to Groundwater		**Closure Criteria (units in mg/kg)**				
		Chloride *numerical limit or background, whichever is greater	**TPH**	**GRO + DRO**	**BTEX**	**Benzene**
< 50' BGS		600	100		50	10
51' to 100'		10000	2500	1000	50	10
>100'	yes	20000	2500	1000	50	10
Surface Water	**yes or no**	**if yes, then**				
<300' from continuously flowing watercourse or other significant watercourse?	no	600	100		50	10
<200' from lakebed, sinkhole or playa lake?	no					
Water Well or Water Source						
<500 feet from spring or a private, domestic fresh water well used by less than 5 households for domestic or stock watering purposes?	yes					
<1000' from fresh water well or spring?	no					
Human and Other Areas						
<300' from an occupied permanent residence, school, hospital, institution or church?	no					
within incorporated municipal boundaries or within a defined municipal fresh water well field?	no					
<100' from wetland?	no					
within area overlying a subsurface mine	no					
within an unstable area?	no					
within a 100-year floodplain?	no					

SMA #

TABLE 3
ANALYTICAL RESULTS SUMMARY

Table 3. Analytical Results Summary

PLU #041

Sample Number on	Sample Date	Depth ft bgs	BTEX mg/Kg	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	MRO mg/Kg	Total TPH mg/Kg	Cl- mg/Kg
NMOCD Closure Criteria			50	10				100	600
BLM Remediation Request Standard									600
SC-1	11/9/2018	2-3	<0.22	<0.024	<4.9	<9.5	<48	<62.4	610
	12/6/2018	3-3.5	--	--	--	--	--	--	<30
SC-2	11/9/2018	0-3	<0.22	<0.024	<4.8	63	70	133	630
	12/6/2018	0-3.5	--	--	<4.7	<9.5	<47	<61.2	<30
SC-3	11/9/2018	0-3	<0.21	<0.024	<4.7	40	63	103	410
	12/6/2018	0-3.5	--	--	<4.8	<9.7	<48	<62.5	--
SC-4	11/9/2018	0-6	<0.22	<0.024	<4.9	170	87	257	450
	12/6/2018	0-7	--	--	<4.8	<9.7	<48	<62.5	--
SC-5	11/9/2018	0-6	<0.21	<0.023	<4.6	<9.9	<49	<63.5	200
SC-6	11/9/2018	6-8	<0.22	<0.025	<4.9	1200	380	1580	290
	12/6/2018	6-8.5	--	--	<5.0	<9.8	<49	<63.8	--
SC-7	11/9/2018	6-8	<0.22	<0.025	<4.9	<10	<50	<64.9	1200
	12/6/2018	6-8.5	--	--	--	--	--	--	<30
SC-8	11/9/2018	0-6	<0.22	<0.024	<4.8	<9.8	<49	<63.6	430
SC-9	11/9/2018	0-8	<0.22	<0.024	<4.9	46	<49	46	<30
SC-10	11/9/2018	0-8	<0.22	<0.025	<5.0	<9.9	<50	<64.9	<30
SC-11	11/9/2018	0-3	<0.22	<0.024	<4.8	<9.5	<47	<61.3	720
	12/6/2018	0-3.5	--	--	--	--	--	--	<30
SC-12	11/9/2018	0-8	<0.22	<0.024	<4.9	31	<49	31	1000
	12/6/2018	0-8.5	--	--	--	--	--	--	1100
SC-13	11/9/2018	0-8	<0.22	<0.025	<4.9	<9.8	<49	<63.7	530
SC-14	11/9/2018	0-8	<0.22	<0.024	<4.8	890	770	1660	260
	12/6/2018	0-8.5	--	--	<5.0	<9.8	<49	<63.8	--

SC: sample composite

APPENDIX A
NMOCD FORM C-141
INITIAL AND FINAL

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 Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NAB1832354684
District RP	2RP-5052
Facility ID	
Application ID	pAB1832354098

Release Notification

Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Kyle Littrell	Contact Telephone 432-221-7331
Contact email Kyle_Littrell@xtoenergy.com	Incident # *(assigned by OCD)* NAB1832354684
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.20495 Longitude -103.883872

(NAD 83 in decimal degrees to 5 decimal places)

Site Name Poker Lake Unit #041	Site Type Production Well
Date Release Discovered 10/27/2018	API# *(if applicable)* 30-015-20933

Unit Letter	Section	Township	Range	County
G	~~214 barrels~~ S 21 AB	24S	30E	Eddy

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (*Name:* BLM)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☒ Crude Oil	Volume Released (bbls) 0.1	Volume Recovered (bbls) <0.1
☒ Produced Water	Volume Released (bbls) 5.4	Volume Recovered (bbls) 4.9
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

Fluids were released from the well head due to a stuffing box packing failure. A vacuum truck recovered free standing fluids. The packing was replaced and the well was returned to production.

State of New Mexico
Oil Conservation Division

Incident ID	NAB1832354684
District RP	2RP-5052
Facility ID	
Application ID	pAB1832354098

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release? N/A
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? N/A	

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.
- ☒ The impacted area has been secured to protect human health and the environment.
- ☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- ☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

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

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: Kyle Littrell Title: SH&E Coordinator

Signature: [signature] Date: 11-9-18

email: Kyle_Littrell@xtoenergy.com Telephone: 432-221-7331

OCD Only

Received by: [signature] Date: 11/19/2018

State of New Mexico
Oil Conservation Division

Incident ID	NAB1832354684
District RP	2RP-5052
Facility ID	
Application ID	pAB1832354098

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

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	NAB1832354654
District RP	2RP-5052
Facility ID	
Application ID	pAB1832354098

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: Kyle Littrell Title: SH&E Coordinator

Signature: Date: 11-9-18

email: Kyle_Littrell@xtoenergy.com Telephone: 432-221-7331

OCD Only

Received by: Date: 11/19/2018

State of New Mexico
Oil Conservation Division

Incident ID	NAB1832354684
District RP	2RP-5052
Facility ID	
Application ID	pAB1832354098

Remediation Plan

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

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

Not applicable per NMAC 19.159.29.11(A). Site was remediated within 90 days of reported release. See attached Closure Report.

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

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

Deferral for sample area SC-12 (Figure 3 of Closure Report).

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: Kyle Littrell Title: SH&E Coordinator

Signature: Date: 1-22-19

email: Kyle_Littrell@xtoenergy.com Telephone: 432-221-7331

OCD Only

Received by: Victoria Venegas Date: 01/22/2019

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

Signature: Date: 02/15/2019

State of New Mexico
Oil Conservation Division

Incident ID	NAB1832354684
District RP	2RP-5052
Facility ID	
Application ID	pAB1832354098

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.***

[x] A scaled site and sampling diagram as described in 19.15.29.11 NMAC

[x] 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)

[x] Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

[x] 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: Kyle Littrell Title: SH&E Coordinator

Signature: Kyle Littrell Date: 1-22-19

email: Kyle_Littrell@xtoenergy.com Telephone: 432-221-7331

OCD Only

Received by: Victoria Venegas Date: 01/22/2019

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: _____

Site deferred due to contamination left in place at sample point SC-12

APPENDIX B
NMOSE WELLS REPORT

New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

(acre ft per annum)

(R=POD has been replaced and no longer serves this file, C=the file is closed)

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

(NAD83 UTM in meters)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Well Tag	Code	Grant	Source	q q q 64 16 4	Sec	Tws	Rng	X	Y	Distance
C 03960	C	STK	3	BUREAU OF LAND MANAGEMENT	ED	C 03960 POD1				Shallow	1 3 2	21	24S	30E	605061	3563712	240
C 02107	C	DOL	0	M & M CATTLE CO.	ED	C 02107					3 2	21	24S	30E	605174	3563706*	297
C 03893	CUB	CPS	0	DARRELL CRASS DRILLING COMPANY	ED	C 03893 POD1			NON		1 1 2	21	24S	30E	605162	3564162	698

Record Count: 3

UTMNAD83 Radius Search (in meters):

Easting (X): 604967 **Northing (Y):** 3563492 **Radius:** 1600

Sorted by: Distance

***UTM location was derived from PLSS - see Help**

APPENDIX C
PHOTOLOG

Site Photographs

PLU #041 Site Excavation and Remediation

Photo 1. Pumpjack unit. Impacted soils located left of pumpjack and extending in direction of powerline.

Photo 2. Source of release.

Photo 3. Impacted soils extending northwest from pumpjack.

Photo 4. Delineation activities showing pothole locations.

Photo 5. Beginning excavation adjacent to pumpjack.

Photo 6. Excavation activities. Note exposed electrical line in center of photo.

Photo 7. Excavation area.

Photo 8. Scraping the walls for samples SC-12 and SC-13.

Photo 9. Excavation secured using 3-wire fencing.

APPENDIX D
FIELD NOTES

SUBJECT PLU Well 041 PROJECT PAGE

CLIENT XTO DATE 11/6/18 - 11/9/18 BY S. Hinds

CHECKED BY

11/6/2018

8:00 - onsite

8:15 - Sierra onsite. JSA, go over sampling strategy. Appears to be an electrical line running directly down spill path.

8:40 - Begin delineating. Determine depth and step out.
Delineation using a backhoe, potholing down 3-5-7-9'

Very sandy soils. Contamination mostly penetrated straight down, but slight spreading.

13:30 - Placing white pin flags marking excavation boundary and depth.
Told crew to slope and I'll have fencing tomorrow. They will place traffic cones at end of today.

15:30 - Arrive SMA office.
Purchase 3-strand wire (~1000') and 10 stakes.

11/7/2018

12:15 - onsite. Norman excavating w/ small excavator. Going down line of spill path

14:00 - exposing electrical line.

17:00 - put up fencing and depart site.

11/8/2018

10:40 - onsite. Checking excavation. Pulling composite samples to verify clean.

13:00 - off-site

11/9/2018

9:20 - onsite.
10:20 - begin sampling. No NMOCD.
11:00 - offsite

Field Screening Form

Location Name	Date
XTO - PLU Well 041	EC 11-06-2018

Location Name	Description	Depth (Feet BGS)	Time Collected	~~PID~~ Reading (ppm)	Time Screened	5/~~8~~7 PetroFLAG Reading	Time Screened
* PH1-1	sandy, mod. odor/staining	1	8:49	2.15 MS	13:00	2513 / 1841	9:13
PH1-3	sandy, mild odor	3	8:52	—	—	535 / 386	9:14
PH1-6.5	sandy, no odor or staining detected	6.5	8:55	—	—	302 / 224	9:15
* PH1-8	sandy, lithology top of caliche layer	8	9:27	1.14 MS	13:02	107 / —	9:40
PH2-3	sandy	3	9:45	—	—	73 / —	—
PH3-3	" "	3	9:50	—	—	89 / —	—
PH3-5	" "	5	9:52	—	—	100 / —	—
PH4-3	" "	3	9:58	—	—	59 / —	—
PH4-5	" "	5	10:00	—	—	83 / —	—
PH5-3	" "	3	10:03	—	—	591 / —	—
PH5-5	" "	5	10:05	—	—	69 / —	—
PH5-7	" "	7	10:07	—	—	55 / —	—

Notes: PH- pothole w/ excavator
Petroflag 5- DRO reading
7- MRO reading

SMA

(2)

Field Screening Form

Location Name				Date			
				EC 11-6-2018			
Location Name	Description	Depth (Feet BGS)	Time Collected	~~PID~~ MS Reading (ppm)	Time Screened	(5/7) ~~PetroFLAG~~ Reading	Time Screened
* PH6-4.5	Sandy	4.5	10:14	0.09	13:04	53 / —	13:21
PH 7-3	" "	3	10:19	—	—	79 / -	13:22
PH 7-6	" "	6	10:21	—	—	70 / —	13:23
PH 8-3	" "	3	10:26	—	—	48 / —	13:24
PH 8-6	" "	6	10:28	—	—	60 / —	13:25
* PH 9-3.5	" "	3.5	10:32	0.29	13:06	59 / -	13:26
PH 10-3	" "	3	10:36	—	—	912 / —	13:41
* PH 11-3	" "	3	10:45	0.34	13:08	88 / —	13:42
PH 12-3	" "	3	10:50	—	—	76 / —	13:43
PH 13-3	" "	3	10:55	—	—	85 / —	13:51
PH 14-3	" "	3	11:00	—	—	57 / —	13:52
PH 10-5	" "	5	10:37	—	—	1411 / —	13:53

Notes:

SMA

(3)

Field Screening Form

Location Name				Date: EC ~~ppm~~/cm			
Location Name	Description	Depth (Feet BGS)	Time Collected	~~PID~~ Reading ~~(ppm)~~	Time Screened	(5) PetroFLAG Reading	Time Screened
PH10-7	Sandy	7	10:38	—	—	1972	12:40
PH10-8	" "	8	10:39	—	—	269	12:52
* PH10-9	" "	9	10:40	0.25	13:10	59	12:55
PH9-5	" "	5	10:34	3 —	—	—	—
PH11-5	" "	5	10:46	—	—	—	—
Blank	" "	—	12:00	(MS) 75	12:22	—	—
BG-1	" "	0	12:10	(MS) 81.5	12:24	—	—
11/08/2018 SC-1	" " base, east side	2-3	11:00	0.37	11:18	—	—
SC-2	" S-SW wall, east side	0-3	11:03	0.36	11:18	—	—
SC-3	" " N, NE wall, east side	0-3	11:06	0.28	11:19	—	—
SC-4	" " South wall	0-6	11:09	0.31	11:19	—	—
SC-5	" " South wall	0-6	11:12	0.21	11:20	—	—

Notes: SC- sample composite (5 pt)

SMA

(4)

Field Screening Form

Location Name				Date			
				EC			
Location Name	Description	Depth (Feet BGS)	Time Collected	~~PID~~ Reading (ppm)	Time Screened	PetroFLAG Reading	Time Screened
SC-6	Sandy base	6-8	11:39	0.31	11:52	—	—
SC-7	Sandy, some caliche, base	6-8	11:42	0.46	11:54	—	—
SC-8	" " S wall	0-6	11:45	0.24	11:56	—	—
SC-9	SE wall + base	0-8	12:18	0.09	12:33	—	—
SC-10	E wall + base	0-8	12:21	0.09	12:35	—	—
SC-11	N wall + base	0-3	12:25	0.41	12:36	—	—
11-9-18							
SC-1	base, east side	2-3	10:20	—	—	—	—
SC-2	S-SW wall	0-3	10:22	—	—	—	—
SC-3	N-NE wall	0-3	10:25	—	—	—	—
SC-4	S wall	0-6	10:27	—	—	—	—
SC-5	S wall	0-6	10:30	—	—	—	—
SC-6	base	6-8	10:32	—	—	—	—

Notes:

* SC-1 through SC-11 re-sampled for confirmation sampling.
* SC-12 through SC-14 also for confirmation sampling
* All confirmation samples were 5-pt composites

SMA

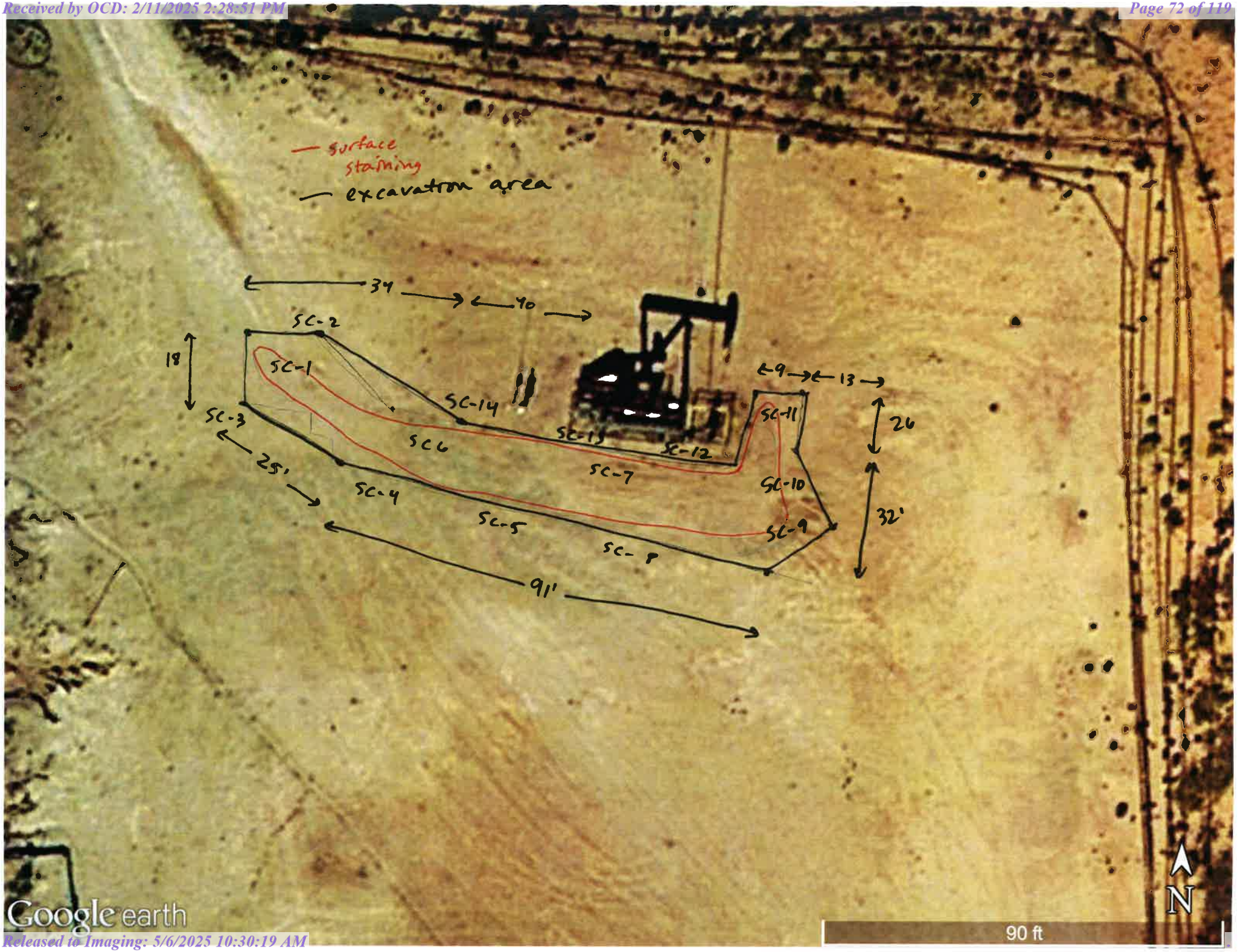
(5)

Field Screening Form

Location Name				Date			
Location Name	Description	Depth (Feet BGS)	Time Collected	PID Reading (ppm)	Time Screened	PetroFLAG Reading	Time Screened
SC-7	base	6-8	10:35	—	—	—	—
SC-8	S wall	0-6	10:37	—	—	—	—
SC-9	SE wall + base	0-8	10:40	—	—	—	—
SC-10	E wall + base	0-8	10:42	—	—	—	—
SC-11	N wall + base	0-3	10:44	—	—	—	—
SC-12	N wall	0-8	10:47	—	—	—	—
SC-13	N wall	0-8	10:50	—	—	—	—
SC-14	N wall	0-8	10:52	—	—	—	—

Notes:

SMA


surface staining
excavation area
34
40
18
SC-2
SC-1
SC-14
SC-3
SC-6
25'
SC-4
SC-5
SC-8
91'
SC-13
SC-12
SC-7
9
13
SC-11
26
SC-10
SC-9
32'
N
Google earth
90 ft

Field Screening Form

Location Name: PLU 41

Date: 12/6/2018

Location Name	Description	Depth (Feet BGS)	Time Collected	~~PID~~ EC Reading (~~ppm~~) mS	Time Screened	DRO PetroFLAG Reading	Time Screened	°C
SC-12	—	—	10:40	382	—	—	—	20.3
SC-11	—	—	10:48	165	—	—	—	19.5
SC-14	some staining	0-8	11:05	—	—	555	11:36	
SC-1	—	—	11:20	110	—	—	—	19.5
SC-2	—	—	11:24	111	—	62	11:42	19.5
SC-3	—	—	11:30	—	—	59	11:45	
SC-4	—	—	11:50	—	—	42	12:10	
SC-14	some staining old spill? along power cord	0-8	12:20	—	—	156	12:41	
SC-6	caliche	10	12:29	—	—	89	12:52	
SC-7	caliche	10	12:39	789	—	[illegible]	—	18.2
SC-14	wall	0-8	12:58	—	—	51	13:24	
SC-7	caliche	11	13:04	210	—	[illegible]	[illegible]	18.9

Notes:
~100 yds excavated, excavation sloped to stabilize pumpjack.

SMA

APPENDIX E

LABORATORY ANALYTICAL REPORTS

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 26, 2018

Stephanie Hinds
Souder, Miller and Associates
401 W. Broadway
Farmington, NM 87401
TEL: (505) 325-5667
FAX (505) 327-1496

RE: PLU 41 OrderNo.: 1811709

Dear Stephanie Hinds:

Hall Environmental Analysis Laboratory received 14 sample(s) on 11/14/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1811709**
Date Reported: **11/26/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: SC-1
Project: PLU 41
Collection Date: 11/9/2018 10:20:00 AM
Lab ID: 1811709-001 **Matrix:** SOIL **Received Date:** 11/14/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	610	30		mg/Kg	20	11/15/2018 4:11:04 PM	41557
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	11/19/2018 11:07:49 AM	41566
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/19/2018 11:07:49 AM	41566
Surr: DNOP	106	50.6-138		%Rec	1	11/19/2018 11:07:49 AM	41566
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/15/2018 12:44:20 PM	41539
Surr: BFB	102	73.8-119		%Rec	1	11/15/2018 12:44:20 PM	41539
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	11/15/2018 12:44:20 PM	41539
Toluene	ND	0.049		mg/Kg	1	11/15/2018 12:44:20 PM	41539
Ethylbenzene	ND	0.049		mg/Kg	1	11/15/2018 12:44:20 PM	41539
Xylenes, Total	ND	0.098		mg/Kg	1	11/15/2018 12:44:20 PM	41539
Surr: 4-Bromofluorobenzene	115	80-120		%Rec	1	11/15/2018 12:44:20 PM	41539

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1811709**
Date Reported: **11/26/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: SC-2
Project: PLU 41
Collection Date: 11/9/2018 10:22:00 AM
Lab ID: 1811709-002 **Matrix:** SOIL **Received Date:** 11/14/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	630	30		mg/Kg	20	11/15/2018 4:23:29 PM	41557
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	63	9.2		mg/Kg	1	11/19/2018 11:32:11 AM	41566
Motor Oil Range Organics (MRO)	70	46		mg/Kg	1	11/19/2018 11:32:11 AM	41566
Surr: DNOP	118	50.6-138		%Rec	1	11/19/2018 11:32:11 AM	41566
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/15/2018 1:54:28 PM	41539
Surr: BFB	100	73.8-119		%Rec	1	11/15/2018 1:54:28 PM	41539
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	11/15/2018 1:54:28 PM	41539
Toluene	ND	0.048		mg/Kg	1	11/15/2018 1:54:28 PM	41539
Ethylbenzene	ND	0.048		mg/Kg	1	11/15/2018 1:54:28 PM	41539
Xylenes, Total	ND	0.095		mg/Kg	1	11/15/2018 1:54:28 PM	41539
Surr: 4-Bromofluorobenzene	112	80-120		%Rec	1	11/15/2018 1:54:28 PM	41539

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1811709**
Date Reported: **11/26/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: SC-3
Project: PLU 41
Collection Date: 11/9/2018 10:25:00 AM
Lab ID: 1811709-003 **Matrix:** SOIL **Received Date:** 11/14/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	410	30		mg/Kg	20	11/15/2018 5:00:43 PM	41557
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	40	9.4		mg/Kg	1	11/19/2018 11:56:20 AM	41566
Motor Oil Range Organics (MRO)	63	47		mg/Kg	1	11/19/2018 11:56:20 AM	41566
Surr: DNOP	105	50.6-138		%Rec	1	11/19/2018 11:56:20 AM	41566
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/15/2018 2:17:44 PM	41539
Surr: BFB	97.7	73.8-119		%Rec	1	11/15/2018 2:17:44 PM	41539
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	11/15/2018 2:17:44 PM	41539
Toluene	ND	0.047		mg/Kg	1	11/15/2018 2:17:44 PM	41539
Ethylbenzene	ND	0.047		mg/Kg	1	11/15/2018 2:17:44 PM	41539
Xylenes, Total	ND	0.095		mg/Kg	1	11/15/2018 2:17:44 PM	41539
Surr: 4-Bromofluorobenzene	110	80-120		%Rec	1	11/15/2018 2:17:44 PM	41539

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1811709**
Date Reported: **11/26/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: SC-4
Project: PLU 41
Collection Date: 11/9/2018 10:27:00 AM
Lab ID: 1811709-004 **Matrix:** SOIL **Received Date:** 11/14/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	450	30		mg/Kg	20	11/15/2018 5:13:08 PM	41557
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	170	10		mg/Kg	1	11/19/2018 12:20:38 PM	41566
Motor Oil Range Organics (MRO)	87	50		mg/Kg	1	11/19/2018 12:20:38 PM	41566
Surr: DNOP	106	50.6-138		%Rec	1	11/19/2018 12:20:38 PM	41566
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/15/2018 2:41:01 PM	41539
Surr: BFB	100	73.8-119		%Rec	1	11/15/2018 2:41:01 PM	41539
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	11/15/2018 2:41:01 PM	41539
Toluene	ND	0.049		mg/Kg	1	11/15/2018 2:41:01 PM	41539
Ethylbenzene	ND	0.049		mg/Kg	1	11/15/2018 2:41:01 PM	41539
Xylenes, Total	ND	0.097		mg/Kg	1	11/15/2018 2:41:01 PM	41539
Surr: 4-Bromofluorobenzene	113	80-120		%Rec	1	11/15/2018 2:41:01 PM	41539

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1811709**
Date Reported: **11/26/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: SC-5
Project: PLU 41
Collection Date: 11/9/2018 10:30:00 AM
Lab ID: 1811709-005 **Matrix:** SOIL **Received Date:** 11/14/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	200	30		mg/Kg	20	11/15/2018 5:25:32 PM	41557
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	11/19/2018 12:44:58 PM	41566
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/19/2018 12:44:58 PM	41566
Surr: DNOP	99.5	50.6-138		%Rec	1	11/19/2018 12:44:58 PM	41566
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	11/15/2018 4:37:34 PM	41539
Surr: BFB	100	73.8-119		%Rec	1	11/15/2018 4:37:34 PM	41539
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.023		mg/Kg	1	11/15/2018 4:37:34 PM	41539
Toluene	ND	0.046		mg/Kg	1	11/15/2018 4:37:34 PM	41539
Ethylbenzene	ND	0.046		mg/Kg	1	11/15/2018 4:37:34 PM	41539
Xylenes, Total	ND	0.091		mg/Kg	1	11/15/2018 4:37:34 PM	41539
Surr: 4-Bromofluorobenzene	113	80-120		%Rec	1	11/15/2018 4:37:34 PM	41539

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1811709**
Date Reported: **11/26/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: SC-6
Project: PLU 41
Collection Date: 11/9/2018 10:32:00 AM
Lab ID: 1811709-006 **Matrix:** SOIL **Received Date:** 11/14/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	290	30		mg/Kg	20	11/15/2018 5:37:57 PM	41557
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	1200	20		mg/Kg	2	11/19/2018 1:09:18 PM	41566
Motor Oil Range Organics (MRO)	380	99		mg/Kg	2	11/19/2018 1:09:18 PM	41566
Surr: DNOP	108	50.6-138		%Rec	2	11/19/2018 1:09:18 PM	41566
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/15/2018 5:01:02 PM	41539
Surr: BFB	96.5	73.8-119		%Rec	1	11/15/2018 5:01:02 PM	41539
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.025		mg/Kg	1	11/15/2018 5:01:02 PM	41539
Toluene	ND	0.049		mg/Kg	1	11/15/2018 5:01:02 PM	41539
Ethylbenzene	ND	0.049		mg/Kg	1	11/15/2018 5:01:02 PM	41539
Xylenes, Total	ND	0.099		mg/Kg	1	11/15/2018 5:01:02 PM	41539
Surr: 4-Bromofluorobenzene	108	80-120		%Rec	1	11/15/2018 5:01:02 PM	41539

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1811709**
Date Reported: **11/26/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: SC-7
Project: PLU 41
Collection Date: 11/9/2018 10:35:00 AM
Lab ID: 1811709-007 **Matrix:** SOIL **Received Date:** 11/14/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	1200	75		mg/Kg	50	11/19/2018 10:12:16 AM	41557
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/19/2018 2:22:31 PM	41566
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/19/2018 2:22:31 PM	41566
Surr: DNOP	114	50.6-138		%Rec	1	11/19/2018 2:22:31 PM	41566
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/15/2018 5:24:30 PM	41539
Surr: BFB	98.9	73.8-119		%Rec	1	11/15/2018 5:24:30 PM	41539
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.025		mg/Kg	1	11/15/2018 5:24:30 PM	41539
Toluene	ND	0.049		mg/Kg	1	11/15/2018 5:24:30 PM	41539
Ethylbenzene	ND	0.049		mg/Kg	1	11/15/2018 5:24:30 PM	41539
Xylenes, Total	ND	0.098		mg/Kg	1	11/15/2018 5:24:30 PM	41539
Surr: 4-Bromofluorobenzene	114	80-120		%Rec	1	11/15/2018 5:24:30 PM	41539

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1811709**
Date Reported: **11/26/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: SC-8
Project: PLU 41
Collection Date: 11/9/2018 10:37:00 AM
Lab ID: 1811709-008 **Matrix:** SOIL **Received Date:** 11/14/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	430	30		mg/Kg	20	11/20/2018 3:43:15 PM	41648
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	11/19/2018 2:47:00 PM	41566
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/19/2018 2:47:00 PM	41566
Surr: DNOP	99.9	50.6-138		%Rec	1	11/19/2018 2:47:00 PM	41566
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/15/2018 5:47:50 PM	41539
Surr: BFB	99.0	73.8-119		%Rec	1	11/15/2018 5:47:50 PM	41539
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	11/15/2018 5:47:50 PM	41539
Toluene	ND	0.048		mg/Kg	1	11/15/2018 5:47:50 PM	41539
Ethylbenzene	ND	0.048		mg/Kg	1	11/15/2018 5:47:50 PM	41539
Xylenes, Total	ND	0.095		mg/Kg	1	11/15/2018 5:47:50 PM	41539
Surr: 4-Bromofluorobenzene	113	80-120		%Rec	1	11/15/2018 5:47:50 PM	41539

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1811709**
Date Reported: **11/26/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: SC-9
Project: PLU 41
Collection Date: 11/9/2018 10:40:00 AM
Lab ID: 1811709-009 **Matrix:** SOIL **Received Date:** 11/14/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	ND	30		mg/Kg	20	11/20/2018 4:20:28 PM	41648
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	46	9.7		mg/Kg	1	11/19/2018 3:11:23 PM	41566
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/19/2018 3:11:23 PM	41566
Surr: DNOP	98.7	50.6-138		%Rec	1	11/19/2018 3:11:23 PM	41566
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/15/2018 6:11:04 PM	41539
Surr: BFB	99.2	73.8-119		%Rec	1	11/15/2018 6:11:04 PM	41539
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	11/15/2018 6:11:04 PM	41539
Toluene	ND	0.049		mg/Kg	1	11/15/2018 6:11:04 PM	41539
Ethylbenzene	ND	0.049		mg/Kg	1	11/15/2018 6:11:04 PM	41539
Xylenes, Total	ND	0.097		mg/Kg	1	11/15/2018 6:11:04 PM	41539
Surr: 4-Bromofluorobenzene	112	80-120		%Rec	1	11/15/2018 6:11:04 PM	41539

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1811709**
Date Reported: **11/26/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: SC-10
Project: PLU 41
Collection Date: 11/9/2018 10:42:00 AM
Lab ID: 1811709-010 **Matrix:** SOIL **Received Date:** 11/14/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	ND	30		mg/Kg	20	11/21/2018 11:24:09 AM	41648
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	11/19/2018 3:35:54 PM	41566
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/19/2018 3:35:54 PM	41566
Surr: DNOP	94.8	50.6-138		%Rec	1	11/19/2018 3:35:54 PM	41566
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/15/2018 6:34:27 PM	41539
Surr: BFB	99.1	73.8-119		%Rec	1	11/15/2018 6:34:27 PM	41539
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.025		mg/Kg	1	11/15/2018 6:34:27 PM	41539
Toluene	ND	0.050		mg/Kg	1	11/15/2018 6:34:27 PM	41539
Ethylbenzene	ND	0.050		mg/Kg	1	11/15/2018 6:34:27 PM	41539
Xylenes, Total	ND	0.099		mg/Kg	1	11/15/2018 6:34:27 PM	41539
Surr: 4-Bromofluorobenzene	112	80-120		%Rec	1	11/15/2018 6:34:27 PM	41539

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1811709**
Date Reported: **11/26/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: SC-11
Project: PLU 41
Collection Date: 11/9/2018 10:44:00 AM
Lab ID: 1811709-011 **Matrix:** SOIL **Received Date:** 11/14/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	720	30		mg/Kg	20	11/21/2018 9:44:55 AM	41648
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	11/19/2018 4:26:21 PM	41566
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/19/2018 4:26:21 PM	41566
Surr: DNOP	95.6	50.6-138		%Rec	1	11/19/2018 4:26:21 PM	41566
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/15/2018 6:57:55 PM	41539
Surr: BFB	98.4	73.8-119		%Rec	1	11/15/2018 6:57:55 PM	41539
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	11/15/2018 6:57:55 PM	41539
Toluene	ND	0.048		mg/Kg	1	11/15/2018 6:57:55 PM	41539
Ethylbenzene	ND	0.048		mg/Kg	1	11/15/2018 6:57:55 PM	41539
Xylenes, Total	ND	0.095		mg/Kg	1	11/15/2018 6:57:55 PM	41539
Surr: 4-Bromofluorobenzene	112	80-120		%Rec	1	11/15/2018 6:57:55 PM	41539

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1811709**
Date Reported: **11/26/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: SC-12
Project: PLU 41
Collection Date: 11/9/2018 10:47:00 AM
Lab ID: 1811709-012 **Matrix:** SOIL **Received Date:** 11/14/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	1000	30		mg/Kg	20	11/21/2018 9:57:19 AM	41648
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	31	9.8		mg/Kg	1	11/19/2018 4:50:48 PM	41566
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/19/2018 4:50:48 PM	41566
Surr: DNOP	106	50.6-138		%Rec	1	11/19/2018 4:50:48 PM	41566
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/15/2018 7:21:23 PM	41539
Surr: BFB	99.9	73.8-119		%Rec	1	11/15/2018 7:21:23 PM	41539
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	11/15/2018 7:21:23 PM	41539
Toluene	ND	0.049		mg/Kg	1	11/15/2018 7:21:23 PM	41539
Ethylbenzene	ND	0.049		mg/Kg	1	11/15/2018 7:21:23 PM	41539
Xylenes, Total	ND	0.097		mg/Kg	1	11/15/2018 7:21:23 PM	41539
Surr: 4-Bromofluorobenzene	114	80-120		%Rec	1	11/15/2018 7:21:23 PM	41539

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1811709**
Date Reported: **11/26/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: SC-13
Project: PLU 41
Collection Date: 11/9/2018 10:50:00 AM
Lab ID: 1811709-013 **Matrix:** SOIL **Received Date:** 11/14/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	530	30		mg/Kg	20	11/21/2018 10:09:44 AM	41648
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	11/19/2018 5:15:14 PM	41566
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/19/2018 5:15:14 PM	41566
Surr: DNOP	99.3	50.6-138		%Rec	1	11/19/2018 5:15:14 PM	41566
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/15/2018 7:44:54 PM	41539
Surr: BFB	99.5	73.8-119		%Rec	1	11/15/2018 7:44:54 PM	41539
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.025		mg/Kg	1	11/15/2018 7:44:54 PM	41539
Toluene	ND	0.049		mg/Kg	1	11/15/2018 7:44:54 PM	41539
Ethylbenzene	ND	0.049		mg/Kg	1	11/15/2018 7:44:54 PM	41539
Xylenes, Total	ND	0.098		mg/Kg	1	11/15/2018 7:44:54 PM	41539
Surr: 4-Bromofluorobenzene	113	80-120		%Rec	1	11/15/2018 7:44:54 PM	41539

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1811709**
Date Reported: **11/26/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: SC-14
Project: PLU 41
Collection Date: 11/9/2018 10:52:00 AM
Lab ID: 1811709-014 **Matrix:** SOIL **Received Date:** 11/14/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	260	30		mg/Kg	20	11/21/2018 10:22:07 AM	41648
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	890	9.7		mg/Kg	1	11/19/2018 5:39:31 PM	41566
Motor Oil Range Organics (MRO)	770	48		mg/Kg	1	11/19/2018 5:39:31 PM	41566
Surr: DNOP	118	50.6-138		%Rec	1	11/19/2018 5:39:31 PM	41566
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/15/2018 8:08:08 PM	41539
Surr: BFB	97.9	73.8-119		%Rec	1	11/15/2018 8:08:08 PM	41539
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	11/15/2018 8:08:08 PM	41539
Toluene	ND	0.048		mg/Kg	1	11/15/2018 8:08:08 PM	41539
Ethylbenzene	ND	0.048		mg/Kg	1	11/15/2018 8:08:08 PM	41539
Xylenes, Total	ND	0.096		mg/Kg	1	11/15/2018 8:08:08 PM	41539
Surr: 4-Bromofluorobenzene	111	80-120		%Rec	1	11/15/2018 8:08:08 PM	41539

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1811709**

26-Nov-18

Client: Souder, Miller and Associates

Project: PLU 41

Sample ID	**MB-41557**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**41557**	RunNo:	**55668**					
Prep Date:	**11/15/2018**	Analysis Date:	**11/15/2018**	SeqNo:	**1855558**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-41557**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**41557**	RunNo:	**55668**					
Prep Date:	**11/15/2018**	Analysis Date:	**11/15/2018**	SeqNo:	**1855559**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.3	90	110			

Sample ID	**MB-41648**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**41648**	RunNo:	**55776**					
Prep Date:	**11/20/2018**	Analysis Date:	**11/20/2018**	SeqNo:	**1860349**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-41648**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**41648**	RunNo:	**55776**					
Prep Date:	**11/20/2018**	Analysis Date:	**11/20/2018**	SeqNo:	**1860350**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.4	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1811709**

26-Nov-18

Client: Souder, Miller and Associates

Project: PLU 41

Sample ID	**LCS-41566**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**LCSS**	Batch ID:	**41566**		RunNo:	**55741**				
Prep Date:	**11/15/2018**	Analysis Date:	**11/19/2018**		SeqNo:	**1857750**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	89.3	70	130			
Surr: DNOP	4.2		5.000		84.9	50.6	138			

Sample ID	**MB-41566**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**PBS**	Batch ID:	**41566**		RunNo:	**55741**				
Prep Date:	**11/15/2018**	Analysis Date:	**11/19/2018**		SeqNo:	**1857751**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.6		10.00		85.6	50.6	138			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1811709**

26-Nov-18

Client: Souder, Miller and Associates

Project: PLU 41

Sample ID	**LCS-41539**	SampType:	**LCS**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**LCSS**	Batch ID:	**41539**		RunNo:	**55658**				
Prep Date:	**11/14/2018**	Analysis Date:	**11/15/2018**		SeqNo:	**1853982**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	104	80.1	123			
Surr: BFB	1100		1000		106	73.8	119			

Sample ID	**MB-41539**	SampType:	**MBLK**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**PBS**	Batch ID:	**41539**		RunNo:	**55658**				
Prep Date:	**11/14/2018**	Analysis Date:	**11/15/2018**		SeqNo:	**1854519**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	950		1000		95.0	73.8	119			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1811709**

26-Nov-18

Client: Souder, Miller and Associates

Project: PLU 41

Sample ID	**LCS-41539**	SampType: **LCS**		TestCode: **EPA Method 8021B: Volatiles**					
Client ID:	**LCSS**	Batch ID: **41539**		RunNo: **55658**					
Prep Date:	**11/14/2018**	Analysis Date: **11/15/2018**		SeqNo: **1853984**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	1.000	0	89.8	80	120			
Toluene	0.94	0.050	1.000	0	94.0	80	120			
Ethylbenzene	0.94	0.050	1.000	0	93.7	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.5	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		110	80	120			

Sample ID	**MB-41539**	SampType: **MBLK**		TestCode: **EPA Method 8021B: Volatiles**					
Client ID:	**PBS**	Batch ID: **41539**		RunNo: **55658**					
Prep Date:	**11/14/2018**	Analysis Date: **11/15/2018**		SeqNo: **1854521**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Sample ID	**1811709-001AMS**	SampType: **MS**		TestCode: **EPA Method 8021B: Volatiles**					
Client ID:	**SC-1**	Batch ID: **41539**		RunNo: **55658**					
Prep Date:	**11/14/2018**	Analysis Date: **11/15/2018**		SeqNo: **1855354**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.024	0.9434	0	94.8	68.5	133			
Toluene	0.94	0.047	0.9434	0.01064	98.8	75	130			
Ethylbenzene	0.96	0.047	0.9434	0	102	79.4	128			
Xylenes, Total	2.9	0.094	2.830	0	103	77.3	131			
Surr: 4-Bromofluorobenzene	1.1		0.9434		116	80	120			

Sample ID	**1811709-001AMSD**	SampType: **MSD**		TestCode: **EPA Method 8021B: Volatiles**					
Client ID:	**SC-1**	Batch ID: **41539**		RunNo: **55658**					
Prep Date:	**11/14/2018**	Analysis Date: **11/15/2018**		SeqNo: **1855355**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.024	0.9461	0	93.9	68.5	133	0.596	20	
Toluene	0.93	0.047	0.9461	0.01064	97.3	75	130	1.28	20	
Ethylbenzene	0.95	0.047	0.9461	0	101	79.4	128	0.567	20	
Xylenes, Total	2.9	0.095	2.838	0	103	77.3	131	0.0109	20	
Surr: 4-Bromofluorobenzene	1.1		0.9461		115	80	120	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: SMA-FARM | Work Order Number: 1811709 | RcptNo: 1

Received By: Anne Thorne 11/14/2018 7:00:00 AM Anne Thorne

Completed By: Anne Thorne 11/14/2018 10:45:44 AM Anne Thorne

Reviewed By: ENM 11/14/18

Labeled by: DAD 11/14/18

Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☑
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
Adjusted? _____
Checked by: DAD 11/14/18

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks: *Samples were open prior to lab extraction due to lab error. DAD 11/14/18
17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.1	Good	Yes			

Chain-of-Custody Record

Client: SMA

Mailing Address: 401 W. Broadway
Farmington, NM 87401

Phone #: 505-325-7535

email or Fax#: stephanie.hinds@souder miller.com

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: PLU 41

Project #:

Project Manager: S. Hinds

Sampler: SH

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.1-CF-1.0=1.1

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1811709	BTEX + ~~MTBE + TMB's~~ (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	300.0 chlorides				Air Bubbles (Y or N)
11-9-18	10:20	soil	SC-1	1-4oz	cool	001	X		X									X				
	10:22		SC-2			002	X		X									X				
	10:25		SC-3			003	X		X									X				
	10:27		SC-4			004	X		X									X				
	10:30		SC-5			005	X		X									X				
	10:32		SC-6			006	X		X									X				
	10:35		SC-7			007	X		X									X				
	10:37		SC-8			008	X		X									X				
	10:40		SC-9			009	X		X									X				
	10:42		SC-10			010	X		X									X				
	10:44		SC-11			011	X		X									X				
	10:47		SC-12			012	X		X									X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
11/13/18	1458	Stephanie Hinds	[signature]	11/13/18	1458
11/13/18	1750	[signature]	[signature]	11/14/18	0700

Remarks:
page 1 of 2.
*Samples were open prior to MeOH extraction due to lab error
[signature] 11/14/18

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: SMA

Mailing Address: 401 W. Broadway
Farmington, NM 87401

Phone #: 505-325-7535

email or Fax#: stephanie.hinds@souder miller.com

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: PLU 41

Project #:

Project Manager: S. Hinds

Sampler: SH

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.1-CF-1.0=1.1

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1811709	BTEX + ~~MTBE~~ + ~~TMB's~~ (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	300.0 Chlorides				Air Bubbles (Y or N)
11-9-18	10:50	soil	SC-13	1-4 oz	cool	013	X		X									X				
11-9-18	10:52	soil	SC-14	1-4 oz	cool	014	X		X									X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
11/13/18	1458	Stephanie Hinds		11/13/18	1458
11/13/18	1750			11/14/18	0700

Remarks:
page 2 of 2.
*Samples were open prior to MeOH extraction due to lab error

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

December 18, 2018

Stephanie Hinds

Souder, Miller and Associates
401 W. Broadway
Farmington, NM 87401
TEL: (505) 325-5667
FAX (505) 327-1496

RE: PLU 41 OrderNo.: 1812719

Dear Stephanie Hinds:

Hall Environmental Analysis Laboratory received 9 sample(s) on 12/12/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1812719**
Date Reported: **12/18/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: SC-1
Project: PLU 41
Collection Date: 12/6/2018 11:20:00 AM
Lab ID: 1812719-001 **Matrix:** SOIL **Received Date:** 12/12/2018 8:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	ND	30		mg/Kg	20	12/17/2018 8:42:34 PM	42155

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1812719**
Date Reported: **12/18/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: SC-2
Project: PLU 41
Collection Date: 12/6/2018 11:24:00 AM
Lab ID: 1812719-002 **Matrix:** SOIL **Received Date:** 12/12/2018 8:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	ND	30		mg/Kg	20	12/17/2018 9:19:48 PM	42155
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	12/17/2018 12:01:35 PM	42113
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/17/2018 12:01:35 PM	42113
Surr: DNOP	81.0	50.6-138		%Rec	1	12/17/2018 12:01:35 PM	42113
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/14/2018 1:13:08 PM	42100
Surr: BFB	97.6	73.8-119		%Rec	1	12/14/2018 1:13:08 PM	42100

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1812719**
Date Reported: **12/18/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: SC-3
Project: PLU 41
Collection Date: 12/6/2018 11:30:00 AM
Lab ID: 1812719-003 **Matrix:** SOIL **Received Date:** 12/12/2018 8:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	12/17/2018 12:25:57 PM	42113
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/17/2018 12:25:57 PM	42113
Surr: DNOP	78.9	50.6-138		%Rec	1	12/17/2018 12:25:57 PM	42113
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/14/2018 1:36:37 PM	42100
Surr: BFB	95.6	73.8-119		%Rec	1	12/14/2018 1:36:37 PM	42100

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1812719**
Date Reported: **12/18/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: SC-4
Project: PLU 41
Collection Date: 12/6/2018 11:50:00 AM
Lab ID: 1812719-004 **Matrix:** SOIL **Received Date:** 12/12/2018 8:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	12/17/2018 12:50:18 PM	42113
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/17/2018 12:50:18 PM	42113
Surr: DNOP	89.7	50.6-138		%Rec	1	12/17/2018 12:50:18 PM	42113
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/14/2018 1:59:55 PM	42100
Surr: BFB	99.5	73.8-119		%Rec	1	12/14/2018 1:59:55 PM	42100

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1812719**
Date Reported: **12/18/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: SC-6
Project: PLU 41
Collection Date: 12/6/2018 12:29:00 PM
Lab ID: 1812719-005 **Matrix:** SOIL **Received Date:** 12/12/2018 8:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	12/17/2018 1:14:50 PM	42113
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/17/2018 1:14:50 PM	42113
Surr: DNOP	85.3	50.6-138		%Rec	1	12/17/2018 1:14:50 PM	42113
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/14/2018 2:23:22 PM	42100
Surr: BFB	99.8	73.8-119		%Rec	1	12/14/2018 2:23:22 PM	42100

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1812719**
Date Reported: **12/18/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: SC-7
Project: PLU 41
Collection Date: 12/6/2018 1:04:00 PM
Lab ID: 1812719-006 **Matrix:** SOIL **Received Date:** 12/12/2018 8:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	ND	30		mg/Kg	20	12/17/2018 9:32:13 PM	42155

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1812719**
Date Reported: **12/18/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: SC-11
Project: PLU 41
Collection Date: 12/6/2018 10:48:00 AM
Lab ID: 1812719-007 **Matrix:** SOIL **Received Date:** 12/12/2018 8:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	ND	30		mg/Kg	20	12/17/2018 9:44:37 PM	42155

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1812719**
Date Reported: **12/18/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: SC-12
Project: PLU 41
Collection Date: 12/6/2018 10:40:00 AM
Lab ID: 1812719-008 **Matrix:** SOIL **Received Date:** 12/12/2018 8:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	1100	30		mg/Kg	20	12/17/2018 9:57:02 PM	42155

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1812719**
Date Reported: **12/18/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: SC-14
Project: PLU 41
Collection Date: 12/6/2018 12:58:00 PM
Lab ID: 1812719-009 **Matrix:** SOIL **Received Date:** 12/12/2018 8:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	12/17/2018 1:39:07 PM	42113
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/17/2018 1:39:07 PM	42113
Surr: DNOP	84.4	50.6-138		%Rec	1	12/17/2018 1:39:07 PM	42113
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/14/2018 2:47:01 PM	42100
Surr: BFB	97.4	73.8-119		%Rec	1	12/14/2018 2:47:01 PM	42100

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812719**

18-Dec-18

Client: Souder, Miller and Associates

Project: PLU 41

Sample ID	**MB-42155**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**42155**	RunNo:	**56385**					
Prep Date:	**12/17/2018**	Analysis Date:	**12/17/2018**	SeqNo:	**1886027**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-42155**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**42155**	RunNo:	**56385**					
Prep Date:	**12/17/2018**	Analysis Date:	**12/17/2018**	SeqNo:	**1886028**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.6	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812719**

18-Dec-18

Client: Souder, Miller and Associates

Project: PLU 41

Sample ID	**LCS-42113**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**LCSS**	Batch ID:	**42113**		RunNo:	**56382**				
Prep Date:	**12/14/2018**	Analysis Date:	**12/17/2018**		SeqNo:	**1885014**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	92.2	70	130			
Surr: DNOP	4.6		5.000		92.8	50.6	138			

Sample ID	**MB-42113**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**PBS**	Batch ID:	**42113**		RunNo:	**56382**				
Prep Date:	**12/14/2018**	Analysis Date:	**12/17/2018**		SeqNo:	**1885015**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.6		10.00		95.5	50.6	138			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812719**

18-Dec-18

Client: Souder, Miller and Associates

Project: PLU 41

Sample ID	**MB-42100**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBS**	Batch ID:	**42100**	RunNo:	**56353**					
Prep Date:	**12/13/2018**	Analysis Date:	**12/14/2018**	SeqNo:	**1884432**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	920		1000		92.0	73.8	119			

Sample ID	**LCS-42100**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSS**	Batch ID:	**42100**	RunNo:	**56353**					
Prep Date:	**12/13/2018**	Analysis Date:	**12/14/2018**	SeqNo:	**1884434**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	98.2	80.1	123			
Surr: BFB	1100		1000		106	73.8	119			

Sample ID	**MB-42099**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBS**	Batch ID:	**42099**	RunNo:	**56353**					
Prep Date:	**12/13/2018**	Analysis Date:	**12/14/2018**	SeqNo:	**1884458**	Units:	**%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	950		1000		95.2	73.8	119			

Sample ID	**LCS-42099**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSS**	Batch ID:	**42099**	RunNo:	**56353**					
Prep Date:	**12/13/2018**	Analysis Date:	**12/14/2018**	SeqNo:	**1884460**	Units:	**%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		107	73.8	119			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **SMA-FARM** Work Order Number: **1812719** RcptNo: 1

Received By: **Victoria Zellar** **12/12/2018 8:40:00 AM** Victoria Zellar

Completed By: **Erin Melendrez** **12/13/2018 8:21:16 AM**

Reviewed By: JU 12/13/18

LB; DAD 12/13/18

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: DAD 12/13/18

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.8	Good	Yes			

Chain-of-Custody Record

Client: SMA

Mailing Address: 401 W. Broadway
Farmington, NM 87401

Phone #: 505-325-7535

email or Fax#: Stephanie.hinds@souder-miller.com

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other_____
☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush_____

Project Name: PLU 41

Project #: 5E26784 BG14

Project Manager: Stephanie Hinds

Sampler: SH

On Ice: ☒ Yes ☐ No

# of Coolers: 1, CF = -1.0

Cooler Temp(including CF): 2.9°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 181279
12-6-18	11:20	Soil	SC-1	(1) 4oz	cool	-001
	11:24		SC-2			-002
	11:30		SC-3			-003
	11:50		SC-4			-004
	12:29		SC-6			-005
	13:04		SC-7			-006
	10:48		SC-11			-007
	10:40		SC-12			-008
↓	12:58	↓	SC-14	↓	↓	-009

Analysis Request

HEAL No. 181279	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals SAH	Cl, F, Br, NO3, NO2, PO4, SO4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
-001							X			
-002		X					X			
-003		X								
-004		X								
-005		X								
-006							X			
-007							X			
-008							X			
-009		X								

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
		Stephanie Hinds			12/11/18	1500
12/11/18	1940		Victoria Ballan	Courier	12/12/18	8:40

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

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

QUESTIONS

Action 430897

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 430897
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAB1832354684**
Incident Name	**NAB1832354684 POKER LAKE UNIT #41 @ 30-015-20933**
Incident Type	**Produced Water Release**
Incident Status	**Remediation Closure Report Received**
Incident Well	**[30-015-20933] POKER LAKE UNIT #041**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	POKER LAKE UNIT #41
Date Release Discovered	10/27/2018
Surface Owner	Federal

Incident Details	
Please answer all the questions in this group.	
Incident Type	Produced Water 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 | Other (Specify) | Crude Oil | Released: 0 BBL | Recovered: 0 BBL | Lost: 0 BBL.
Produced Water Released (bbls) Details	Cause: Equipment Failure | Other (Specify) | Produced Water | Released: 5 BBL | Recovered: 4 BBL | Lost: 1 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.*

Sante Fe Main Office
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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 (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 430897
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**More info needed to determine if this will be treated as a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**No**
Reasons why this would be considered a submission for a notification of a major release	*Unavailable.*
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: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 02/11/2025

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

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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 (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 430897
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Site Characterization	
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.	
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	NM OSE iWaters Database Search
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 1000 (ft.) and ½ (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 300 and 500 (ft.)
Any other fresh water well or spring	Between 500 and 1000 (ft.)
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	Between 1 and 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Between ½ and 1 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan		
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.		
Requesting a remediation plan approval with this submission		Yes
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.		
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)	560
TPH (GRO+DRO+MRO)	(EPA SW-846 Method 8015M)	46
GRO+DRO	(EPA SW-846 Method 8015M)	46
BTEX	(EPA SW-846 Method 8021B or 8260B)	0
Benzene	(EPA SW-846 Method 8021B or 8260B)	0
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.		
On what estimated date will the remediation commence		11/09/2018
On what date will (or did) the final sampling or liner inspection occur		11/21/2024
On what date will (or was) the remediation complete(d)		11/21/2024
What is the estimated surface area (in square feet) that will be reclaimed		1000
What is the estimated volume (in cubic yards) that will be reclaimed		500
What is the estimated surface area (in square feet) that will be remediated		1000
What is the estimated volume (in cubic yards) that will be remediated		500
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.		
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.		

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
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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 (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 430897
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Remediation Plan (continued)	
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.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(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	HALFWAY DISPOSAL AND LANDFILL [fEEM0112334510]
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	*Not answered.*
OR is the **off-site** disposal site, to be used, an NMED facility	*Not answered.*
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	*Not answered.*
(In Situ) Soil Vapor Extraction	*Not answered.*
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	*Not answered.*
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	*Not answered.*
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	*Not answered.*
Ground Water Abatement pursuant to 19.15.30 NMAC	*Not answered.*
OTHER (Non-listed remedial process)	*Not answered.*
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 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: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 02/11/2025
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.	

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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 (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 430897
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**391733**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**10/16/2024**
What was the (estimated) number of samples that were to be gathered	**10**
What was the sampling surface area in square feet	**2000**

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
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	1000
What was the total volume (cubic yards) remediated	500
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	1000
What was the total volume (in cubic yards) reclaimed	500
Summarize any additional remediation activities not included by answers (above)	"Excavation activities were conducted at the Site to address the impacted soil resulting from the October 27, 2018, crude oil and produced water release from the well head. Laboratory analytical results for the excavation soil samples, collected from the final excavation extent, indicated all COCs were compliant with the Site Closure Criteria and reclamation requirements. Based on the soil sample analytical results, no further remediation is required. Initial response efforts, natural attenuation, and excavation of impacted soil have mitigated impacts at this Site. XTO believes the remedial actions completed are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number NAB1832354684."

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 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: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 02/11/2025

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 430897
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

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 430897

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 430897
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your Remediation Closure Report for Incident #NAB1832354684 POKER LAKE UNIT #41, thank you. This Remediation Closure Report is approved.	5/6/2025