

October 28, 2009

Mr. Geoffrey Leking, Env. Engineer  
State of New Mexico – Oil Conservation Division  
1625 N French Drive  
Hobbs, New Mexico 88240

RE: OCD Remediation Project No. 1RP-09-10-2312, EMSU Satellite #5 Removal and Excavation Closure Report, XTO Energy, Inc., Unit M (SW/4, SW/4), Section 4, Township 21 South, Range 36 East, Lea County, New Mexico

Dear Mr. Leking:

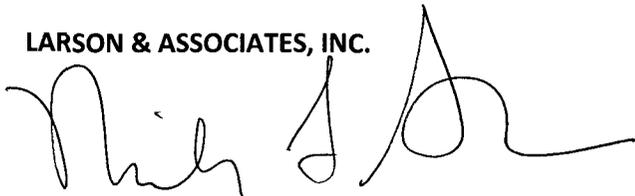
This report is submitted to the State of New Mexico Oil Conservation Division on behalf of XTO Energy, Inc. (XTO) by Larson and Associates, Inc., its agent, and presents the results of remedial actions performed at referenced below grade tank removal.

Based upon the results of this investigation, XTO requests OCD closure approval.

If you have any questions or concerns, please call me at 432.687.0901 to discuss.

Sincerely,

**LARSON & ASSOCIATES, INC.**



Michelle L. Green  
Environmental Scientist - Chemist  
[michelle@laenvironmental.com](mailto:michelle@laenvironmental.com)

Attachments

CC

Mr. Don Embrey – Targa, Midland, TX  
Mr. Cal Wrangham – Targa, Midland, TX  
Mr. Larry Johnson – OCD District 1

# **Below Grade Tank Removal and Excavation Closure Report**

**XTO Energy, Inc.**

**1RP-09-10-2312**

**Eunice Monument South Unit – Satellite #5  
Unit M (SW/4, SW/4), Section 4, T21S, R36E  
Lea County, NM**

Project No. 8-0144

Prepared by:

Larson and Associates, Inc.  
507 North Marienfeld Street  
Suite 200  
Midland, Texas 79701  
432.687.0901

October 28, 2009

## Table of Contents

1.0	Executive Summary.....	1
2.0	Operator Information.....	1
3.0	Closure Actions.....	1
3.1	Location and Siting Description.....	1
3.2	Closure Plan and Approval.....	2
3.3	Landowner and OCD Notifications.....	2
3.4	Tank Removal Closure Activities.....	2
4.0	Conclusion and Recommendation.....	3

## Tables

Table 1	Soil Analytical Data Summary
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## Figures

Figure 1	Topographic Map
Figure 2	Aerial Photograph
Figure 3	Site Drawing

## Appendices

Appendix A	Analytical Results
Appendix B	Initial and Final C-141 Forms

## 1.0 Executive Summary

This report is submitted to the State of New Mexico Oil Conservation Division (OCD) on behalf of XTO Energy, Inc. (XTO) by Larson and Associates, Inc. (LAI), its consultant, and presents the results of remedial actions performed at the referenced below grade tank removal. The following report documents the removal of the below grade tank associated with the Eunice Monument South Unit (EMSU), Satellite #5 (Facility) located in Lea County, New Mexico. The legal description of the Facility is Unit M (SW/4, SW/4), Section 4, Township 21 South, Range 36 East (Figure 1).

Closure activities consisted of notifications to the New Mexico Oil Conservation Division (OCD) and the landowner of record (New Mexico State Land Office), removal of ancillary equipment and tank, removal of soil, collection of soil samples, OCD issuance of a remediation case number and the subsequent investigation. Activities were performed in conformance with New Mexico Administrative Code Rule 19.15.17 as amended June 16, 2008 and June 18, 2009.

## 2.0 Operator Information

Primary Contact: Mr. Rick Wilson  
Address: XTO Energy Inc., Permian Division – SE New Mexico  
PO Box 700  
Eunice, New Mexico 88231  
Office: 575.394.2089, ext. 2201

Secondary Contact: Mr. Guy Haykus  
Address: XTO Energy Inc.  
Midland Office  
200 N. Loraine Street, Suite 800  
Midland, Texas 79701  
Office: 432.682.8873

## 3.0 Closure Actions

### 3.1 Location and Siting Description

The Site has a geodetic location of N32° 30' 7.56", W103° 16' 27.36", and is located in rural Lea County, New Mexico. The nearest producing well is the XTO EMSU Well #258, with API # 30-025-21251. The Site encompasses a 0.6-acre tract of land. The Facility consisted of a fiberglass, below-ground storage tank, with an approximate capacity of 90 barrels. The battery is covered with crushed caliche rock and is flat to very gently sloping (Figures 2 and 3).

The Facility's siting criteria presented the following findings:

- Groundwater is about 110 feet below ground surface based on records from the New Mexico State Engineer (NMSE).
- No continuously flowing watercourse is within 300 horizontal feet of the Facility.
- No surface water features, including lakes, rivers, ponds, arroyos, lakebed, sinkhole, or playa lake, are located within 200 horizontal feet of Facility.

- No permanent residence, school, hospital, institution, or church is within 300 horizontal feet of Facility.
- No private, domestic fresh-water well or spring are within 500 horizontal feet of Facility.
- No other fresh water wells or springs are within 1000 horizontal feet of the Facility.
- The Facility is not located within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance.
- The Facility is not within 500 feet an area designated as wetlands.
- The Facility is not within an area overlying a subsurface mine.
- The Facility is not within an unstable area.
- The Facility is not within a 100-year flood plain.

### **3.2 Closure Plan and Approval**

On December 11, 2008, Larson & Associates, Inc. (LAI), on behalf of XTO, submitted a below grade tank closure plan to the OCD in Santa Fe and Hobbs, New Mexico, in accordance with an Agreed Scheduling Order (ASO-008) between XTO and OCD. The Closure Plan was approved and signed by the OCD representative Mr. Brad Jones on July 17, 2009.

### **3.3 Landowner and OCD Notifications**

In accordance with the approved closure plan and prior to commencing work, notification of closure was sent by XTO to the New Mexico State Land Office (the surface owner) and the OCD.

### **3.4 Tank Removal Closure Activities**

On October 15, 2009, XTO removed ancillary equipment (i.e. metal barricade) for salvage or scrap metal. A Hydro-Vac truck was used to excavate soil around the tank. LAI personnel performed a site visit to collect a 5-part composite soil sample from the bottom (Satellite 5 Bottom).

The sample was analyzed for the following constituents: benzene, toluene, ethylbenzene, xylenes (BTEX) by method 8021B, total petroleum hydrocarbons (TPH) by method 418.1 and chloride by method 300.1. The sample, Satellite 5 Bottom, exceeded TPH (126 ppm) OCD reporting level of 100 ppm.

An initial C-141 was submitted to the OCD District 1, Hobbs office on October 26, 2009. The OCD District 1 office issued remediation project number 1RP-09-10-2312.

The OCD soil remediation ranking criteria was applied:

<b>Ranking Criteria</b>		<b>Ranking Score:</b>
Depth to Groundwater:	>100 feet	0
Wellhead Protection Area:	No	0
Distance to Surface Water Body:	>1000 horizontal feet	0
<b>Total Score</b>		<b>0</b>

**Recommended Remediation Action Levels**

<b>Constituent</b>	<b>Action Level (ppm)</b>
Benzene	10
BTEX	10
TPH	5,000

The concentrations of benzene (<0.0011 ppm), total BTEX (<0.0011 ppm) and TPH (126 ppm) for the Satellite 5 Bottom composite sample were below the recommended remediation action levels of 10, 50 and 5,000 ppm, respectively.

Summary of analytical data is presented in Table 1. Analytical laboratory report is presented in Appendix A.

## **4.0 Conclusion and Recommendation**

Based on the soil sample results, XTO requests approval from OCD District 1 to close the excavation according to the requirements of the closure plan approved by the OCD Santa Fe office. The initial and final C-141 forms are presented in Appendix B.

Table 1  
 Soil Analytical Data Summary  
 EMSU - Satellite #5  
 XTO Energy, Inc.  
 Lea County, New Mexico  
 Project No.: 8-0144

Sample ID	Date	Benzene	Ethyl benzene	Toluene	Total Xylenes	Total BTEX	TRPH	Chlorides
Reporting Limit		0.2				50	100	250
RRAL:		10				50	5,000	250
Satellite 5 Bottom	10/16/2009	<0.0011	<0.0011	<0.0021	<0.0011	<0.0011	<b>126</b>	<4.47
Satellite 5 Soil Pile	10/16/2009	0.0577	0.1114	0.1240	0.9355	1.2286	2,480	71.2

**Notes**

RRAL - Recommended Remediation Action Level

Total Petroleum Hydrocarbons analyzed via Method 418.1.

Chlorides analyzed via EPA Method 300.

All values reported in Milligrams per Kilogram - dry (mg/kg, parts per million).

**Bold** and blue indicates the value exceeds NMOCD requirements.

JWW

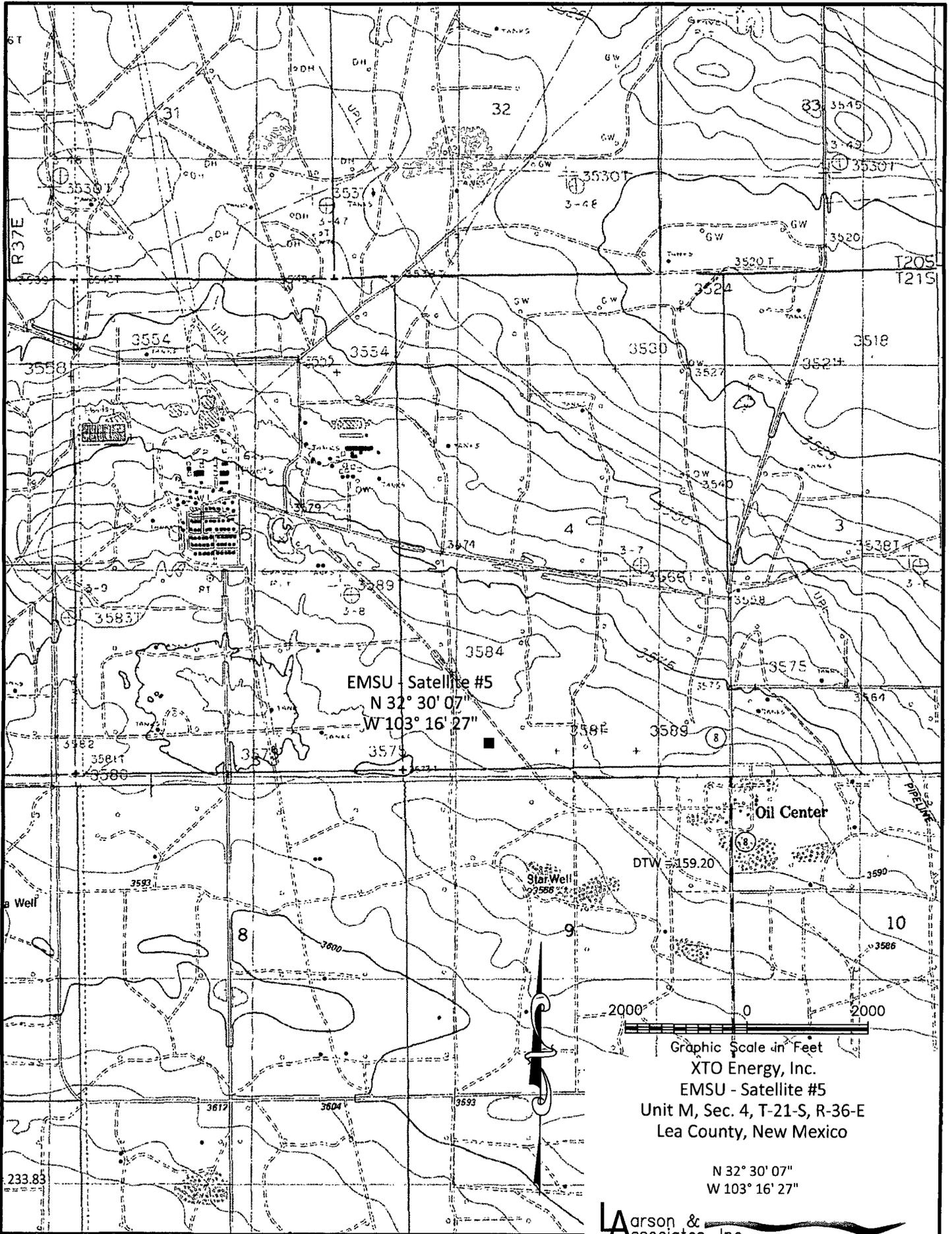
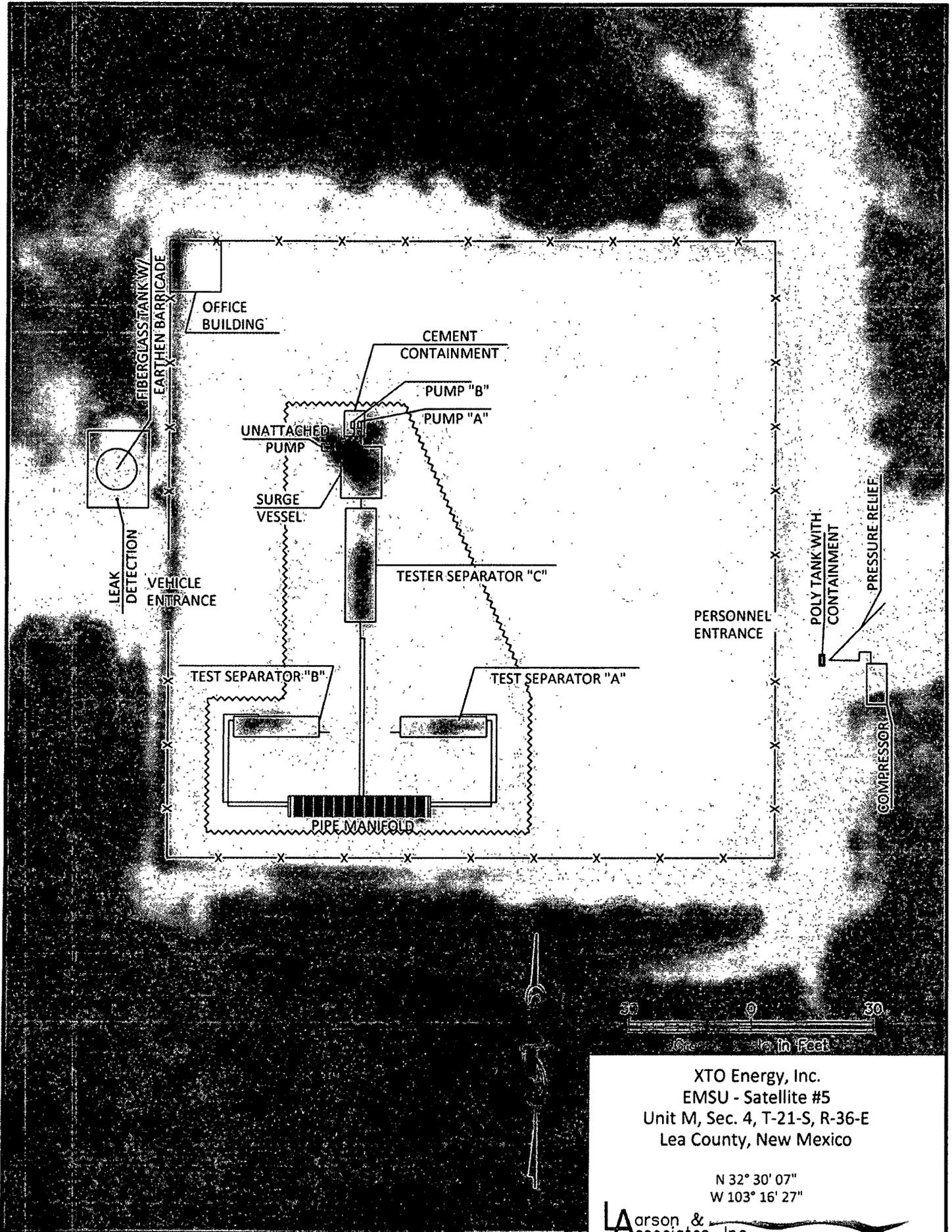


Figure 1 Topographic Map

**Arson & Associates, Inc.**  
 Environmental Consultants



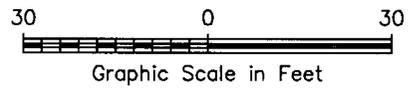
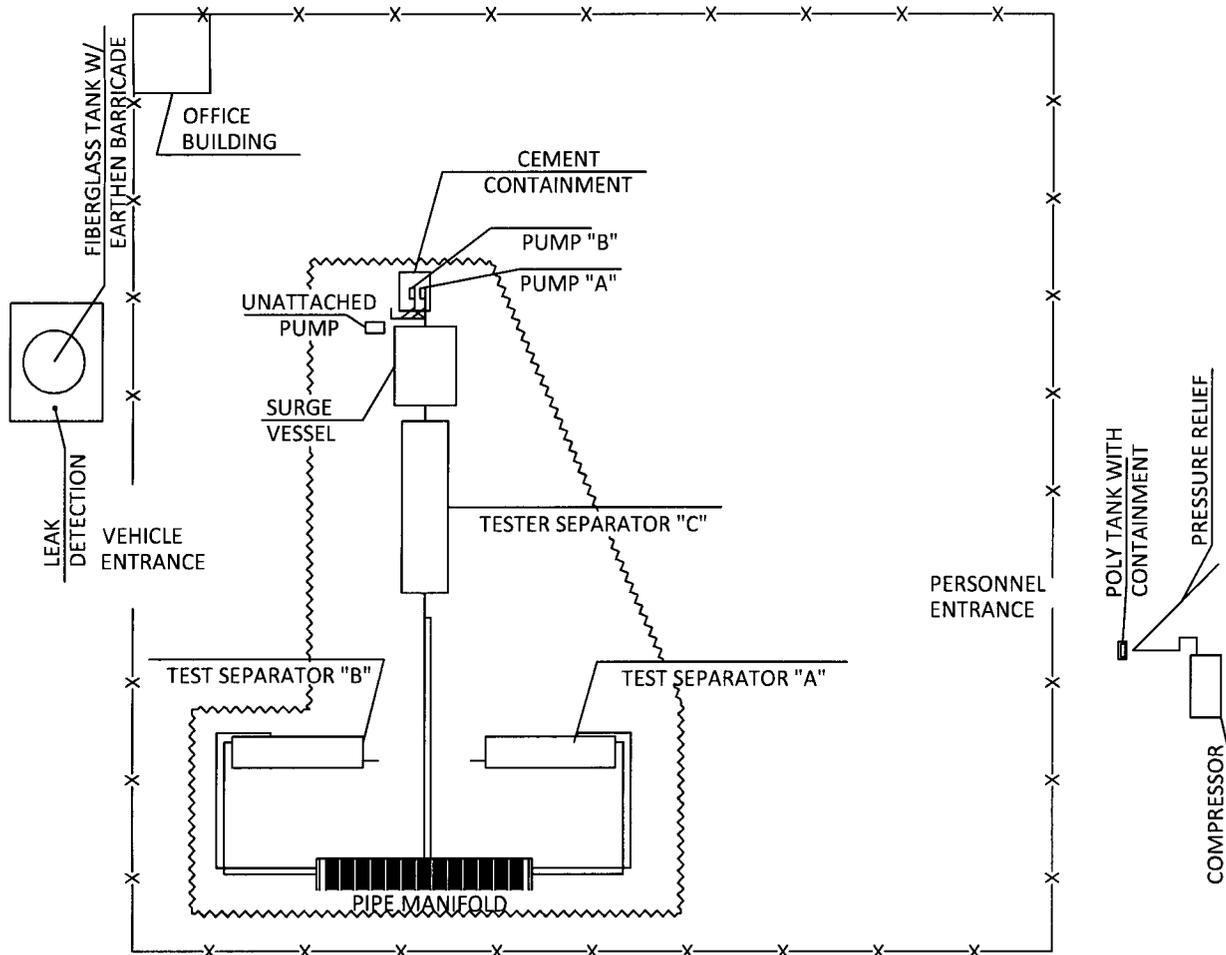
XTO Energy, Inc.  
EMSU - Satellite #5  
Unit M, Sec. 4, T-21-S, R-36-E  
Lea County, New Mexico

N 32° 30' 07"  
W 103° 16' 27"

Larson & Associates, Inc.  
Environmental Consultants

Figure 2 - Aerial

JWW



XTO Energy, Inc.  
 EMSU - Satellite #5  
 Unit M, Sec. 4, T-21-S, R-36-E  
 Lea County, New Mexico

N 32° 30' 07"  
 W 103° 16' 27"

Larson & Associates, Inc.  
 Environmental Consultants

Figure 3 - Site Drawing

# Analytical Report 348803

for

**Larson & Associates**

**Project Manager: Michelle Green**

**XTO- EMSU-Satellite # 5**

**8-0144**

**22-OCT-09**



**12600 West I-20 East Odessa, Texas 79765**

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-08-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87428), North Carolina (483), South Carolina (98015), Utah (AAL11), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

Xenco-Boca Raton (EPA Lab Code: FL00449): Florida(E86240),

South Carolina(96031001), Louisiana(04154), Georgia(917)



22-OCT-09

Project Manager: **Michelle Green**  
**Larson & Associates**  
P.O. Box 50685  
Midland, TX 79710

Reference: XENCO Report No: **348803**  
**XTO- EMSU-Satellite # 5**  
Project Address:

**Michelle Green:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 348803. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 348803 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

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**Sample Cross Reference 348803**



**Larson & Associates, Midland, TX**

XTO- EMSU-Satellite # 5

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
Satellite # 5 Soil Pile	S	Oct-16-09 07:30		348803-001
Satellite # 5	S	Oct-16-09 09:20		348803-002

## CASE NARRATIVE



*Client Name: Larson & Associates*

*Project Name: XTO- EMSU-Satellite # 5*

*Project ID: 8-0144*  
*Work Order Number: 348803*

*Report Date: 22-OCT-09*  
*Date Received: 10/16/2009*

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### **Sample receipt non conformances and Comments:**

None

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### **Sample receipt Non Conformances and Comments per Sample:**

None

#### **Analytical Non Conformances and Comments:**

*Batch: LBA-777626 BTEX-MTBE EPA 8021B*  
*SW8021BM*

*Batch 777626, Benzene, Ethylbenzene, Toluene, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.*

*Samples affected are: 348803-002.*

*The Laboratory Control Sample for Toluene, Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits*

*Batch: LBA-777740 Percent Moisture*  
*None*

*Batch: LBA-777745 Inorganic Anions by EPA 300*  
*None*

*Batch: LBA-777827 BTEX-MTBE EPA 8021B*  
*SW8021BM*

*Batch 777827, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis*

*Samples affected are: 348803-001.*

*Batch: LBA-778126 TPH by EPA 418.1*  
*None*



# Certificate of Analysis Summary 348803

Larson & Associates, Midland, TX

Project Name: XTO- EMSU-Satellite # 5



Project Id: 8-0144

Contact: Michelle Green

Project Location:

Date Received in Lab: Fri Oct-16-09 03:10 pm

Report Date: 22-OCT-09

Project Manager: Brent Barron, II

<i>Analysis Requested</i>	<i>Lab Id:</i>	348803-001	348803-002				
	<i>Field Id:</i>	Satellite # 5 Soil Pile	Satellite # 5				
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL				
	<i>Sampled:</i>	Oct-16-09 07 30	Oct-16-09 09 20				
<b>Anions by E300</b>	<i>Extracted:</i>						
	<i>Analyzed:</i>	Oct-19-09 09 42	Oct-19-09 09 42				
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL				
Chloride		71 2 4 85	ND 4 47				
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Oct-19-09 13 00	Oct-17-09 11 00				
	<i>Analyzed:</i>	Oct-19-09 22 40	Oct-17-09 18 33				
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL				
Benzene		0 0577 0 0230	ND 0 0011				
Toluene		0 1240 0 0459	ND 0 0021				
Ethylbenzene		0 1114 0 0230	ND 0 0011				
m,p-Xylenes		0 5547 0 0459	ND 0 0021				
o-Xylene		0 3808 0 0230	ND 0 0011				
Total Xylenes		0 9355 0 0230	ND 0 0011				
Total BTEX		1 2286 0 0230	ND 0 0011				
<b>Percent Moisture</b>	<i>Extracted:</i>						
	<i>Analyzed:</i>	Oct-19-09 09 00	Oct-19-09 09 00				
	<i>Units/RL:</i>	% RL	% RL				
Percent Moisture		13 5 1 00	6 01 1 00				
<b>TPH by EPA 418.1</b>	<i>Extracted:</i>						
	<i>Analyzed:</i>	Oct-21-09 12 53	Oct-21-09 12 53				
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL				
TPH, Total Petroleum Hydrocarbons		2480 11 6	126 10 6				

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

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Brent Barron, II  
Odessa Laboratory Manager



# Flagging Criteria



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL and above the SQL.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

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 2505 North Falkenburg Rd, Tampa, FL 33619  
 5757 NW 158th St, Miami Lakes, FL 33014  
 12600 West I-20 East, Odessa, TX 79765  
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Phone	Fax
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(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(432) 563-1800	(432) 563-1713
(361) 884-0371	(361) 884-9116



# Form 2 - Surrogate Recoveries

Project Name: XTO- EMSU-Satellite # 5

Work Orders : 348803,

Project ID: 8-0144

Lab Batch #: 777626

Sample: 540830-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/17/09 12:31

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0298	0.0300	99	80-120	
4-Bromofluorobenzene	0.0311	0.0300	104	80-120	

Lab Batch #: 777626

Sample: 540830-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/17/09 12:53

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0296	0.0300	99	80-120	
4-Bromofluorobenzene	0.0311	0.0300	104	80-120	

Lab Batch #: 777626

Sample: 540830-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/17/09 13:35

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0267	0.0300	89	80-120	
4-Bromofluorobenzene	0.0308	0.0300	103	80-120	

Lab Batch #: 777626

Sample: 348803-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/17/09 18:33

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0269	0.0300	90	80-120	
4-Bromofluorobenzene	0.0314	0.0300	105	80-120	

Lab Batch #: 777626

Sample: 348710-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/17/09 20:19

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0286	0.0300	95	80-120	
4-Bromofluorobenzene	0.0314	0.0300	105	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits, data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

All results are based on MDL and validated for QC purposes



# Form 2 - Surrogate Recoveries

Project Name: XTO- EMSU-Satellite # 5

Work Orders : 348803,

Project ID: 8-0144

Lab Batch #: 777626

Sample: 348710-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/17/09 20:40

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0317	0.0300	106	80-120	

Lab Batch #: 777827

Sample: 540959-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/19/09 14:09

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0297	0.0300	99	80-120	
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

Lab Batch #: 777827

Sample: 540959-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/19/09 14:30

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0295	0.0300	98	80-120	
4-Bromofluorobenzene	0.0306	0.0300	102	80-120	

Lab Batch #: 777827

Sample: 540959-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/19/09 15:14

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0266	0.0300	89	80-120	
4-Bromofluorobenzene	0.0309	0.0300	103	80-120	

Lab Batch #: 777827

Sample: 348803-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/19/09 22:40

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0231	0.0300	77	80-120	**
4-Bromofluorobenzene	0.0342	0.0300	114	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits, data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

All results are based on MDL and validated for QC purposes.



# Form 2 - Surrogate Recoveries

Project Name: XTO- EMSU-Satellite # 5

Work Orders : 348803,

Project ID: 8-0144

Lab Batch #: 777827

Sample: 348941-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/19/09 23:44

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 777827

Sample: 348941-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/20/09 00:05

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0290	0.0300	97	80-120	
4-Bromofluorobenzene	0.0308	0.0300	103	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits, data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

All results are based on MDL and validated for QC purposes



# Blank Spike Recovery



Project Name: XTO- EMSU-Satellite # 5

Work Order #: 348803

Project ID:

8-0144

Lab Batch #: 777745

Sample: 777745-1-BKS

Matrix: Solid

Date Analyzed: 10/19/2009

Date Prepared: 10/19/2009

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Anions by E300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	9.98	100	75-125	

Blank Spike Recovery [D] = 100\*[C]/[B]

All results are based on MDL and validated for QC purposes

BRL - Below Reporting Limit



# BS / BSD Recoveries



Project Name: XTO- EMSU-Satellite # 5

Work Order #: 348803

Analyst: ASA

Date Prepared: 10/17/2009

Project ID: 8-0144

Date Analyzed: 10/17/2009

Lab Batch ID: 777626

Sample: 540830-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

## BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Analytes	BTEX by EPA 8021B										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0 1000	0 0826	83	0 1	0 0785	79	5	70-130	35	
Toluene	ND	0 1000	0 0819	82	0 1	0 0777	78	5	70-130	35	
Ethylbenzene	ND	0 1000	0 0835	84	0 1	0 0791	79	5	71-129	35	
m,p-Xylenes	ND	0 2000	0 1852	93	0 2	0 1754	88	5	70-135	35	
o-Xylene	ND	0 1000	0 0890	89	0 1	0 0847	85	5	71-133	35	

Analyst: ASA

Date Prepared: 10/19/2009

Date Analyzed: 10/19/2009

Lab Batch ID: 777827

Sample: 540959-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

## BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Analytes	BTEX by EPA 8021B										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0 1000	0.0937	94	0 1	0 0960	96	2	70-130	35	
Toluene	ND	0 1000	0 0927	93	0 1	0 0955	96	3	70-130	35	
Ethylbenzene	ND	0 1000	0 0935	94	0 1	0 0977	98	4	71-129	35	
m,p-Xylenes	ND	0 2000	0 2059	103	0 2	0 2153	108	4	70-135	35	
o-Xylene	ND	0 1000	0 0988	99	0 1	0 1033	103	4	71-133	35	

Relative Percent Difference RPD = 200\*[(C-F)/(C+F)]

Blank Spike Recovery [D] = 100\*(C)/[B]

Blank Spike Duplicate Recovery [G] = 100\*(F)/[E]

All results are based on MDL and Validated for QC Purposes



# BS / BSD Recoveries



Project Name: XTO- EMSU-Satellite # 5

Work Order #: 348803

Analyst: ASA

Lab Batch ID: 778126

Sample: 778126-1-BKS

Date Prepared: 10/21/2009

Batch #: 1

Project ID: 8-0144

Date Analyzed: 10/21/2009

Matrix: Solid

Units: mg/kg

## BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by EPA 418.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
TPH, Total Petroleum Hydrocarbons	ND	2500	2430	97	2500	2320	93	5	65-135	35	

Relative Percent Difference RPD =  $200 * [(C-F)/(C+F)]$

Blank Spike Recovery [D] =  $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] =  $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



# Form 3 - MS Recoveries



Project Name: XTO- EMSU-Satellite # 5

Work Order #: 348803

Lab Batch #: 777745

Project ID: 8-0144

Date Analyzed: 10/19/2009

Date Prepared: 10/19/2009

Analyst: LATCOR

QC- Sample ID: 348726-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	102	212	293	90	75-125	

Matrix Spike Percent Recovery [D] =  $100 \cdot (C-A)/B$   
 Relative Percent Difference [E] =  $200 \cdot (C-A)/(C+B)$   
 All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



# Form 3 - MS / MSD Recoveries



Project Name: XTO- EMSU-Satellite # 5

Work Order #: 348803

Project ID: 8-0144

Lab Batch ID: 777626

QC- Sample ID: 348710-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 10/17/2009

Date Prepared: 10/17/2009

Analyst: ASA

Reporting Units: mg/kg

### MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0 1166	0 0733	63	0 1166	0 0738	63	1	70-130	35	X
Toluene	ND	0 1166	0 0735	63	0 1166	0 0743	64	1	70-130	35	X
Ethylbenzene	ND	0 1166	0 0747	64	0 1166	0 0740	63	1	71-129	35	X
m,p-Xylenes	ND	0 2332	0 1649	71	0 2332	0 1632	70	1	70-135	35	
o-Xylene	ND	0 1166	0 0791	68	0 1166	0 0780	67	1	71-133	35	X

Lab Batch ID: 777827

QC- Sample ID: 348941-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 10/19/2009

Date Prepared: 10/19/2009

Analyst: ASA

Reporting Units: mg/kg

### MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0 1319	0 1031	78	0 1314	0 1019	78	1	70-130	35	
Toluene	ND	0 1319	0 1010	77	0 1314	0 1006	77	0	70-130	35	
Ethylbenzene	ND	0 1319	0 0999	76	0 1314	0 1006	77	1	71-129	35	
m,p-Xylenes	ND	0 2638	0 2178	83	0 2628	0 2196	84	1	70-135	35	
o-Xylene	ND	0 1319	0 1040	79	0 1314	0 1060	81	2	71-133	35	

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

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable, N = See Narrative, EQL = Estimated Quantitation Limit



# Form 3 - MS / MSD Recoveries



Project Name: XTO- EMSU-Satellite # 5

Work Order #: 348803

Project ID: 8-0144

Lab Batch ID: 778126

QC- Sample ID: 348795-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 10/21/2009

Date Prepared: 10/21/2009

Analyst: ASA

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by EPA 418.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
TPH, Total Petroleum Hydrocarbons	ND	2880	2950	102	2880	2940	102	0	65-135	35	

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

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable  
N = See Narrative, EQL = Estimated Quantitation Limit



# Sample Duplicate Recovery



Project Name: XTO- EMSU-Satellite # 5

Work Order #: 348803

Lab Batch #: 777745

Project ID: 8-0144

Date Analyzed: 10/19/2009

Date Prepared: 10/19/2009

Analyst: LATCOR

QC- Sample ID: 348726-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Anions by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	102	101	1	20	

Lab Batch #: 777740

Date Analyzed: 10/19/2009

Date Prepared: 10/19/2009

Analyst: LATCOR

QC- Sample ID: 348724-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	12.0	12.2	2	20	

Spike Relative Difference RPD  $200 * |(B-A)/(B+A)|$   
 All Results are based on MDL and validated for QC purposes  
 BRL - Below Reporting Limit



Environmental Lab of Texas  
Variance/ Corrective Action Report- Sample Log-In

Client Larson & Assoc.  
 Date/ Time: 10 10 09 15:10  
 Lab ID # 348803  
 Initials. NL

**Sample Receipt Checklist**

				Client Initials
#1	Temperature of container/ cooler?	<input checked="" type="checkbox"/> Yes	No	4.6 °C
#2	Shipping container in good condition?	<input checked="" type="checkbox"/> Yes	No	
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	<del>Not Present</del>
#4	Custody Seals intact on sample bottles/ container?	Yes	No	<del>Not Present</del>
#5	Chain of Custody present?	<input checked="" type="checkbox"/> Yes	No	
#6	Sample instructions complete of Chain of Custody?	<input checked="" type="checkbox"/> Yes	No	
#7	Chain of Custody signed when relinquished/ received?	<input checked="" type="checkbox"/> Yes	No	
#8	Chain of Custody agrees with sample label(s)?	<input checked="" type="checkbox"/> Yes	No	if written on Cont / Lid
#9	Container label(s) legible and intact?	<input checked="" type="checkbox"/> Yes	No	Not Applicable
#10	Sample matrix/ properties agree with Chain of Custody?	<input checked="" type="checkbox"/> Yes	No	
#11	Containers supplied by ELOT?	<input checked="" type="checkbox"/> Yes	No	
#12	Samples in proper container/ bottle?	<input checked="" type="checkbox"/> Yes	No	See Below
#13	Samples properly preserved?	<input checked="" type="checkbox"/> Yes	No	See Below
#14	Sample bottles intact?	<input checked="" type="checkbox"/> Yes	No	
#15	Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No	
#16	Containers documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No	
#17	Sufficient sample amount for indicated test(s)?	<input checked="" type="checkbox"/> Yes	No	See Below
#18	All samples received within sufficient hold time?	<input checked="" type="checkbox"/> Yes	No	See Below
#19	Subcontract of sample(s)?	Yes	No	<del>Not Applicable</del>
#20	VOC samples have zero headspace?	<input checked="" type="checkbox"/> Yes	No	Not Applicable

**Variance Documentation**

Contact \_\_\_\_\_ Contacted by \_\_\_\_\_ Date/ Time \_\_\_\_\_

Regarding \_\_\_\_\_

Corrective Action Taken  
 \_\_\_\_\_  
 \_\_\_\_\_

- Check all that Apply
- See attached e-mail/ fax
  - Client understands and would like to proceed with analysis
  - Cooling process had begun shortly after sampling event

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, 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 October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report  Final Report

Name of Company: XTO Energy Permian Division – SE New Mexico	Contact: Rick Wilson/Production Foreman
Address: P.O. Box 700, Eunice, New Mexico 88231	Telephone No.: (575) 394-2089
Facility Name: EMSU – Satellite No. 5	Facility Type: Tank Battery – Nearest Well is EMSU #258 (API #30-025-21251)

Surface Owner: State of New Mexico	Mineral Owner	Lease No.
------------------------------------	---------------	-----------

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
M	4	21S	36E					Lea

Latitude: N 32° 30' 7.56" Longitude: W 103° 16' 27.36"

**NATURE OF RELEASE**

Type of Release: Crude Oil and Water	Volume of Release: Unknown	Volume Recovered: N/A
Source of Release: Below Grade Tank	Date and Hour of Occurrence: Unknown	Date and Hour of Discovery: Unknown
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input 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.\*

Describe Cause of Problem and Remedial Action Taken.\* Below grade tank removed per OCD approved closure plan. Initial composite sample (5-spot) from bottom of tank excavation shows evidence of a release. TPH was detected at 126 ppm exceeding the reporting limit of 100 ppm. The result meets the Recommended Remediation Action Level (RRAL) of 5000 ppm for TPH. Propose to close with clean soil.

Describe Area Affected and Cleanup Action Taken.\* No cleanup action was taken at this time, the TPH was below RRAL (5000 ppm). XTO request to close tank excavation per OCD approved closure plan.

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: Guy Haykus		Approved by District Supervisor:	
Title: <u>Production Superintendent</u>		Approval Date:	Expiration Date:
E-mail Address: William_haykus@xtoenergy.com		Conditions of Approval:	
Date: 10/26/2009 Phone: (432) 682-8873		Attached <input type="checkbox"/>	

\* Attach Additional Sheets If Necessary

1RP-09-10-2312

District I  
1625 N. French Dr., Hobbs, NM 88240  
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1220 South St. Francis Dr.  
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Form C-141  
Revised October 10, 2003

Submit 2 Copies to appropriate  
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with Rule 116 on back  
side of form

Release Notification and Corrective Action

OPERATOR

Initial Report  Final Report

Name of Company: XTO Energy Permian Division - SE New Mexico Contact: Rick Wilson/Production Foreman  
Address: P.O. Box 700, Eunice, New Mexico 88231 Telephone No.: (575) 394-2089  
Facility Name: EMSU - Satellite No. 5 Facility Type: Tank Battery - Nearest Well is EMSU #258 (API #30-025-21251)

Surface Owner: State of New Mexico Mineral Owner Lease No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
M	4	21S	36E					Lea

Latitude: N 32° 30' 7.56" Longitude: W 103° 16' 27.36"

NATURE OF RELEASE

Type of Release: Crude Oil and Water Volume of Release: Unknown Volume Recovered: N/A  
Source of Release: Below Grade Tank Date and Hour of Occurrence: Unknown Date and Hour of Discovery: Unknown  
Was Immediate Notice Given?  Yes  No  Not Required If YES, To Whom?  
By Whom? Date and Hour  
Was a Watercourse Reached?  Yes  No If YES, Volume Impacting the Watercourse.

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\* Below grade tank removed per OCD approved closure plan. Initial composite sample (5-spot) from bottom of tank excavation shows evidence of a release. TPH was detected at 126 ppm exceeding the reporting limit of 100 ppm. The result meets the Recommended Remediation Action Level (RRAL) of 5000 ppm for TPH. Propose to close with clean soil.

Describe Area Affected and Cleanup Action Taken.\* No cleanup action was taken at this time, the TPH was below RRAL (5000 ppm). XTO request to close tank excavation per OCD approved closure plan.

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: *W. J. Haykus*  
Printed Name: Guy Haykus  
Title: Production Superintendent  
E-mail Address: William haykus@xtoenergy.com  
Date: 10/26/2009 Phone: (432) 682-8873  
OIL CONSERVATION DIVISION  
Approved by District Supervisor:  
Approval Date: Expiration Date:  
Conditions of Approval: Attached

\* Attach Additional Sheets If Necessary