



PO Box 301 | Lovington, NM 88260 | Phone 575.396.2378

**October 2, 2017**

**Attn: Mike Bratcher**

New Mexico Energy, Minerals, & Natural Resources  
Oil Conservation Division, Environmental Bureau – District 2  
811 S. First St.  
Artesia, NM 88210

**RE: Termination Request Report  
XTO Energy Inc. – Poker Lake Unit 213 Battery  
UL/P sec. 18 T24S R30E  
API No. 30-015-33859  
2RP-4243, 2RP-4265**

Mr. Bratcher:

XTO Energy Inc. (XTO) has retained Basin Environmental Service Technologies (Basin) to address potential environmental concerns at the above-referenced site.

### **Background and Previous Work**

The site is located approximately nine and two tenths (9.2) miles southeast of Malaga, New Mexico at Unit Letter P of Section 18 Township 24 South of Range 30 East. This site is located in an area where groundwater is anticipated to be at approximately one-hundred sixty-five (165) +/- feet below ground surface (bgs) (See Figure 1).

On May 27<sup>th</sup>, 2017, XTO discovered a release of approximately two (2) barrels (bbls) of crude oil and an estimated three (barrels) of produced water when the treater caught fire. No product from the release was recovered. Approximately three hundred (300) square feet (ft<sup>2</sup>) of pasture was impacted by fluids and an additional twenty-seven thousand five hundred (27,500) ft<sup>2</sup> of pasture was impacted by misted crude oil. New Mexico Oil Conservation Division (NMOCD) was notified of the release on May 28<sup>th</sup>, 2017, and an initial C-141 was submitted to NMOCD on June 8<sup>th</sup>, 2017, for approval.

Basin personnel were on site June 1<sup>st</sup>, 2017 to apply Micro-blaze® to the pasture area as well as the impacted area within the secondary containment.

On June 18<sup>th</sup>, 2017, XTO discovered an additional release of approximately twelve (12) bbls of crude oil when a valve was not shut off from the skim pump. An estimated ten (10) bbls were recovered. The release was entirely contained within the secondary containment of the facility.

Approximately two-thousand six-hundred (2,600) ft<sup>2</sup> of the containment area was impacted. New Mexico Oil Conservation Division (NMOCD) was notified of the release on June 28<sup>th</sup>, 2017, and an initial C-141 was submitted to NMOCD on June 28<sup>th</sup>, 2017, for approval. (See Appendix A)

Basin personnel were on site beginning July 29<sup>th</sup>, 2017, to begin delineation activities. Seven (7) sample points were established. The sample points, (SP 1, SP 2, SP 3, SP 4, SP 5, SP 6, SP 7) from the release area were field tested for chlorides. (See Figure 2).

Basin personnel were on site to begin remediation activities on August 22<sup>nd</sup>, 2017. During remediation, soil samples were retrieved in the release area, both horizontally and vertically. The samples were delivered to an approved NMOCD commercial laboratory for confirmatory analysis. The analytical report details the concentration of chloride, Benzene, Toluene, Ethyl-benzene, Xylenes (BTEX) and TPH were below the NMOCD recommended remediation action limits (RRAL). In addition, the NMOCD does not have a specific RRAL for chloride concentrations, but all sample points in the floor of the excavation were delineated to below 250 mg/kg. Horizontal delineation was completed to below 750 mg/kg.

The release area was excavated from a depth of one-half (0.5) feet around the area of Sample Point 1 to a depth of seven (7) feet around Sample Point 3. The areas around Sample Point 2 and Sample Point 4 were excavated to a depth of four (4) feet. Sample Point 4, Sample Point 5, Sample Point 7, and Sample Point 8 were excavated to a depth of five (5) feet.

The excavation was then backfilled with clean, non-impacted soils, compacted, and contoured to the surrounding area.

The impacted area in the pasture will be disked and seeded with a landowner approved seed mix of native vegetation free from noxious and invasive species at a time conducive for germination.

Horizontal and vertical soil samples from the XTO, Poker Lake Unit 213 Battery release site were analyzed by an NMOCD approved laboratory, and concentrations of chloride, BTEX, and TPH were below the RRAL established for the site (Appendix B). XTO via Basin requests site closure to the Poker Lake Unit 213 Battery release site.

Photo documentation of the release can be found in Appendix C.

Basin appreciates the opportunity to work with you on this project. Please contact me if you have any questions or wish to discuss the site.

Sincerely,



Robbie Runnels  
Project Manager  
Basin Environmental Service Technologies

(575) 393-2967

Attachments:

Figure 1 – Site Location Map

Figure 2 - Initial sampling Data

Appendix A – Initial C-141

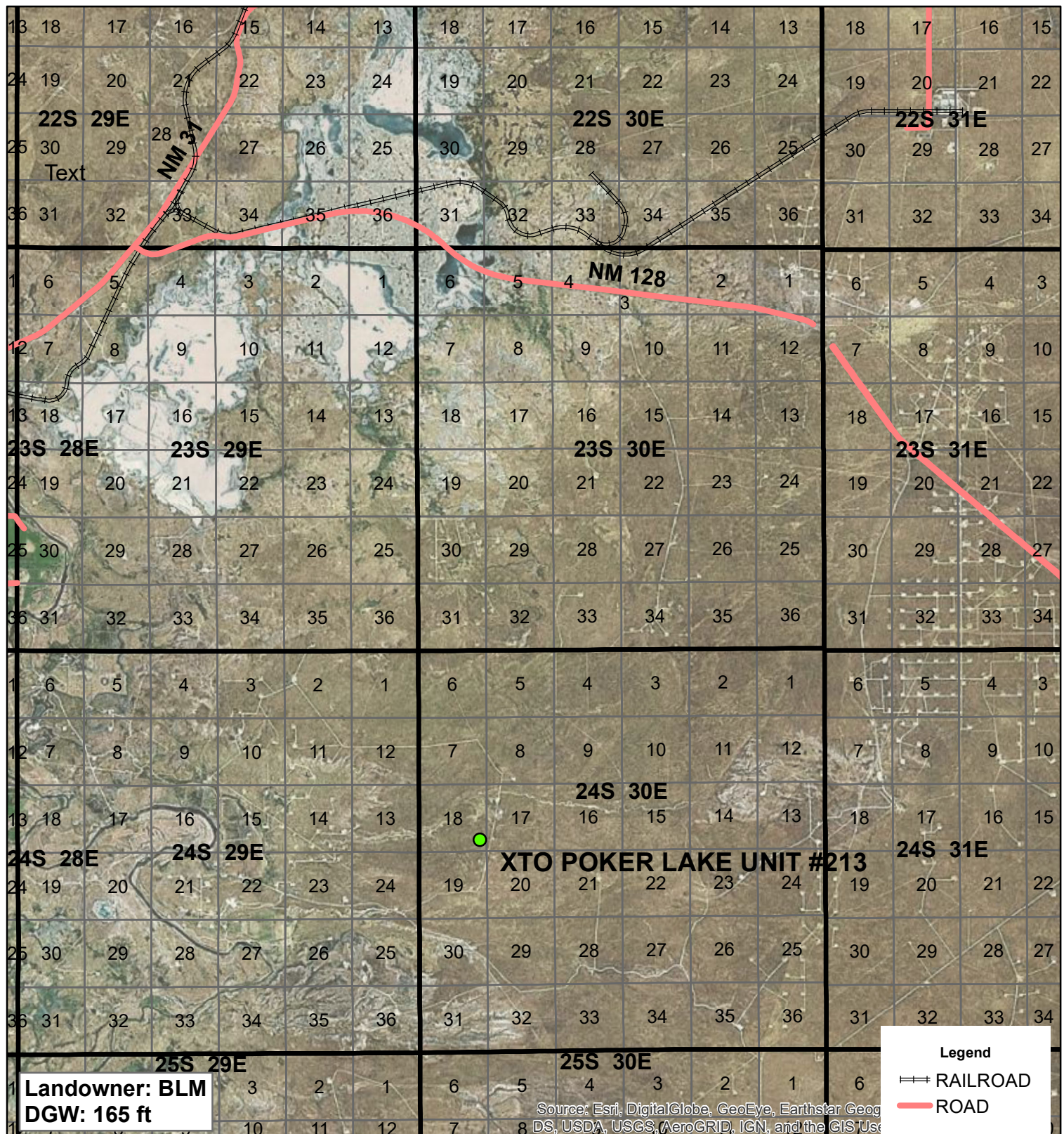
Appendix B – Laboratory Analysis

Appendix C – Photo Documentation

# FIGURES



# Geographic Location



## XTO POKER LAKE UNIT #213

UL P SECTION 18  
P-24-S R-30-E  
EDDY COUNTY, NM

GPS: 32.212792 -103.913928

0 1 2  
Miles

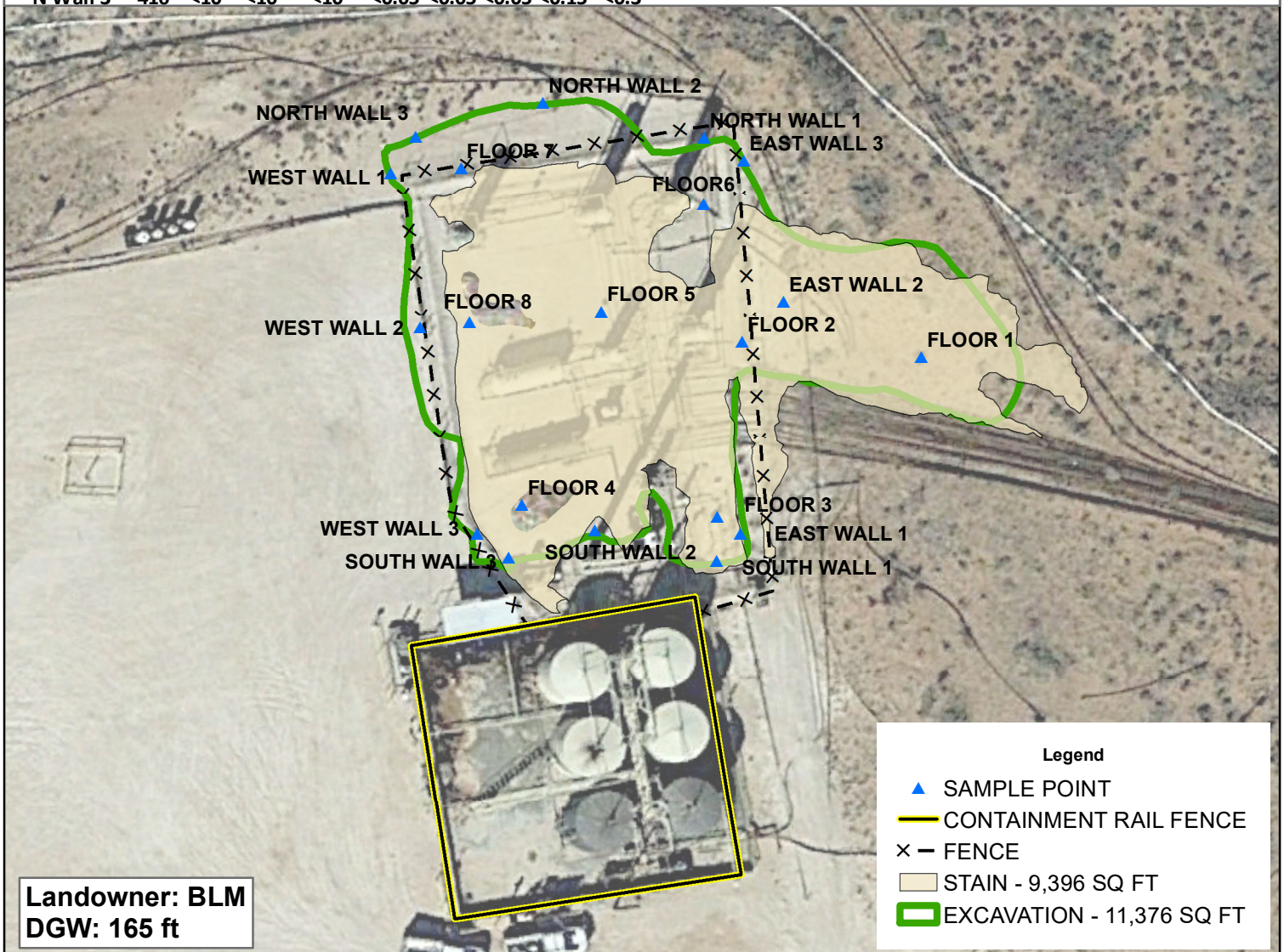
Drawing date: 7/31/17  
Drafted by: T. Grieco





# Excavation

Sample	Cl-	GRO	DRO	EXT DRO	B	T	E	X	TOTAL	Sample	Cl-	GRO	DRO	EXT DRO	B	T	E	X	TOTAL
Floor 1 @ .5'	<16	<10	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3	W Wall 1	112	<10	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
Floor 2 @ 4'	48	<10	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3	W Wall 2	192	<10	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
Floor 3 @ 7'	96	<10	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3	W Wall 3	160	<10	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
Floor 4 @ 5'	160	<10	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3										
Floor 5 @ 5'	64	<10	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3	S Wall 1	736	<10	223	75.7	<0.05	<0.05	<0.05	<0.15	<0.3
Floor 6 @ 4'	128	<10	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3	S Wall 2	128	<10	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
Floor 7 @ 5'	96	<10	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3	S Wall 3	96	<10	130	58.4	<0.05	<0.05	<0.05	<0.15	<0.3
Floor 8 @ 5'	592	<10	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3										
Floor 8 @ 8'	128									E Wall 1	624	<10	224	96.9	<0.05	<0.05	<0.05	<0.15	<0.3
										E Wall 2	112	<10	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
										E Wall 3	128	<10	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
N Wall 1	288	<10	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3										
N Wall 2	272	<10	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3										
N Wall 3	416	<10	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3										



## XTO POKER LAKE UNIT #213

UL P SECTION 18  
T-24-S R-30-E  
EDDY COUNTY, NM

**Underground facilities are  
spatially projected  
and need to be field verified.**

GPS: 32.212792 -103.913928

0 25 50  
Feet

GPS date: 7/28/17 TG, 8/25/17 MT

Drawing date: 8/31/17

Drafted by: T. Grieco



# APPENDICES

APPENDIX –A  
C-141



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

State of New Mexico  
Energy Minerals and Natural Resources

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

Form C-141  
Revised August 8, 2011

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

**Release Notification and Corrective Action**

**OPERATOR**

☐ Initial Report ☒ Final Report

Name of Company: XTO Energy	Contact Amy Ruth
Address: 522 W. Mermod, Suite 704 Carlsbad, NM 88220	Telephone No. 575-887-7329
Facility Name: Poker Lake Unit 213 Battery	Facility Type Exploration and Production

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-015-33859
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**LOCATION OF RELEASE**

Unit Letter P	Section 18	Township 24S	Range 30E	Feet from the 860	North/South Line South	Feet from the 660	East/West Line East	County Eddy
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Latitude 32.212856 Longitude -103.913909

**NATURE OF RELEASE**

Type of Release: Fire (crude oil and produced water)	Volume of Release: 1.96 BPW, 3.39 bbls oil	Volume Recovered: None
Source of Release Heater-treater	Date and Hour of Occurrence: 5/27/17, Unknown	Date and Hour of Discovery: 5/27/17, 7:30 p.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher, Crystal Weaver (NMOCD), Jim Amos, Shelly Tucker (BLM)	
By Whom? Jacob Foust	Date and Hour: 5/28/17, 11:00 a.m.	
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.\*  
N/A


**Describe Cause of Problem and Remedial Action Taken.\***

The battery's main heater-treater ignited. The fire department was called and all the wells feeding into the battery were shut in. Estimating approximately 17 bbls of crude oil (in addition to the amount in the soil listed above) were lost to the fire from the main heater-treater. The fire was extinguished at 11:30 p.m.

**Describe Area Affected and Cleanup Action Taken.\***

The main heater-treater and nearby equipment were damaged. Approximately 300 ft<sup>2</sup> of pasture immediately east of the vessel containment area were affected by the fire and 27,500 ft<sup>2</sup> of pasture were affected by misted crude oil. Micro-Blaze® was applied to the affected pasture on June 1, 2017. The facility was torn down and fully remediated with contaminated soils taken to an NMOCD approved facility with soil samples being retrieved and analyzed at an NMOCD approved laboratory. Clean non-impacted imported soils were brought back in and the area was compacted and contoured to the surrounding area. A detailed report of the remediation activities has been submitted as Poker Lake Unit 213 Termination Request.

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:   
Printed Name: Amy Ruth  
Title: EHS Remediation Specialist  
E-mail Address: ACRuth@basspet.com xtoenergy.com  
Date: 10-24-17 Phone: 432-661-0571

**OIL CONSERVATION DIVISION**

Approved by Environmental Specialist:

Approval Date:

Expiration Date:

Conditions of Approval:

Attached ☐

\* Attach Additional Sheets If Necessary

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

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1220 South St. Francis Dr.  
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Form C-141  
Revised August 8, 2011

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

**Release Notification and Corrective Action**

**OPERATOR**

☐ Initial Report ☒ Final Report

Name of Company: XTO Energy	Contact Amy Ruth
Address: 522 W. Mermod, Suite 704 Carlsbad, NM 88220	Telephone No. 575-887-7329
Facility Name: Poker Lake Unit 213 Battery	Facility Type Exploration and Production

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-015-33859
------------------------	------------------------	----------------------

**LOCATION OF RELEASE**

Unit Letter P	Section 18	Township 24S	Range 30E	Feet from the 860	North/South Line South	Feet from the 660	East/West Line East	County Eddy
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Latitude 32.212856 Longitude -103.913909

**NATURE OF RELEASE**

Type of Release: Crude oil	Volume of Release: 12.3 bbls	Volume Recovered: 10 bbls
Source of Release - Free water knockout	Date and Hour of Occurrence: 6/18/17, Unknown in a.m.	Date and Hour of Discovery: 6/18/17, 10:00 p.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? N/A	
By Whom? N/A	Date and Hour: N/A	
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.\*  
N/A

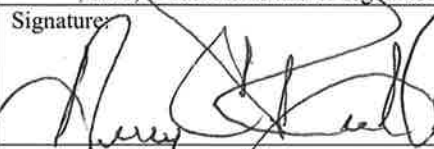
Describe Cause of Problem and Remedial Action Taken.\*

The skim pump was turned on, sending oil into the flow line. A valve was not shut off on the battery side, causing oil to spill onto the ground. The valve was shut in and locked.

Describe Area Affected and Cleanup Action Taken.\*

Approximately 2,600 ft<sup>2</sup> inside the caliche containment was impacted. The release was fully contained within the secondary containment berm. The facility was torn down and fully remediated with contaminated soils taken to an NMOCD approved facility with soil samples being retrieved and analyzed at an NMOCD approved laboratory. Clean non-impacted imported soils were brought back in and the area was compacted and contoured to the surrounding area. A detailed report of the remediation activities has been submitted as Poker Lake Unit 213 Termination Request that is also associated with 2RP-4243.

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: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Amy Ruth	Approved by Environmental Specialist:	
Title: EHS Remediation Specialist	Approval Date:	Expiration Date:
E-mail Address: ACRuth@basspet.com xtoenergy.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 10-24-17 Phone: 432-661-0571		

\* Attach Additional Sheets If Necessary

# APPENDIX – B

## Analytical Reports

August 24, 2017

ROBBIE RUNNELS

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: PLU 213

Enclosed are the results of analyses for samples received by the laboratory on 08/23/17 14:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://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,



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: 08/23/2017  
 Reported: 08/24/2017  
 Project Name: PLU 213  
 Project Number: NONE GIVEN  
 Project Location: XTO ENERGY - EDDY CO NM

 Sampling Date: 08/22/2017  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

**Sample ID: FLOOR 1 @ 0.5' (H702242-01)**

BTX 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	08/24/2017	ND	2.14	107	2.00	2.73	
Toluene*	<0.050	0.050	08/24/2017	ND	1.97	98.7	2.00	1.81	
Ethylbenzene*	<0.050	0.050	08/24/2017	ND	2.00	99.8	2.00	1.83	
Total Xylenes*	<0.150	0.150	08/24/2017	ND	5.94	99.0	6.00	1.92	
Total BTX	<0.300	0.300	08/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	08/24/2017	ND	448	112	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	08/23/2017	ND	185	92.4	200	2.64	
DRO >C10-C28	<10.0	10.0	08/23/2017	ND	187	93.7	200	4.57	
EXT DRO >C28-C36	<10.0	10.0	08/23/2017	ND					

Surrogate: 1-Chlorooctane 85.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 90.6 % 34.7-157

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: 08/23/2017  
Reported: 08/24/2017  
Project Name: PLU 213  
Project Number: NONE GIVEN  
Project Location: XTO ENERGY - EDDY CO NM

Sampling Date: 08/22/2017  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Tamara Oldaker

**Sample ID: FLOOR 2 @ 4' (H702242-02)**

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	08/24/2017	ND	2.14	107	2.00	2.73	
Toluene*	<0.050	0.050	08/24/2017	ND	1.97	98.7	2.00	1.81	
Ethylbenzene*	<0.050	0.050	08/24/2017	ND	2.00	99.8	2.00	1.83	
Total Xylenes*	<0.150	0.150	08/24/2017	ND	5.94	99.0	6.00	1.92	
Total BTEx	<0.300	0.300	08/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	48.0	16.0	08/24/2017	ND	448	112	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	08/23/2017	ND	185	92.4	200	2.64	
DRO >C10-C28	<10.0	10.0	08/23/2017	ND	187	93.7	200	4.57	
EXT DRO >C28-C36	<10.0	10.0	08/23/2017	ND					

Surrogate: 1-Chlorooctane 95.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 96.4 % 34.7-157

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:	08/23/2017	Sampling Date:	08/22/2017
Reported:	08/24/2017	Sampling Type:	Soil
Project Name:	PLU 213	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	XTO ENERGY - EDDY CO NM		

**Sample ID: FLOOR 3 @ 7' (H702242-03)**

BTX 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	08/24/2017	ND	2.14	107	2.00	2.73	
Toluene*	<0.050	0.050	08/24/2017	ND	1.97	98.7	2.00	1.81	
Ethylbenzene*	<0.050	0.050	08/24/2017	ND	2.00	99.8	2.00	1.83	
Total Xylenes*	<0.150	0.150	08/24/2017	ND	5.94	99.0	6.00	1.92	
Total BTX	<0.300	0.300	08/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	96.0	16.0	08/24/2017	ND	448	112	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	08/23/2017	ND	185	92.4	200	2.64	
DRO >C10-C28	<10.0	10.0	08/23/2017	ND	187	93.7	200	4.57	
EXT DRO >C28-C36	<10.0	10.0	08/23/2017	ND					

Surrogate: 1-Chlorooctane 92.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 96.6 % 34.7-157

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: 08/23/2017  
Reported: 08/24/2017  
Project Name: PLU 213  
Project Number: NONE GIVEN  
Project Location: XTO ENERGY - EDDY CO NM

Sampling Date: 08/22/2017  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Tamara Oldaker

**Sample ID: FLOOR 4 @ 5' (H702242-04)**

BTX 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	08/24/2017	ND	2.14	107	2.00	2.73	
Toluene*	<0.050	0.050	08/24/2017	ND	1.97	98.7	2.00	1.81	
Ethylbenzene*	<0.050	0.050	08/24/2017	ND	2.00	99.8	2.00	1.83	
Total Xylenes*	<0.150	0.150	08/24/2017	ND	5.94	99.0	6.00	1.92	
Total BTX	<0.300	0.300	08/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	160	16.0	08/24/2017	ND	448	112	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	08/23/2017	ND	185	92.4	200	2.64	
DRO >C10-C28	<10.0	10.0	08/23/2017	ND	187	93.7	200	4.57	
EXT DRO >C28-C36	<10.0	10.0	08/23/2017	ND					

Surrogate: 1-Chlorooctane 89.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 91.8 % 34.7-157

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\*=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: 08/23/2017  
Reported: 08/24/2017  
Project Name: PLU 213  
Project Number: NONE GIVEN  
Project Location: XTO ENERGY - EDDY CO NM

Sampling Date: 08/22/2017  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Tamara Oldaker

**Sample ID: FLOOR 5 @ 5' (H702242-05)**

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	08/24/2017	ND	2.14	107	2.00	2.73		
Toluene*	<0.050	0.050	08/24/2017	ND	1.97	98.7	2.00	1.81		
Ethylbenzene*	<0.050	0.050	08/24/2017	ND	2.00	99.8	2.00	1.83		
Total Xylenes*	<0.150	0.150	08/24/2017	ND	5.94	99.0	6.00	1.92		
Total BTEx	<0.300	0.300	08/24/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	08/24/2017	ND	448	112	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	08/23/2017	ND	185	92.4	200	2.64	
DRO >C10-C28	<10.0	10.0	08/23/2017	ND	187	93.7	200	4.57	
EXT DRO >C28-C36	<10.0	10.0	08/23/2017	ND					

Surrogate: 1-Chlorooctane 113 % 28.3-164

Surrogate: 1-Chlorooctadecane 116 % 34.7-157

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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: 08/23/2017  
 Reported: 08/24/2017  
 Project Name: PLU 213  
 Project Number: NONE GIVEN  
 Project Location: XTO ENERGY - EDDY CO NM

 Sampling Date: 08/22/2017  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

**Sample ID: FLOOR 6 @ 4' (H702242-06)**

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	08/24/2017	ND	2.14	107	2.00	2.73	
Toluene*	<0.050	0.050	08/24/2017	ND	1.97	98.7	2.00	1.81	
Ethylbenzene*	<0.050	0.050	08/24/2017	ND	2.00	99.8	2.00	1.83	
Total Xylenes*	<0.150	0.150	08/24/2017	ND	5.94	99.0	6.00	1.92	
Total BTEx	<0.300	0.300	08/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	128	16.0	08/24/2017	ND	448	112	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	08/23/2017	ND	185	92.4	200	2.64	
DRO >C10-C28	<10.0	10.0	08/23/2017	ND	187	93.7	200	4.57	
EXT DRO >C28-C36	<10.0	10.0	08/23/2017	ND					

Surrogate: 1-Chlorooctane 98.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 101 % 34.7-157

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

Received: 08/23/2017  
Reported: 08/24/2017  
Project Name: PLU 213  
Project Number: NONE GIVEN  
Project Location: XTO ENERGY - EDDY CO NM

Sampling Date: 08/22/2017  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Tamara Oldaker

**Sample ID: FLOOR 7 @ 5' (H702242-07)**

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	08/24/2017	ND	2.14	107	2.00	2.73	
Toluene*	<0.050	0.050	08/24/2017	ND	1.97	98.7	2.00	1.81	
Ethylbenzene*	<0.050	0.050	08/24/2017	ND	2.00	99.8	2.00	1.83	
Total Xylenes*	<0.150	0.150	08/24/2017	ND	5.94	99.0	6.00	1.92	
Total BTEx	<0.300	0.300	08/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	96.0	16.0	08/24/2017	ND	448	112	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	08/23/2017	ND	185	92.4	200	2.64	
DRO >C10-C28	<10.0	10.0	08/23/2017	ND	187	93.7	200	4.57	
EXT DRO >C28-C36	<10.0	10.0	08/23/2017	ND					

Surrogate: 1-Chlorooctane 95.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 100 % 34.7-157

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

Received: 08/23/2017  
Reported: 08/24/2017  
Project Name: PLU 213  
Project Number: NONE GIVEN  
Project Location: XTO ENERGY - EDDY CO NM

Sampling Date: 08/22/2017  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Tamara Oldaker

**Sample ID: FLOOR 8 @ 5' (H702242-08)**

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	08/24/2017	ND	2.14	107	2.00	2.73	
Toluene*	<0.050	0.050	08/24/2017	ND	1.97	98.7	2.00	1.81	
Ethylbenzene*	<0.050	0.050	08/24/2017	ND	2.00	99.8	2.00	1.83	
Total Xylenes*	<0.150	0.150	08/24/2017	ND	5.94	99.0	6.00	1.92	
Total BTEx	<0.300	0.300	08/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	592	16.0	08/24/2017	ND	448	112	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	08/23/2017	ND	185	92.4	200	2.64	
DRO >C10-C28	<10.0	10.0	08/23/2017	ND	187	93.7	200	4.57	
EXT DRO >C28-C36	<10.0	10.0	08/23/2017	ND					

Surrogate: 1-Chlorooctane 78.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 82.2 % 34.7-157

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Lovington NM, 88260  
Fax To: (575) 396-1429

Received:	08/23/2017	Sampling Date:	08/22/2017
Reported:	08/24/2017	Sampling Type:	Soil
Project Name:	PLU 213	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	XTO ENERGY - EDDY CO NM		

**Sample ID: NW1 (H702242-09)**

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	08/24/2017	ND	2.14	107	2.00	2.73	
Toluene*	<0.050	0.050	08/24/2017	ND	1.97	98.7	2.00	1.81	
Ethylbenzene*	<0.050	0.050	08/24/2017	ND	2.00	99.8	2.00	1.83	
Total Xylenes*	<0.150	0.150	08/24/2017	ND	5.94	99.0	6.00	1.92	
Total BTEX	<0.300	0.300	08/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	288	16.0	08/24/2017	ND	448	112	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	08/23/2017	ND	185	92.4	200	2.64	
DRO >C10-C28	<10.0	10.0	08/23/2017	ND	187	93.7	200	4.57	
EXT DRO >C28-C36	<10.0	10.0	08/23/2017	ND					

Surrogate: 1-Chlorooctane 92.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 96.3 % 34.7-157

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

Received: 08/23/2017  
Reported: 08/24/2017  
Project Name: PLU 213  
Project Number: NONE GIVEN  
Project Location: XTO ENERGY - EDDY CO NM

Sampling Date: 08/22/2017  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Tamara Oldaker

**Sample ID: NW2 (H702242-10)**

BTX 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	08/24/2017	ND	2.14	107	2.00	2.73	
Toluene*	<0.050	0.050	08/24/2017	ND	1.97	98.7	2.00	1.81	
Ethylbenzene*	<0.050	0.050	08/24/2017	ND	2.00	99.8	2.00	1.83	
Total Xylenes*	<0.150	0.150	08/24/2017	ND	5.94	99.0	6.00	1.92	
Total BTX	<0.300	0.300	08/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	272	16.0	08/24/2017	ND	448	112	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	08/23/2017	ND	185	92.4	200	2.64	
DRO >C10-C28	<10.0	10.0	08/23/2017	ND	187	93.7	200	4.57	
EXT DRO >C28-C36	<10.0	10.0	08/23/2017	ND					

Surrogate: 1-Chlorooctane 86.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 91.5 % 34.7-157

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

Received:	08/23/2017	Sampling Date:	08/22/2017
Reported:	08/24/2017	Sampling Type:	Soil
Project Name:	PLU 213	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	XTO ENERGY - EDDY CO NM		

**Sample ID: NW3 (H702242-11)**

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	08/24/2017	ND	2.14	107	2.00	2.73	
Toluene*	<0.050	0.050	08/24/2017	ND	1.97	98.7	2.00	1.81	
Ethylbenzene*	<0.050	0.050	08/24/2017	ND	2.00	99.8	2.00	1.83	
Total Xylenes*	<0.150	0.150	08/24/2017	ND	5.94	99.0	6.00	1.92	
Total BTEX	<0.300	0.300	08/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	416	16.0	08/24/2017	ND	448	112	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	08/23/2017	ND	185	92.4	200	2.64	
DRO >C10-C28	<10.0	10.0	08/23/2017	ND	187	93.7	200	4.57	
EXT DRO >C28-C36	<10.0	10.0	08/23/2017	ND					

Surrogate: 1-Chlorooctane 92.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 96.4 % 34.7-157

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

Received: 08/23/2017  
Reported: 08/24/2017  
Project Name: PLU 213  
Project Number: NONE GIVEN  
Project Location: XTO ENERGY - EDDY CO NM

Sampling Date: 08/22/2017  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Tamara Oldaker

**Sample ID: WW1 (H702242-12)**

BTX 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	08/24/2017	ND	2.14	107	2.00	2.73	
Toluene*	<0.050	0.050	08/24/2017	ND	1.97	98.7	2.00	1.81	
Ethylbenzene*	<0.050	0.050	08/24/2017	ND	2.00	99.8	2.00	1.83	
Total Xylenes*	<0.150	0.150	08/24/2017	ND	5.94	99.0	6.00	1.92	
Total BTX	<0.300	0.300	08/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	112	16.0	08/24/2017	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	08/23/2017	ND	185	92.4	200	2.64	
DRO >C10-C28	<10.0	10.0	08/23/2017	ND	187	93.7	200	4.57	
EXT DRO >C28-C36	<10.0	10.0	08/23/2017	ND					

Surrogate: 1-Chlorooctane 85.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 89.7 % 34.7-157

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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: 08/23/2017  
Reported: 08/24/2017  
Project Name: PLU 213  
Project Number: NONE GIVEN  
Project Location: XTO ENERGY - EDDY CO NM

Sampling Date: 08/22/2017  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Tamara Oldaker

**Sample ID: WW2 (H702242-13)**

BTX 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	08/24/2017	ND	2.14	107	2.00	2.73	
Toluene*	<0.050	0.050	08/24/2017	ND	1.97	98.7	2.00	1.81	
Ethylbenzene*	<0.050	0.050	08/24/2017	ND	2.00	99.8	2.00	1.83	
Total Xylenes*	<0.150	0.150	08/24/2017	ND	5.94	99.0	6.00	1.92	
Total BTX	<0.300	0.300	08/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	192	16.0	08/24/2017	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	08/23/2017	ND	185	92.4	200	2.64	
DRO >C10-C28	<10.0	10.0	08/23/2017	ND	187	93.7	200	4.57	
EXT DRO >C28-C36	<10.0	10.0	08/23/2017	ND					

Surrogate: 1-Chlorooctane 93.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 96.1 % 34.7-157

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

Received: 08/23/2017  
Reported: 08/24/2017  
Project Name: PLU 213  
Project Number: NONE GIVEN  
Project Location: XTO ENERGY - EDDY CO NM

Sampling Date: 08/22/2017  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Tamara Oldaker

**Sample ID: WW3 (H702242-14)**

BTX 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	08/24/2017	ND	2.14	107	2.00	2.73	
Toluene*	<0.050	0.050	08/24/2017	ND	1.97	98.7	2.00	1.81	
Ethylbenzene*	<0.050	0.050	08/24/2017	ND	2.00	99.8	2.00	1.83	
Total Xylenes*	<0.150	0.150	08/24/2017	ND	5.94	99.0	6.00	1.92	
Total BTX	<0.300	0.300	08/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	160	16.0	08/24/2017	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	08/23/2017	ND	185	92.4	200	2.64	
DRO >C10-C28	<10.0	10.0	08/23/2017	ND	187	93.7	200	4.57	
EXT DRO >C28-C36	<10.0	10.0	08/23/2017	ND					

Surrogate: 1-Chlorooctane 97.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 111 % 34.7-157

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

Received: 08/23/2017  
Reported: 08/24/2017  
Project Name: PLU 213  
Project Number: NONE GIVEN  
Project Location: XTO ENERGY - EDDY CO NM

Sampling Date: 08/22/2017  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Tamara Oldaker

**Sample ID: SW1 (H702242-15)**

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	08/24/2017	ND	2.14	107	2.00	2.73	
Toluene*	<0.050	0.050	08/24/2017	ND	1.97	98.7	2.00	1.81	
Ethylbenzene*	<0.050	0.050	08/24/2017	ND	2.00	99.8	2.00	1.83	
Total Xylenes*	<0.150	0.150	08/24/2017	ND	5.94	99.0	6.00	1.92	
Total BTEX	<0.300	0.300	08/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	736	16.0	08/24/2017	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	08/23/2017	ND	185	92.4	200	2.64	
DRO >C10-C28	223	10.0	08/23/2017	ND	187	93.7	200	4.57	
EXT DRO >C28-C36	75.7	10.0	08/23/2017	ND					

Surrogate: 1-Chlorooctane 99.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 119 % 34.7-157

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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:	08/23/2017	Sampling Date:	08/22/2017
Reported:	08/24/2017	Sampling Type:	Soil
Project Name:	PLU 213	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	XTO ENERGY - EDDY CO NM		

**Sample ID: SW2 (H702242-16)**

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	08/24/2017	ND	2.14	107	2.00	2.73		
Toluene*	<0.050	0.050	08/24/2017	ND	1.97	98.7	2.00	1.81		
Ethylbenzene*	<0.050	0.050	08/24/2017	ND	2.00	99.8	2.00	1.83		
Total Xylenes*	<0.150	0.150	08/24/2017	ND	5.94	99.0	6.00	1.92		
Total BTEx	<0.300	0.300	08/24/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	128	16.0	08/24/2017	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	08/23/2017	ND	185	92.4	200	2.64	
DRO >C10-C28	<10.0	10.0	08/23/2017	ND	187	93.7	200	4.57	
EXT DRO >C28-C36	<10.0	10.0	08/23/2017	ND					

Surrogate: 1-Chlorooctane 92.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 101 % 34.7-157

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

Received: 08/23/2017  
Reported: 08/24/2017  
Project Name: PLU 213  
Project Number: NONE GIVEN  
Project Location: XTO ENERGY - EDDY CO NM

Sampling Date: 08/22/2017  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Tamara Oldaker

**Sample ID: SW3 (H702242-17)**

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	08/24/2017	ND	2.14	107	2.00	2.73	
Toluene*	<0.050	0.050	08/24/2017	ND	1.97	98.7	2.00	1.81	
Ethylbenzene*	<0.050	0.050	08/24/2017	ND	2.00	99.8	2.00	1.83	
Total Xylenes*	<0.150	0.150	08/24/2017	ND	5.94	99.0	6.00	1.92	
Total BTEx	<0.300	0.300	08/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	96.0	16.0	08/24/2017	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	08/23/2017	ND	185	92.4	200	2.64	
DRO >C10-C28	130	10.0	08/23/2017	ND	187	93.7	200	4.57	
EXT DRO >C28-C36	58.4	10.0	08/23/2017	ND					

Surrogate: 1-Chlorooctane 91.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 113 % 34.7-157

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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: 08/23/2017  
Reported: 08/24/2017  
Project Name: PLU 213  
Project Number: NONE GIVEN  
Project Location: XTO ENERGY - EDDY CO NM

Sampling Date: 08/22/2017  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Tamara Oldaker

**Sample ID: EW1 (H702242-18)**

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	08/24/2017	ND	2.14	107	2.00	2.73	
Toluene*	<0.050	0.050	08/24/2017	ND	1.97	98.7	2.00	1.81	
Ethylbenzene*	<0.050	0.050	08/24/2017	ND	2.00	99.8	2.00	1.83	
Total Xylenes*	<0.150	0.150	08/24/2017	ND	5.94	99.0	6.00	1.92	
Total BTEX	<0.300	0.300	08/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	624	16.0	08/24/2017	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	08/24/2017	ND	185	92.4	200	2.64	
DRO >C10-C28	224	10.0	08/24/2017	ND	187	93.7	200	4.57	
EXT DRO >C28-C36	96.9	10.0	08/24/2017	ND					

Surrogate: 1-Chlorooctane 92.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 123 % 34.7-157

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

Received:	08/23/2017	Sampling Date:	08/22/2017
Reported:	08/24/2017	Sampling Type:	Soil
Project Name:	PLU 213	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	XTO ENERGY - EDDY CO NM		

**Sample ID: EW2 (H702242-19)**

BTX 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	08/24/2017	ND	2.14	107	2.00	2.73	
Toluene*	<0.050	0.050	08/24/2017	ND	1.97	98.7	2.00	1.81	
Ethylbenzene*	<0.050	0.050	08/24/2017	ND	2.00	99.8	2.00	1.83	
Total Xylenes*	<0.150	0.150	08/24/2017	ND	5.94	99.0	6.00	1.92	
Total BTX	<0.300	0.300	08/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	112	16.0	08/24/2017	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	08/24/2017	ND	185	92.4	200	2.64	
DRO >C10-C28	<10.0	10.0	08/24/2017	ND	187	93.7	200	4.57	
EXT DRO >C28-C36	<10.0	10.0	08/24/2017	ND					

Surrogate: 1-Chlorooctane 98.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 107 % 34.7-157

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

Received: 08/23/2017  
Reported: 08/24/2017  
Project Name: PLU 213  
Project Number: NONE GIVEN  
Project Location: XTO ENERGY - EDDY CO NM

Sampling Date: 08/22/2017  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Tamara Oldaker

**Sample ID: EW3 (H702242-20)**

BTX 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	08/24/2017	ND	2.14	107	2.00	2.73	
Toluene*	<0.050	0.050	08/24/2017	ND	1.97	98.7	2.00	1.81	
Ethylbenzene*	<0.050	0.050	08/24/2017	ND	2.00	99.8	2.00	1.83	
Total Xylenes*	<0.150	0.150	08/24/2017	ND	5.94	99.0	6.00	1.92	
Total BTX	<0.300	0.300	08/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	128	16.0	08/24/2017	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	08/24/2017	ND	185	92.4	200	2.64	
DRO >C10-C28	<10.0	10.0	08/24/2017	ND	187	93.7	200	4.57	
EXT DRO >C28-C36	<10.0	10.0	08/24/2017	ND					

Surrogate: 1-Chlorooctane 92.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 97.8 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

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

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# ARDINAL LABORATORIES

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

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

<b>Company Name:</b> Basin Environmental Service Technologies, LLC <b>Project Manager:</b> Robbie Runnels <b>Address:</b> P.O. Box 301 <b>City:</b> Lovington <b>State:</b> NM <b>Zip:</b> 88260 <b>Phone #:</b> (575)396-2378 <b>Fax #:</b> (575)396-1429 <b>Project #:</b> <b>Project Name:</b> PLU 213 <b>Project Location:</b> Eddy, N.M. <b>Sampler Name:</b> Matt Taylor		<b>P.O. #:</b> <b>Company:</b> XTO Energy <b>Attn:</b> Amy Ruth <b>Address:</b> 522 W. Mermod <b>City:</b> Carlsbad <b>State:</b> NM <b>Zip:</b> 88220 <b>Phone #:</b> (423)566-8730 <b>Fax #:</b>	
<b>FOR LAB USE ONLY</b> <b>Lab I.D.</b> <b>Sample I.D.</b>		<b>BILL TO</b> <b>ANALYSIS REQUEST</b>	
(G)RAB OR (C)OMP. # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER : ACID/BASE: ICE / COOL OTHER :		MATRIX PRESERV SAMPLING	
DATE TIME		Chloride TPH (8015M) BTEX (8021B) RUSH	
1 Floor 1 @ 0.5' 2 Floor 2 @ 4' 3 Floor 3 @ 7' 4 Floor 4 @ 5' 5 Floor 5 @ 5' 6 Floor 6 @ 4' 7 Floor 7 @ 5' 8 Floor 8 @ 5' 9 NW1 10 NW2		8/22/2017 10:00 8/22/2017 10:10 8/22/2017 10:20 8/22/2017 10:30 8/22/2017 10:40 8/22/2017 10:50 8/22/2017 11:00 8/22/2017 11:10 8/22/2017 11:20 8/22/2017 11:30	
Relinquished By: <i>[Signature]</i> Date: 8/23/17 Time: 8:00		Received By: <i>[Signature]</i> Date: 8/23/17 Time: 8:00	
Relinquished By: <i>[Signature]</i> Date: 8/23/17 Time: 8:00		Received By: <i>[Signature]</i> Date: 8/23/17 Time: 8:00	
Delivered By: (Circle One) 15.66 Sampler - UPS - Bus - Other: <i>[Signature]</i>		Sample Condition Cool <input type="checkbox"/> Yes <input type="checkbox"/> No Intact <input type="checkbox"/> Yes <input type="checkbox"/> No CHECKED BY: (Initials) <i>[Signature]</i>	
FORM-006 Revision 1.0		Please email results to pm@basinenr.com & amy_ruth@xtoenergy.com	





# 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

Project Manager: Robbie Runnels

Address: P.O. Box 301

City: Lovington

Phone #: (575)396-2378

State: NM Zip: 88260  
Fax #: (575)396-1429

Project #:

Project Owner: XTO Energy

Project Name: PLU 213

Project Location: Eddy, N.M.

Sampler Name: Matt Taylor

### BILL TO

### ANALYSIS REQUEST

P.O. #: \_\_\_\_\_  
Company: XTO Energy  
Attn: Amy Ruth  
Address: 522 W. Mermod  
City: Carlsbad  
State: NM Zip: 88220  
Phone #: (423)556-8730  
Fax #: \_\_\_\_\_

Chloride

TPH (8015M)

BTEX (8021B)

RUSH

FOR LAB USE ONLY

Lab I.D.

Sample I.D.

472242

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.	SAMPLING	TIME	TR	BT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	</
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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 analysis. 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: 8/23/17

Received By:

Relinquished By:

Date: 8-23-17

Received By:

Delivered By: (Circle One)

Date: 8-23-17

Received By:

Sampler - UPS - Bus - Other:

Date: 8-23-17

Received By:

Sample Condition

Cool ☐ Intact ☐

Yes ☐ No ☐

CHECKED BY:

(Initials)

7-2-17

Please email results to pm@basinenv.com & amy\_ruth@xtoenergy.com

Phone Result: ☐ Yes ☐ No Add'l Phone #: \_\_\_\_\_  
Fax Result: ☐ Yes ☐ No Add'l Fax #: \_\_\_\_\_

REMARKS:

August 31, 2017

ROBBIE RUNNELS

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: PLU 213

Enclosed are the results of analyses for samples received by the laboratory on 08/25/17 14:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://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,



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: 08/25/2017  
Reported: 08/31/2017  
Project Name: PLU 213  
Project Number: NONE GIVEN  
Project Location: XTO ENERGY - EDDY CO NM

Sampling Date: 08/24/2017  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Tamara Oldaker

**Sample ID: FLOOR 8 @ 8' (H702259-01)****Chloride, SM4500Cl-B****mg/kg****Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>128</b>	16.0	08/28/2017	ND	448	112	400	3.64	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**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

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Celey D. Keene, Lab Director/Quality Manager



# ORDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240

(575) 393-2326 FAX (575) 393-2476

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

# APPENDIX – C

## Photo Documentation



# XTO Energy – Poker Lake Unit 213

Unit Letter P of Section 18, T24S, R30E



Release area, facing southeast

8/8/17



Release area, facing east

8/15/17



Excavation, facing southeast

8/15/17



Excavation complete, facing south

9/1/17