



August 15, 2018

Mr. Mike Bratcher
New Mexico Oil Conservation Division
811 South First Street
Artesia, New Mexico 88210

**RE: Closure Request
Poker Lake Unit #146
Remediation Permit Number 2RP-3719
Eddy County, New Mexico**

Dear Mr. Bratcher:

XTO Energy, Inc. (XTO), presents the following letter report detailing excavation and confirmation soil sampling activities at the Poker Lake Unit #146 (Site) in Unit Letter P, Section 31, Township 23 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The latitude of the release location is 32.255810 and the longitude is -103.914818.

BACKGROUND

The Site is located in an area where groundwater is anticipated to be greater than two hundred (200) feet below ground surface (bgs). Figure 2 depicts groundwater wells and the associated depth to groundwater in the vicinity. The closest water well has a depth to groundwater of 186 feet bgs.

On May 30th, 2016, XTO discovered a release of approximately four (4) bbls of produced water and four (4) bbls of crude oil when the packing in the stuffing box failed. An estimated one and one-half (1.5) bbls of crude oil and one-half (0.5) bbls of produced water were recovered. The release impacted an approximate two thousand six hundred ninety-seven (2,697) square feet (ft²) of well pad and adjacent pasture land. There was a light overspray from the stuffing box failure that impacted an additional six thousand four hundred ninety-eight (6,498) ft² of pad and pasture. The NMOCD was notified of the release on June 6, 2016, and an initial Release Notification and Corrective Action form (C-141) was submitted to NMOCD on June 6, 2016, for approval (Appendix A). The C-141 was approved on June 8, 2016.

SOIL SAMPLING AND EXCAVATION ACTIVITIES

XTO retained Basin Environmental Service Technologies (Basin) to address potential environmental concerns at the above-referenced site. Basin personnel were on site March 9, 2018, to begin sampling and delineation activities. Initial surface soil sample points were established within the visually-impacted area. Four (4) soil sample points (SP1, SP2, SP3, SP4) were



established and advanced vertically for purposes of delineation (Figure 3). Discrete soil samples were retrieved at the surface and were advanced until the field screens indicated delineation had been achieved. The soils samples were submitted to an approved NMOCD commercial laboratory (Cardinal Laboratories in Hobbs, NM [Cardinal]) for concentration analyses of chloride, Total Petroleum Hydrocarbons (TPH) - Gas Range Organics (GRO), TPH - Diesel Range Organics (DRO), and TPH - Oil Range Organics (ORO). Laboratory analyses confirmed that delineation for chloride and TPH was reached for all sample points. The laboratory analytical reports are included in Appendix B.

SP1 was advanced vertically to sixteen (16) feet bgs where chloride concentration was 176 milligrams per kilogram (mg/kg). Organic constituents of interest (COI) were not detected at concentrations in excess of the method detection limits (MDL). SP2 was advanced vertically to four feet bgs where chloride was detected at a concentration of 64 mg/kg. Organic COI were not detected at concentrations in excess of the MDL. SP3 was advanced to one-foot bgs where chloride concentration was not detected in excess of the MDL, DRO concentration was detected at a concentration of 1,330 mg/kg and ORO concentration was detected at a concentration of 379 mg/kg. SP4 was advanced to one foot bgs where chloride was detected at a concentration of 384 mg/kg. Organic COI were not detected in concentrations in excess of the MDL.

Basin began remediation activities on April 17, 2018. The impacted area was excavated to a total depth of 4 feet bgs in the area around the wellhead, SP1, and SP2. A 20-mil polyurethane liner was installed in the floor of the excavation at approximately four- feet bgs. Approximately six inches of non-impacted pad sand was installed both above and below the liner to protect the liner from damage during installation and backfilling activities. The area around SP4 was excavated to one-foot bgs. Photo documentation of the release area and remediation is included in Appendix C.

Confirmation soil samples were retrieved along with excavation wall samples to ensure the impacted area was remediated horizontally and vertically. The discrete soil samples were submitted to Cardinal for analysis of chloride, TPH, and benzene, toluene, ethyl-benzene, and xylenes (BTEX). Analytical results confirmed that the impacted soil was removed vertically and horizontally to below the recommended remediation action levels (RRAL) of 5,000 mg/kg for TPH, 10 mg/kg for benzene, and 50 mg/kg for total BTEX. While there is no set guideline level for chloride concentration in the RRAL, it is assumed to be 600 mg/kg. Chloride concentration levels for all submitted samples were below the assumed action level. A compilation of all samples submitted to Cardinal is provided as "Table 1".

The impacted area in the pasture north of SP4 and at SP3 was impacted by overspray. This area was once occupied by a reserve pit. Basin addressed the impacted area during resurfacing and capping of the reserve pit during final reclamation. The entire pit area was scraped to approximately six inches bgs, leveled, and capped with 20-mil plastic. The plastic was covered with approximately 1.5 feet of clean topsoil, contoured, and seeded with Bureau of Land Management (BLM) seed mix #2.



CONCLUSIONS

Discrete soil samples from the Poker Lake Unit #146 release site were analyzed by an NMOCD-approved laboratory, and concentrations of BTEX, chloride and TPH were below the RRALs established for the site. XTO requests site closure for the Poker Lake Unit #146 release site.

If you have any questions or comments, please do not hesitate to contact Kyle Littrell at 432-221-7331 or Kyle_Littrell@xtoenergy.com.

Sincerely,

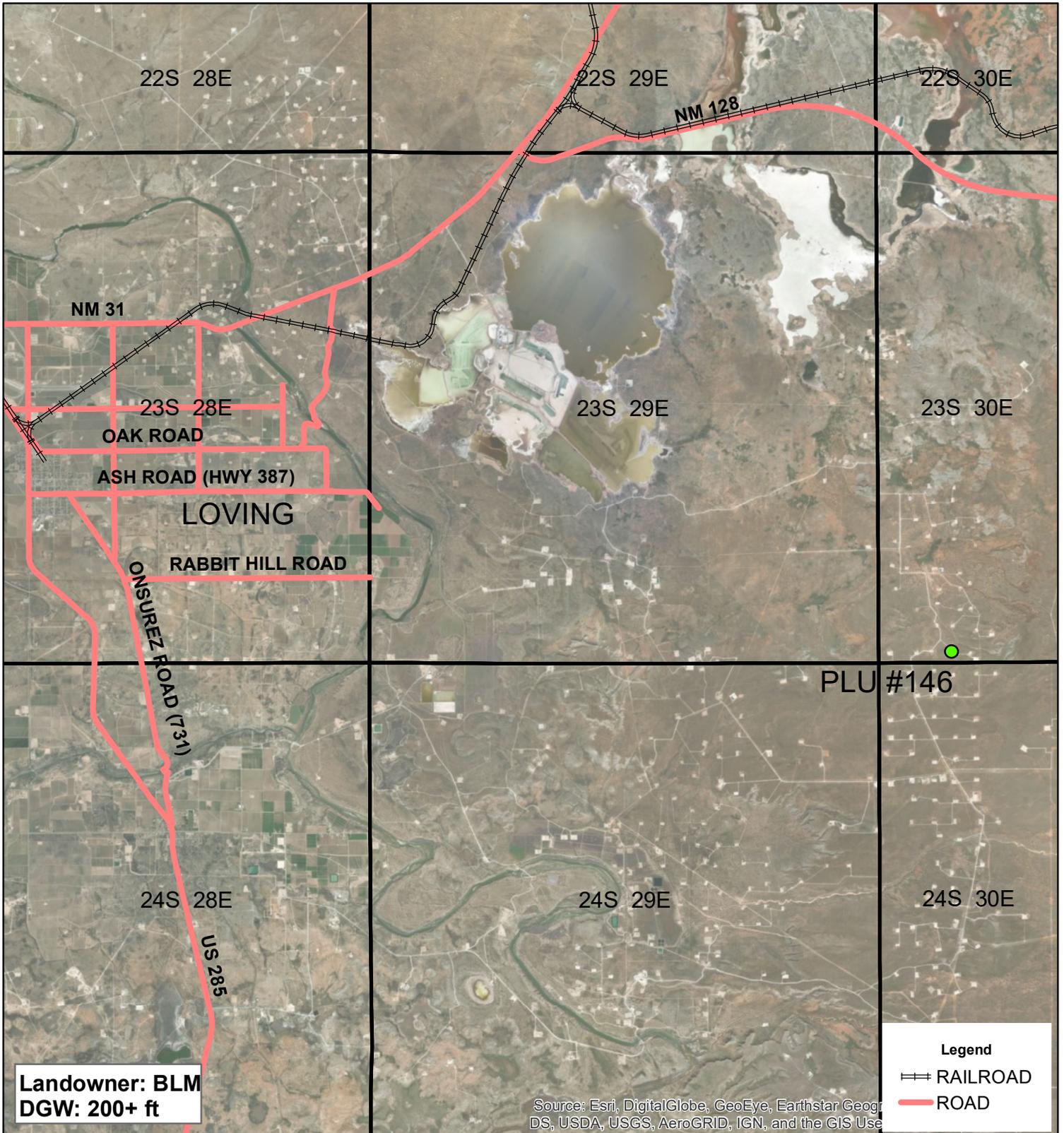
Kyle Littrell
Safety, Health, and Environmental Supervisor

cc: Amy Ruth, XTO
Mike Bratcher, NMOCD
Maria Pruett, NMOCD
Jim Amos, BLM
Shelly Tucker, BLM

Attachments:

Figure 1 Geographic Location
Figure 2 Depth to Groundwater
Figure 3 Initial Sampling and Excavation
Table 1 Concentrations of Benzene, BTEX, TPH, & Chloride in Soil
Appendix 1 Initial/Final NMOCD Form C-141
Appendix 2 Laboratory Analytical Reports
Appendix 3 Photo Log

Geographic Location



XTO
POKER LAKE
UNIT #146

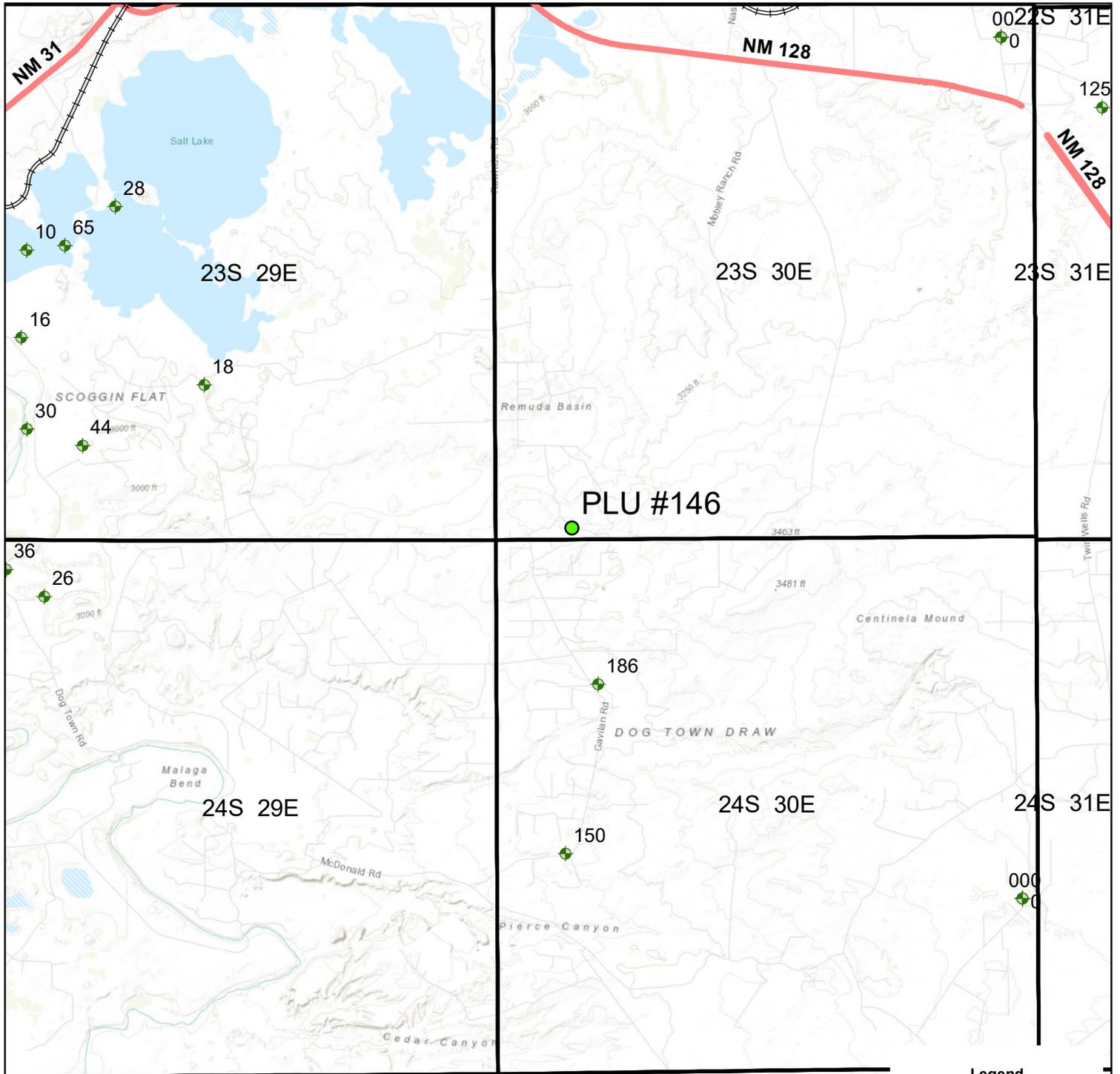
UL P SECTION 31
 T-23-S R-30-E
 EDDY COUNTY, NM

GPS: 32.255794 -103.914793

0 1 2
 Miles

Drawing date: 2/28/18
 Drafted by: T. Grieco

Depth to Groundwater



Landowner: BLM
DGW: 200+ ft

Sources: Esri, DeLorme, NAVTEQ, TomTom, Int
 GEBCO, USGS, FAO, NPS, NRCAN, GeoBase,
 Survey, Esri Japan, METI, Esri China (Hong Kong),
 User Community

- Legend**
- WAIDS WELLS
 - RAILROAD
 - ROAD



XTO
POKER LAKE
UNIT #146

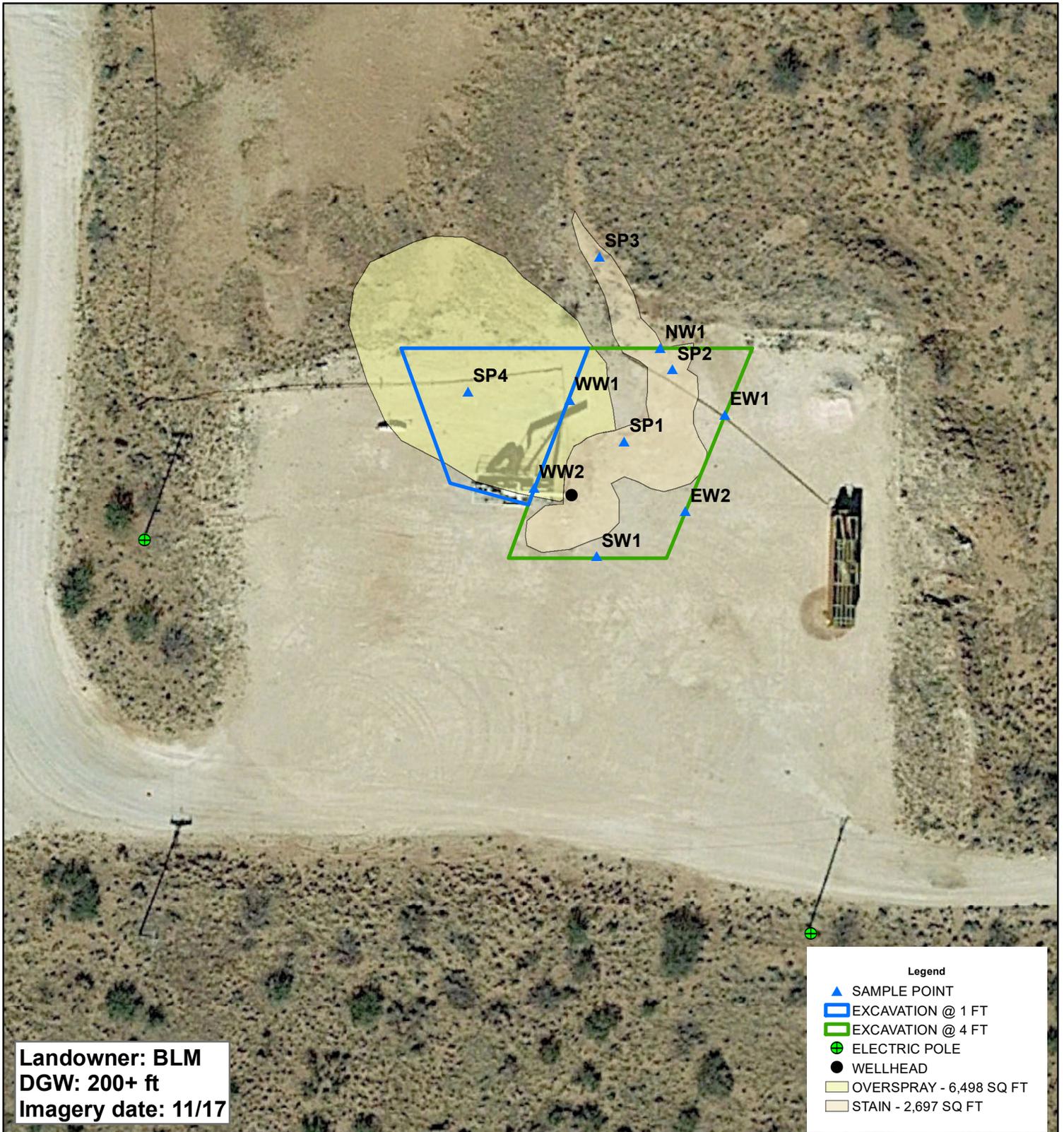
UL P SECTION 31
 T-23-S R-30-E
 EDDY COUNTY, NM

GPS: 32.255794 -103.914793

0 1 2
 Miles

Drawing date: 2/28/18
 Drafted by: T. Grieco

Initial Sampling and Excavation



Landowner: BLM
 DGW: 200+ ft
 Imagery date: 11/17



XTO POKER LAKE UNIT #146

UL P SECTION 31
 T-23-S R-30-E
 EDDY COUNTY, NM

GPS: 32.255794 -103.914793

0 25 50
 Feet

GPS date: 2/23/18 RR, 3/9/18 JH
 Drawing date: 5/18/18
 Drafted by: T. Grieco



TABLE 1
 CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN SOIL
 XTO
 POKER LAKE UNIT 146
 EDDY COUNTY, NEW MEXICO
 UL P SEC 31, T-23-S, R-30-E
 NMOCD REFERENCE #: 2RP-3719

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030					METHOD: 8015M			TOTAL TPH	4500 Cl-B	FIELD CHLORIDE (mg/Kg)
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	TOTAL BTEX (mg/Kg)	GRO C ₆ -C ₁₀ (mg/Kg)	DRO C ₁₀ -C ₂₈ (mg/Kg)	EXT DRO C ₂₈ -C ₃₆ (mg/Kg)	C ₆ -C ₃₆ (mg/Kg)	CHLORIDE (mg/Kg)	
SP1 @ Surface	0'	3/9/2018	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	746	370	1,116	5,200	2548
SP1 @ 1'	1'	3/9/2018	In-Situ	-	-	-	-	-	-	-	-	-	-	1312
SP1 @ 4'	4'	3/9/2018	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	19.7	27.9	47.6	992	1056
SP1 @ 6'	6'	3/9/2018	In-Situ	-	-	-	-	-	-	-	-	-	944	1056
SP1 @ 8'	8'	3/9/2018	In-Situ	-	-	-	-	-	-	-	-	-	928	908
SP1 @ 10'	10'	3/9/2018	In-Situ	-	-	-	-	-	-	-	-	-	864	908
SP1 @ 12'	12'	3/9/2018	In-Situ	-	-	-	-	-	-	-	-	-	560	612
SP1 @ 16'	16'	3/9/2018	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	176	356
SP2 @ Surface	0'	3/9/2018	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	1,840	1312
SP2 @ 1'	1'	3/9/2018	In-Situ	-	-	-	-	-	-	-	-	-	-	1888
SP2 @ 4'	4'	3/9/2018	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	64	124
SP3 @ Surface	0'	3/9/2018	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<50.0	5570	1490	7,060	32	<124
SP3 @ 1'	1'	3/9/2018	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<50.0	1330	379	1,709	<16.0	<124
SP4 @ Surface	0'	3/9/2018	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	445	177	622	3,360	2548
SP4 @ 1'	1'	3/9/2018	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	384	392
EW #1	4'	4/19/2018	In-Situ	<0.050	0.056	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	384	-
EW #2	4'	4/19/2018	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	144	-
WW #1	4'	4/19/2018	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	32	-
WW #2	4'	4/19/2018	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	96	-
SW #1	4'	4/19/2018	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	384	-
NW #1	4'	4/19/2018	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	64	-
NMOCD Regulatory Standard				10				50				5,000	600	

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

NAB16116041012 OPERATOR Initial Report Final Report

Name of Company: BOPCO, L.P. <i>2100737</i>	Contact: Bradley Blevins
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: PLU 146	Facility Type: Exploration and Production
Surface Owner: Federal	Mineral Owner: Federal
API No. 30-015-31007	

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	31	23S	30E	660		810		Eddy

Latitude: 32.55810 Longitude: 103.914818

NATURE OF RELEASE

Type of Release: Crude Oil/ Produced Water	Volume of Release: 4 barrels oil, 4 barrels PW	Volume Recovered: 1.5 barrels oil, 0.5 barrels PW
Source of Release: Stuffing Box	Date and Hour of Occurrence: 5-30-16 @ 5:00pm	Date and Hour of Discovery: 5-30-16 @ 5:15pm
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse	

NM OIL CONSERVATION
ARTESIA DISTRICT

If a Watercourse was Impacted, Describe Fully.*

JUN 06 2016

RECEIVED

Describe Cause of Problem and Remedial Action Taken.*

Packing in stuffing box failed. A vacuum truck was called to the location and was able to recover 1.5 barrels of oil and 0.5 barrels of produced water.

Describe Area Affected and Cleanup Action Taken.*

Packing in stuffing box failed and released fluid to the ground surface of well pad and pasture area. A vacuum truck was called to location to recover the standing fluid. A remediation crew will be scheduled to conduct an initial scrape and sampling event.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOC 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 NMOCID marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCID acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: <i>Bradley Blevins</i>		OIL CONSERVATION DIVISION	
Printed Name: Bradley Blevins		Approved by Environmental Specialist: <i>[Signature]</i>	
Title: Assistant Remediation Foreman		Approval Date: <i>6/8/16</i>	Expiration Date: <i>N/A</i>
E-mail Address: bblevins@basspet.com		Conditions of Approval: Remediation per O.C.D. Rules & Guidelines Attached <input type="checkbox"/>	
Date: <i>6-6-16</i>	Phone: 432-214-3704	SUBMIT REMEDIATION PROPOSAL NO	
* Attach Additional Sheets If Necessary		LATER THAN: <i>7/1/16</i>	

200-3719

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

Form C-141
Revised April 3, 2017

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

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

Release Notification and Corrective Action

OPERATOR Initial Report Final Report

Name of Company XTO Energy	Contact: Kyle Littrell
Address 3104 E Greene Street, Carlsbad, NM 88220	Telephone No: 432-221-7331
Facility Name: PLU 146	Facility Type: Exploration and Production

Surface Owner Federal	Mineral Owner: Federal	API No. 30-015-31007
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LOCATION OF RELEASE

Unit Letter P	Section 31	Township 23S	Range 30E	Feet from the 660	North/South Line	Feet from the 810	East/West Line	County Eddy
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Latitude _____ Longitude _____ NAD83

NATURE OF RELEASE

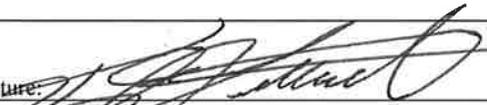
Type of Release Oil/ Produced Water	Volume of Release 4 bbls oil, 4 bbls PW	Volume Recovered 1.5 bbls oil, 0.5 bbls PW
Source of Release: Stuffing box	Date and Hour of Occurrence 5-30-16 @ 5:00 pm	Date and Hour of Discovery 5-30-16 @5:15pm
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse:	

If a Watercourse was Impacted, Describe Fully.* NA

Describe Cause of Problem and Remedial Action Taken.* Packing in stuffing box failed. A vacuum was called to the location and was able to recover 1.5 barrels of oil and 0.5 barrels produced water.

Describe Area Affected and Cleanup Action Taken.* Packing in stuffing box failed and released fluid to the ground surface of the well pad and pasture area. A vacuum truck was called to location to recover the standing fluid. The impacted area was sampled and delineated horizontally and vertically. The impacted soils were remediated to the depth extent practical. Contaminated soils were disposed of at an NMOCD approved facility. An impermeable 20-mil plastic liner was placed at a depth of approximately 4 feet bgs where soils below the liner remained above the RRAL. The remediated area was backfilled with clean, non-impacted imported soils and contoured to the surrounding area and BLM seed mix 2 was applied to the pasture area.

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

Signature: 	OIL CONSERVATION DIVISION	
Printed Name: Kyle Littrell	Approved by Environmental Specialist:	
Title: SH&E Coordinator	Approval Date:	Expiration Date:
E-mail Address: Kyle_Littrell@xtoenergy.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 8/28/18	Phone: 432-221-7331	

* Attach Additional Sheets If Necessary



March 14, 2018

ROBBIE RUNNELS

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: POKER LAKE UNIT #146

Enclosed are the results of analyses for samples received by the laboratory on 03/13/18 14:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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 accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, flowing "C" and "K".

Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

 Basin Environmental Service
 ROBBIE RUNNELS
 P.O. Box 301
 Lovington NM, 88260
 Fax To: (575) 396-1429

Received:	03/13/2018	Sampling Date:	03/09/2018
Reported:	03/14/2018	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #146	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	XTO ENERGY - EDDY CO NM		

Sample ID: SP 1 @ SURFACE (H800730-01)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/14/2018	ND	1.99	99.5	2.00	0.738	
Toluene*	<0.050	0.050	03/14/2018	ND	2.00	100	2.00	0.513	
Ethylbenzene*	<0.050	0.050	03/14/2018	ND	1.98	98.9	2.00	0.287	
Total Xylenes*	<0.150	0.150	03/14/2018	ND	6.04	101	6.00	0.589	
Total BTEX	<0.300	0.300	03/14/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 91.5 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5200	16.0	03/14/2018	ND	480	120	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	03/14/2018	ND	210	105	200	3.43	
DRO >C10-C28*	746	10.0	03/14/2018	ND	221	111	200	3.90	
EXT DRO >C28-C36	370	10.0	03/14/2018	ND					

Surrogate: 1-Chlorooctane 81.2 % 41-142

Surrogate: 1-Chlorooctadecane 110 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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 client for 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 thirty (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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Basin Environmental Service
 ROBBIE RUNNELS
 P.O. Box 301
 Lovington NM, 88260
 Fax To: (575) 396-1429

Received:	03/13/2018	Sampling Date:	03/09/2018
Reported:	03/14/2018	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #146	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	XTO ENERGY - EDDY CO NM		

Sample ID: SP 1 @ 4' (H800730-02)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/14/2018	ND	1.99	99.5	2.00	0.738	
Toluene*	<0.050	0.050	03/14/2018	ND	2.00	100	2.00	0.513	
Ethylbenzene*	<0.050	0.050	03/14/2018	ND	1.98	98.9	2.00	0.287	
Total Xylenes*	<0.150	0.150	03/14/2018	ND	6.04	101	6.00	0.589	
Total BTEX	<0.300	0.300	03/14/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 89.9 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	992	16.0	03/14/2018	ND	480	120	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	03/14/2018	ND	210	105	200	3.43	
DRO >C10-C28*	19.7	10.0	03/14/2018	ND	221	111	200	3.90	
EXT DRO >C28-C36	27.9	10.0	03/14/2018	ND					

Surrogate: 1-Chlorooctane 92.5 % 41-142

Surrogate: 1-Chlorooctadecane 91.8 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

Basin Environmental Service
 ROBBIE RUNNELS
 P.O. Box 301
 Lovington NM, 88260
 Fax To: (575) 396-1429

Received: 03/13/2018
 Reported: 03/14/2018
 Project Name: POKER LAKE UNIT #146
 Project Number: NONE GIVEN
 Project Location: XTO ENERGY - EDDY CO NM

Sampling Date: 03/09/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 1 @ 6' (H800730-03)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	944	16.0	03/14/2018	ND	480	120	400	0.00	

Sample ID: SP 1 @ 8' (H800730-04)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	928	16.0	03/14/2018	ND	480	120	400	0.00	

Sample ID: SP 1 @ 10' (H800730-05)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	864	16.0	03/14/2018	ND	464	116	400	3.39	QM-07

Sample ID: SP 1 @ 12' (H800730-06)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	560	16.0	03/14/2018	ND	464	116	400	3.39	

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Analytical Results For:

 Basin Environmental Service
 ROBBIE RUNNELS
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Received:	03/13/2018	Sampling Date:	03/09/2018
Reported:	03/14/2018	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #146	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	XTO ENERGY - EDDY CO NM		

Sample ID: SP 1 @ 16' (H800730-07)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/14/2018	ND	1.99	99.5	2.00	0.738	
Toluene*	<0.050	0.050	03/14/2018	ND	2.00	100	2.00	0.513	
Ethylbenzene*	<0.050	0.050	03/14/2018	ND	1.98	98.9	2.00	0.287	
Total Xylenes*	<0.150	0.150	03/14/2018	ND	6.04	101	6.00	0.589	
Total BTEX	<0.300	0.300	03/14/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 92.7 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	03/14/2018	ND	464	116	400	3.39	

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	03/14/2018	ND	210	105	200	3.43	
DRO >C10-C28*	<10.0	10.0	03/14/2018	ND	221	111	200	3.90	
EXT DRO >C28-C36	<10.0	10.0	03/14/2018	ND					

Surrogate: 1-Chlorooctane 95.7 % 41-142

Surrogate: 1-Chlorooctadecane 95.7 % 37.6-147

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Analytical Results For:

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 ROBBIE RUNNELS
 P.O. Box 301
 Lovington NM, 88260
 Fax To: (575) 396-1429

Received:	03/13/2018	Sampling Date:	03/09/2018
Reported:	03/14/2018	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #146	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	XTO ENERGY - EDDY CO NM		

Sample ID: SP 2 @ SURFACE (H800730-08)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/14/2018	ND	1.99	99.5	2.00	0.738		
Toluene*	<0.050	0.050	03/14/2018	ND	2.00	100	2.00	0.513		
Ethylbenzene*	<0.050	0.050	03/14/2018	ND	1.98	98.9	2.00	0.287		
Total Xylenes*	<0.150	0.150	03/14/2018	ND	6.04	101	6.00	0.589		
Total BTEX	<0.300	0.300	03/14/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.7 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1840	16.0	03/14/2018	ND	464	116	400	3.39		

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	03/14/2018	ND	210	105	200	3.43		
DRO >C10-C28*	<10.0	10.0	03/14/2018	ND	221	111	200	3.90		
EXT DRO >C28-C36	<10.0	10.0	03/14/2018	ND						

Surrogate: 1-Chlorooctane 88.9 % 41-142

Surrogate: 1-Chlorooctadecane 88.5 % 37.6-147

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Analytical Results For:

 Basin Environmental Service
 ROBBIE RUNNELS
 P.O. Box 301
 Lovington NM, 88260
 Fax To: (575) 396-1429

Received:	03/13/2018	Sampling Date:	03/09/2018
Reported:	03/14/2018	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #146	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	XTO ENERGY - EDDY CO NM		

Sample ID: SP 2 @ 4' (H800730-09)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/14/2018	ND	1.99	99.5	2.00	0.738	
Toluene*	<0.050	0.050	03/14/2018	ND	2.00	100	2.00	0.513	
Ethylbenzene*	<0.050	0.050	03/14/2018	ND	1.98	98.9	2.00	0.287	
Total Xylenes*	<0.150	0.150	03/14/2018	ND	6.04	101	6.00	0.589	
Total BTEX	<0.300	0.300	03/14/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 91.9 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	03/14/2018	ND	464	116	400	3.39	

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	03/14/2018	ND	210	105	200	3.43	
DRO >C10-C28*	<10.0	10.0	03/14/2018	ND	221	111	200	3.90	
EXT DRO >C28-C36	<10.0	10.0	03/14/2018	ND					

Surrogate: 1-Chlorooctane 95.7 % 41-142

Surrogate: 1-Chlorooctadecane 95.9 % 37.6-147

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Analytical Results For:

Basin Environmental Service
 ROBBIE RUNNELS
 P.O. Box 301
 Lovington NM, 88260
 Fax To: (575) 396-1429

Received:	03/13/2018	Sampling Date:	03/09/2018
Reported:	03/14/2018	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #146	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	XTO ENERGY - EDDY CO NM		

Sample ID: SP 3 @ SURFACE (H800730-10)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/14/2018	ND	1.99	99.5	2.00	0.738	
Toluene*	<0.050	0.050	03/14/2018	ND	2.00	100	2.00	0.513	
Ethylbenzene*	<0.050	0.050	03/14/2018	ND	1.98	98.9	2.00	0.287	
Total Xylenes*	<0.150	0.150	03/14/2018	ND	6.04	101	6.00	0.589	
Total BTEX	<0.300	0.300	03/14/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 91.5 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	03/14/2018	ND	464	116	400	3.39	

TPH 8015M		mg/kg		Analyzed By: MS						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<50.0	50.0	03/14/2018	ND	210	105	200	3.43		
DRO >C10-C28*	5570	50.0	03/14/2018	ND	221	111	200	3.90		
EXT DRO >C28-C36	1490	50.0	03/14/2018	ND						

Surrogate: 1-Chlorooctane 93.7 % 41-142

Surrogate: 1-Chlorooctadecane 165 % 37.6-147

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Analytical Results For:

 Basin Environmental Service
 ROBBIE RUNNELS
 P.O. Box 301
 Lovington NM, 88260
 Fax To: (575) 396-1429

Received:	03/13/2018	Sampling Date:	03/09/2018
Reported:	03/14/2018	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #146	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	XTO ENERGY - EDDY CO NM		

Sample ID: SP 3 @ 1' (H800730-11)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/14/2018	ND	1.99	99.5	2.00	0.738		
Toluene*	<0.050	0.050	03/14/2018	ND	2.00	100	2.00	0.513		
Ethylbenzene*	<0.050	0.050	03/14/2018	ND	1.98	98.9	2.00	0.287		
Total Xylenes*	<0.150	0.150	03/14/2018	ND	6.04	101	6.00	0.589		
Total BTEX	<0.300	0.300	03/14/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.4 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	03/14/2018	ND	464	116	400	3.39		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<50.0	50.0	03/14/2018	ND	210	105	200	3.43		
DRO >C10-C28*	1330	50.0	03/14/2018	ND	221	111	200	3.90		
EXT DRO >C28-C36	379	50.0	03/14/2018	ND						

Surrogate: 1-Chlorooctane 94.7 % 41-142

Surrogate: 1-Chlorooctadecane 134 % 37.6-147

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 P.O. Box 301
 Lovington NM, 88260
 Fax To: (575) 396-1429

Received:	03/13/2018	Sampling Date:	03/09/2018
Reported:	03/14/2018	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #146	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	XTO ENERGY - EDDY CO NM		

Sample ID: SP 4 @ SURFACE (H800730-12)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/14/2018	ND	1.99	99.5	2.00	0.738		
Toluene*	<0.050	0.050	03/14/2018	ND	2.00	100	2.00	0.513		
Ethylbenzene*	<0.050	0.050	03/14/2018	ND	1.98	98.9	2.00	0.287		
Total Xylenes*	<0.150	0.150	03/14/2018	ND	6.04	101	6.00	0.589		
Total BTEX	<0.300	0.300	03/14/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.8 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3360	16.0	03/14/2018	ND	464	116	400	3.39		

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	03/14/2018	ND	210	105	200	3.43		
DRO >C10-C28*	445	10.0	03/14/2018	ND	221	111	200	3.90		
EXT DRO >C28-C36	177	10.0	03/14/2018	ND						

Surrogate: 1-Chlorooctane 80.2 % 41-142

Surrogate: 1-Chlorooctadecane 92.5 % 37.6-147

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 P.O. Box 301
 Lovington NM, 88260
 Fax To: (575) 396-1429

Received:	03/13/2018	Sampling Date:	03/09/2018
Reported:	03/14/2018	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #146	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	XTO ENERGY - EDDY CO NM		

Sample ID: SP 4 @ 1' (H800730-13)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/13/2018	ND	1.87	93.4	2.00	1.63		
Toluene*	<0.050	0.050	03/13/2018	ND	1.90	95.1	2.00	0.918		
Ethylbenzene*	<0.050	0.050	03/13/2018	ND	1.88	93.9	2.00	1.17		
Total Xylenes*	<0.150	0.150	03/13/2018	ND	5.79	96.5	6.00	1.57		
Total BTEX	<0.300	0.300	03/13/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.8 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	384	16.0	03/14/2018	ND	464	116	400	3.39		

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	03/14/2018	ND	174	86.9	200	2.08		
DRO >C10-C28*	<10.0	10.0	03/14/2018	ND	155	77.3	200	3.67		
EXT DRO >C28-C36	<10.0	10.0	03/14/2018	ND						

Surrogate: 1-Chlorooctane 99.9 % 41-142

Surrogate: 1-Chlorooctadecane 94.1 % 37.6-147

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Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
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





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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Basin Environmental Service Technologies, LLC **BILL TO** ANALYSIS REQUEST

Project Manager: Robbie Rummels P.O. #: Company: XTO Energy

Address: P.O. Box 301 Attn: Amy Ruth

City: Lovington State: NM Zip: 88260

Phone #: (575)396-2378 Fax #: (575)396-1429 Address:

Project #: Project Owner: XTO Energy City: State: NM Zip: 88260

Project Name: *Neath's Paker Lake Unit 146* Phone #: Fax #:

Project Location: Eddy

Sampler Name: Jimmy Hand

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.	SAMPLING	DATE	TIME	Chloride	TPH (8015M)	BTEX (8021B)	RUSH
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :								
	1	SP1 @ Surface	9	1	X							3/9/18	11:26	X	X	X	X
	2	SP1 @ 4'	9	1	X							3/9/18	11:36	X	X	X	X
	3	SP1 @ 6'	9	1	X							3/9/18	11:45	X		X	X
	4	SP1 @ 8'	9	1	X							3/9/18	11:50	X		X	X
	5	SP1 @ 10'	9	1	X							3/9/18	11:57	X		X	X
	6	SP1 @ 12'	9	1	X							3/9/18	12:05	X		X	X
	7	SP1 @ 16'	9	1	X							3/9/18	12:18	X	X	X	X
	8	SP2 @ Surface	9	1	X							3/9/18	12:27	X	X	X	X
	9	SP2 @ 4'	9	1	X							3/9/18	12:39	X	X	X	X
	10	SP3 @ Surface	9	1	X							3/9/18	12:49	X	X	X	X

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:

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 rendered by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: Jimmy Hand Date: 3/13/18 Time: 0600 Received By: *[Signature]*

Relinquished By: *[Signature]* Date: 3/13/18 Time: 2:20

Delivered By: (Circle One) *0.1c* Sample Condition: Cool Intact Yes No

Sampler - UPS - Bus - Other: *Conserved - 0.15c* Yes No

Checked By: *[Signature]* (Initials) *TR*

REMARKS: Please email results to pm@basinenr.com, amy_ruth@xtoenergy.com

Phone Result: Yes No Add'l Phone #:
 Fax Result: Yes No Add'l Fax #:
 REMARKS:



ARDINAL LABORATORIES

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ANALYSIS REQUEST

BILL TO

Company Name: Basin Environmental Service Technologies, LLC

Project Manager: Robbie Runnels

Address: P. O. Box 301

City: Lovington

Phone #: (575)396-2378

Project #:

Project Name: Mast #

Project Location: Eddy

Sampler Name: Jimmy Hand

P.O. #:

Company: XTO Energy

Attn: Amy Ruth

Address:

City: XTO Energy

State: NM Zip: 88260

Phone #:

Fax #:

FOR LAB USE ONLY

Lab I.D. Sample I.D.

#800 730

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	ANALYSIS REQUEST			
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	PRESERV.							SAMPLING	Chloride	TPH (8015M)	BTEX (8021B)
11	SP3 @ 1'	g	1	X									3/9/18	12:52	X	X	X	X	
12	SP4 @ Surface	g	1	X									3/9/18	13:02	X	X	X	X	
13	SP4 @ 1'	g	1	X									3/9/18	13:03	X	X	X	X	

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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 rendered by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: Jimmy Hand

Relinquished By: Jimmy Hand

Relinquished By: Jimmy Hand

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

Date: 3/9/18
Time: 8:00

Date: 3/13/18
Time: 2:20

Received By: Jimmy Hand

Sample Condition

Cool Intact

Yes No

Yes No

Yes No

Yes No

CHECKED BY: (Initials)

Phone Result: Yes No

Fax Result: Yes No

REMARKS:

REMARKS:

REMARKS:

REMARKS:

Add'l Phone #:

Add'l Fax #:

Add'l Phone #:

Add'l Fax #:

Add'l Phone #:

Add'l Phone #:

Please email results to pm@basinenr.com, amy_ruth@xtoenergy.com



April 23, 2018

ROBBIE RUNNELS

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: POKER LAKE UNIT #146

Enclosed are the results of analyses for samples received by the laboratory on 04/20/18 14:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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 accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style.

Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

 Basin Environmental Service
 ROBBIE RUNNELS
 P.O. Box 301
 Lovington NM, 88260
 Fax To: (575) 396-1429

Received:	04/20/2018	Sampling Date:	04/19/2018
Reported:	04/23/2018	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #146	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	XTO ENERGY - EDDY CO NM		

Sample ID: EW #1 (H801103-01)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/23/2018	ND	2.10	105	2.00	0.675	
Toluene*	0.056	0.050	04/23/2018	ND	2.09	105	2.00	2.22	
Ethylbenzene*	<0.050	0.050	04/23/2018	ND	2.02	101	2.00	1.75	
Total Xylenes*	<0.150	0.150	04/23/2018	ND	6.15	103	6.00	2.14	
Total BTEX	<0.300	0.300	04/23/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.3 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	384	16.0	04/23/2018	ND	416	104	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	04/21/2018	ND	216	108	200	2.57	
DRO >C10-C28*	<10.0	10.0	04/21/2018	ND	213	107	200	3.00	
EXT DRO >C28-C36	<10.0	10.0	04/21/2018	ND					

Surrogate: 1-Chlorooctane 95.8 % 41-142
Surrogate: 1-Chlorooctadecane 93.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Basin Environmental Service
 ROBBIE RUNNELS
 P.O. Box 301
 Lovington NM, 88260
 Fax To: (575) 396-1429

Received:	04/20/2018	Sampling Date:	04/19/2018
Reported:	04/23/2018	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #146	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	XTO ENERGY - EDDY CO NM		

Sample ID: EW #2 (H801103-02)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/21/2018	ND	2.10	105	2.00	0.675	
Toluene*	<0.050	0.050	04/21/2018	ND	2.09	105	2.00	2.22	
Ethylbenzene*	<0.050	0.050	04/21/2018	ND	2.02	101	2.00	1.75	
Total Xylenes*	<0.150	0.150	04/21/2018	ND	6.15	103	6.00	2.14	
Total BTEX	<0.300	0.300	04/21/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	04/23/2018	ND	416	104	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	04/21/2018	ND	216	108	200	2.57	
DRO >C10-C28*	<10.0	10.0	04/21/2018	ND	213	107	200	3.00	
EXT DRO >C28-C36	<10.0	10.0	04/21/2018	ND					

Surrogate: 1-Chlorooctane 86.2 % 41-142

Surrogate: 1-Chlorooctadecane 82.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Basin Environmental Service
 ROBBIE RUNNELS
 P.O. Box 301
 Lovington NM, 88260
 Fax To: (575) 396-1429

Received:	04/20/2018	Sampling Date:	04/19/2018
Reported:	04/23/2018	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #146	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	XTO ENERGY - EDDY CO NM		

Sample ID: WW #1 (H801103-03)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/21/2018	ND	2.10	105	2.00	0.675	
Toluene*	<0.050	0.050	04/21/2018	ND	2.09	105	2.00	2.22	
Ethylbenzene*	<0.050	0.050	04/21/2018	ND	2.02	101	2.00	1.75	
Total Xylenes*	<0.150	0.150	04/21/2018	ND	6.15	103	6.00	2.14	
Total BTEX	<0.300	0.300	04/21/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	04/23/2018	ND	416	104	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	04/21/2018	ND	216	108	200	2.57	
DRO >C10-C28*	<10.0	10.0	04/21/2018	ND	213	107	200	3.00	
EXT DRO >C28-C36	<10.0	10.0	04/21/2018	ND					

Surrogate: 1-Chlorooctane 97.3 % 41-142

Surrogate: 1-Chlorooctadecane 91.1 % 37.6-147

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Analytical Results For:

 Basin Environmental Service
 ROBBIE RUNNELS
 P.O. Box 301
 Lovington NM, 88260
 Fax To: (575) 396-1429

Received:	04/20/2018	Sampling Date:	04/19/2018
Reported:	04/23/2018	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #146	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	XTO ENERGY - EDDY CO NM		

Sample ID: WW #2 (H801103-04)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/21/2018	ND	2.10	105	2.00	0.675		
Toluene*	<0.050	0.050	04/21/2018	ND	2.09	105	2.00	2.22		
Ethylbenzene*	<0.050	0.050	04/21/2018	ND	2.02	101	2.00	1.75		
Total Xylenes*	<0.150	0.150	04/21/2018	ND	6.15	103	6.00	2.14		
Total BTEX	<0.300	0.300	04/21/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	04/23/2018	ND	400	100	400	7.69		

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	04/21/2018	ND	216	108	200	2.57		
DRO >C10-C28*	<10.0	10.0	04/21/2018	ND	213	107	200	3.00		
EXT DRO >C28-C36	<10.0	10.0	04/21/2018	ND						

Surrogate: 1-Chlorooctane 94.5 % 41-142

Surrogate: 1-Chlorooctadecane 90.3 % 37.6-147

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Analytical Results For:

 Basin Environmental Service
 ROBBIE RUNNELS
 P.O. Box 301
 Lovington NM, 88260
 Fax To: (575) 396-1429

Received:	04/20/2018	Sampling Date:	04/19/2018
Reported:	04/23/2018	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #146	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	XTO ENERGY - EDDY CO NM		

Sample ID: SW (H801103-05)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/21/2018	ND	2.10	105	2.00	0.675	
Toluene*	<0.050	0.050	04/21/2018	ND	2.09	105	2.00	2.22	
Ethylbenzene*	<0.050	0.050	04/21/2018	ND	2.02	101	2.00	1.75	
Total Xylenes*	<0.150	0.150	04/21/2018	ND	6.15	103	6.00	2.14	
Total BTEX	<0.300	0.300	04/21/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	384	16.0	04/23/2018	ND	400	100	400	7.69	

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	04/21/2018	ND	216	108	200	2.57	
DRO >C10-C28*	<10.0	10.0	04/21/2018	ND	213	107	200	3.00	
EXT DRO >C28-C36	<10.0	10.0	04/21/2018	ND					

Surrogate: 1-Chlorooctane 95.0 % 41-142

Surrogate: 1-Chlorooctadecane 87.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Basin Environmental Service
 ROBBIE RUNNELS
 P.O. Box 301
 Lovington NM, 88260
 Fax To: (575) 396-1429

Received:	04/20/2018	Sampling Date:	04/19/2018
Reported:	04/23/2018	Sampling Type:	Soil
Project Name:	POKER LAKE UNIT #146	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	XTO ENERGY - EDDY CO NM		

Sample ID: NW (H801103-06)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/21/2018	ND	2.10	105	2.00	0.675	
Toluene*	<0.050	0.050	04/21/2018	ND	2.09	105	2.00	2.22	
Ethylbenzene*	<0.050	0.050	04/21/2018	ND	2.02	101	2.00	1.75	
Total Xylenes*	<0.150	0.150	04/21/2018	ND	6.15	103	6.00	2.14	
Total BTEX	<0.300	0.300	04/21/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.8 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	04/23/2018	ND	400	100	400	7.69	

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	04/21/2018	ND	216	108	200	2.57	
DRO >C10-C28*	<10.0	10.0	04/21/2018	ND	213	107	200	3.00	
EXT DRO >C28-C36	<10.0	10.0	04/21/2018	ND					

Surrogate: 1-Chlorooctane 85.4 % 41-142

Surrogate: 1-Chlorooctadecane 80.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

- S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- 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



Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Basin Environmental Service Technologies, LLC **BILL TO** ANALYSIS REQUEST

Project Manager: Robbie Runnels P.O. #: Company: XTO Energy

Address: P.O. Box 301 State: NM Zip: 88260 Attn: Amy Ruth

City: Lovington Fax #: (575)396-1429 Address: Project Owner: XTO Energy

Phone #: (575)396-2378 Project #: Project Name: Poker Lake Unit #146 City: State: NM Zip: 88260

Project Location: Eddy Phone #: Project Name: Jimmy Hand Fax #:

FOR LAB USE ONLY MATRIX PRESERV. SAMPLING

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	Chloride	TPH (8015M)	BTEX (8021B)	RUSH
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :						
1	EW #1	g	1	X						4/19/18	7:50	X	X	X	
2	EW #2	g	1	X						4/19/18	7:50	X	X	X	
3	WW #1	g	1	X						4/19/18	8:40	X	X	X	
4	WW #2	g	1	X						4/19/18	8:41	X	X	X	
5	SW	g	1	X						4/19/18	10:02	X	X	X	
6	NW	g	1	X						4/19/18	7:45	X	X	X	

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services. 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: Jimmy Hand Date: 4/16/18 Time: 6:00 Received By: [Signature]

Reinquired By: [Signature] Date: [] Time: [] Received By: []

Delivered By: (Circle One) 4.98 Sample Condition Cool Intact Yes No Yes No CHECKED BY: [Signature]

Sampler - UPS - Bus - Other: Consulted 4.858

Phone Result: Yes No Add'l Phone #:
 Fax Result: Yes No Add'l Fax #:
 REMARKS: Please email results to pm@basinenrv.com, amy_ruth@xtoenergy.com

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

XTO Energy – Poker Lake Unit #146

Unit Letter P of Section 31, T23S, R30E



Release area, facing northeast



4' excavation



Liner Placement



Backfilling

XTO Energy – Poker Lake Unit #146

Unit Letter P of Section 31, T23S, R30E



Backfilled



Backfilled



Backfill Complete



Remediation and Reclamation Complete