

**RECEIVED**

**FEB 03 2010**

**HOBBSOCD**

**Below-Grade Tank  
Closure Final Report**

**XTO Energy, Inc.**

**1RP-09-11-2360**

**Eunice Monument South Unit – Satellite 6**

**Unit N (SE/4, SW/4), Section 3, T21S, R36E**

**Lea County, NM**

**Project No. 8-0146**

Prepared by:

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

January 28, 2010

## 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 Closure Activities .....	2
3.5	Excavation Backfilling.....	3
4.0	Conclusion and Recommendation .....	3

## Tables

Table 1	Soil Analytical Data Summary
---------	------------------------------

## Figures

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

## Appendices

Appendix A	Pit Closure Plan C-144
Appendix B	Waste Manifests
Appendix C	Analytical Results
Appendix D	Photodocumentation
Appendix E	Initial and Final C-141

## 1.0 Executive Summary

The following report documents the closure of a below-grade tank associated with the XTO Energy (XTO) Eunice Monument South Unit – Satellite 6 (Site) located in Lea County, New Mexico. The legal description of the Site is Unit N (SE/4, SW/4), Section 3, Township 21 South, Range 36 East (Figure 1). The geodetic location is N32° 30' 11.88", W103° 15' 14.40".

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 below-grade tank and soil, the collection of soil samples, OCD issuance of a remediation case number and the subsequent investigation, backfilling and closure of the former below-grade tank. 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 X2201

Secondary Contact: 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 is located in rural Lea County, about 1 mile northwest of Oil Center, New Mexico. The nearest producing well is EMSU #263, API # 30-025-04456. The approximately 0.6 acre Site contains the 90 barrel nominal capacity below-grade fiberglass tank, and ancillary production equipment. The Facility is covered with crushed caliche rock and is relatively flat (Figures 2 and 3).

The Facility's siting criteria presented the following findings:

- Groundwater is more than 100 feet below the bottom of the below-grade tank, 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 fresh water wells or springs are located within 1000 horizontal feet of 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 12, 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. A copy of the signed C-144 closure plan is provided in Appendix A.

### **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 Closure Activities**

On November 11, 2009, XTO used a HydroVac truck to excavate around the tank, and a backhoe to remove the tank.

LAI personnel collected a 5-part composite soil sample from the bottom (Satellite #6) of the excavation. A 5-part composite sample was also collected from the excavated soil pile for waste characterization (Satellite #6 Soil Pile).

Approximately 8 cubic yards of excavated soil were disposed at Sundance Services, Inc. (OCD Permit R5516/NM-01-0003) on December 15, 2009. Waste manifests are presented as Appendix B.

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 bottom composite sample, Satellite #6 (978 ppm), exceeded TPH OCD reporting level of 100 ppm. Laboratory analytical data is presented as Appendix C.

The OCD District office issued remediation project number 1RP-09-11-2360.

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, total BTEX, and TPH for the Satellite #6 composite sample were below the recommended remediation action levels of 10, 50 and 5,000 ppm, respectively.

**3.5 Excavation Backfilling**

Excavation backfilling consisted of compacting six- to eight-inch lifts of clean soil purchased from the State Caliche pit, a nearby supply, and compacting each lift with heavy equipment. The uppermost 18-inches consisted of topsoil purchased from the surface lease owner, Mr. Tom Pearce. The topsoil was graded to level with the surrounding surface. Since the former tank was located within an active oilfield tank battery, the site was not drilled and reseeded. See Appendix D for photographs of the entire closure process.

An Initial and Final form C-141 was submitted to the OCD Hobbs office and approved for excavation backfilling (Appendix E).

**4.0 Conclusion and Recommendation**

Based on the documented activities performed in conformance with the OCD-approved below-grade tank closure plan; LAI requests approval of final closure for this Site.

Table 1  
 Soil Analytical Data Summary  
 EMSU - Satellite #6  
 XTO Energy, Inc.  
 Lea County, New Mexico  
 Project No.: 8-0146

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 6 Bottom	11/11/2009	<0.0011	<0.0011	<0.0022	<0.0011	<0.0011	<b>978</b>	<4.59
Satellite 6 Soil Pile	11/11/2009	<0.0014	<0.0014	<0.0027	<0.0014	<0.0014	1,390	105

**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.**

Table 1  
Soil Analytical Data Summary  
EMSU - Satellite #6  
XTO Energy, Inc.  
Lea County, New Mexico  
Project No.: 8-0146

Sample ID	Date	TPH	Chlorides
RRAL:		5,000	250
Satellite-6 Fill	12/16/2009	234	5.16

**Notes**

RRAL - Recommended Remediation Action Level

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

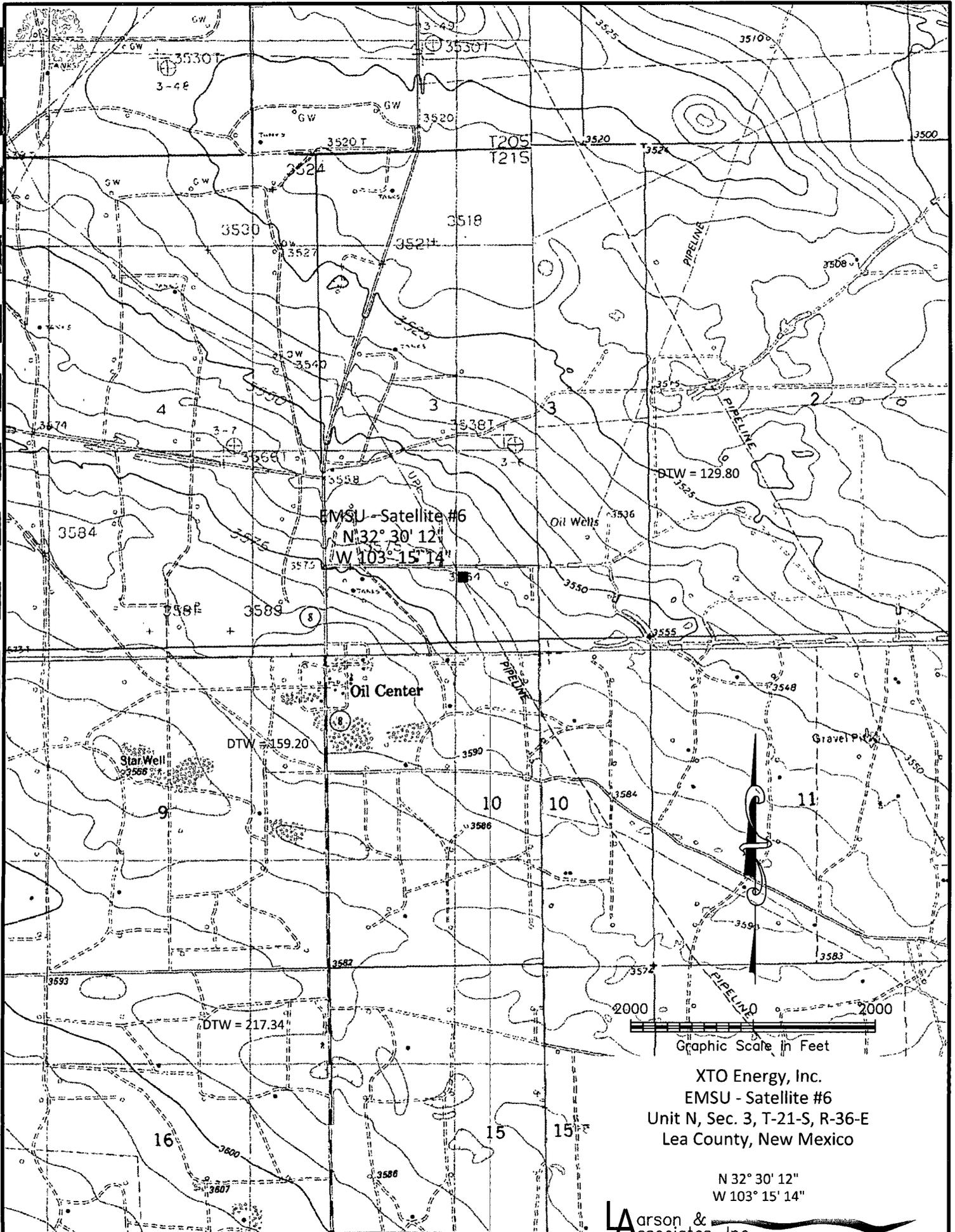


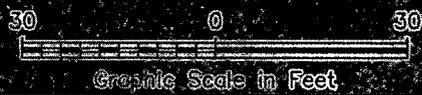
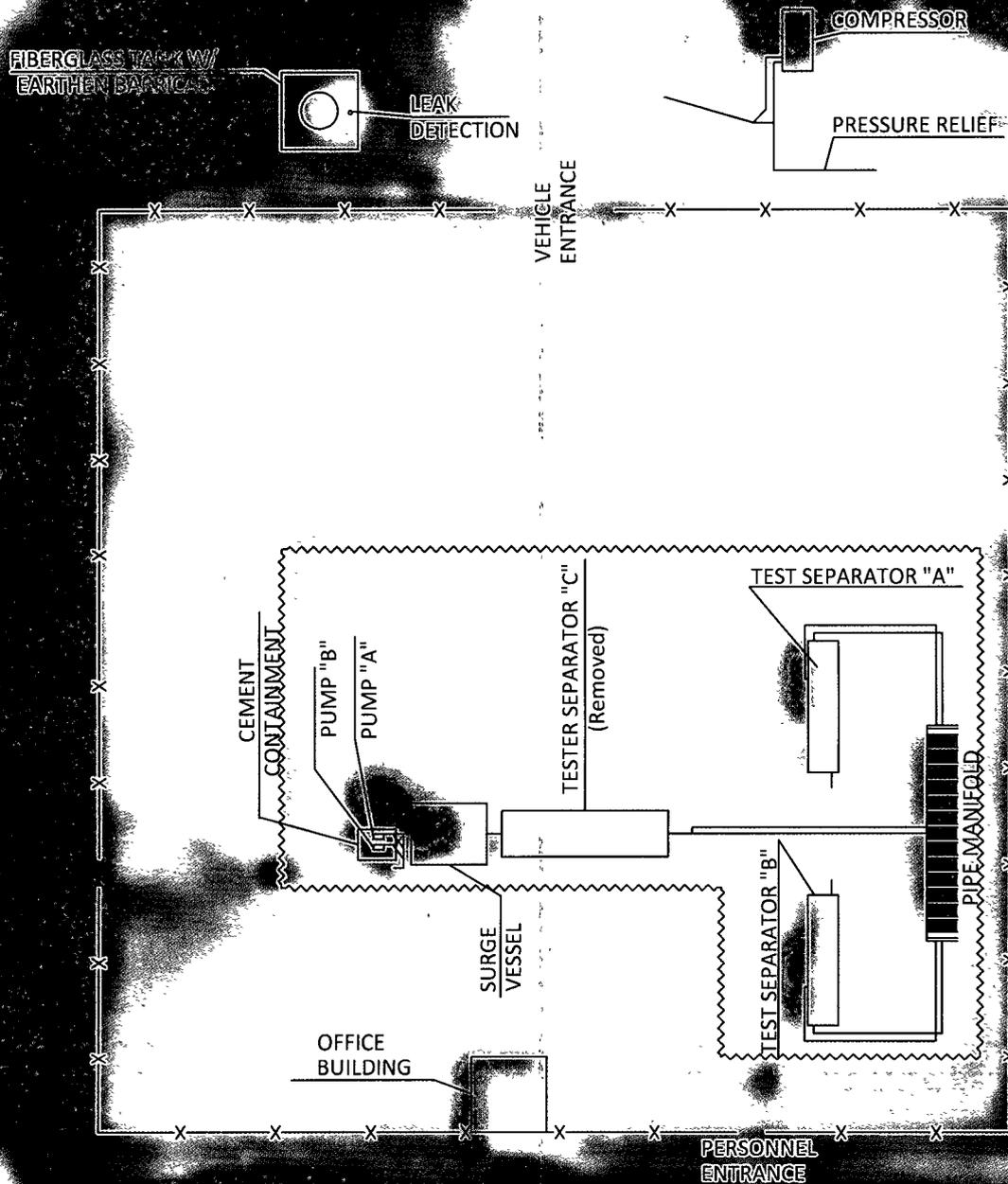
Figure 1 Topographic Map

XTO Energy, Inc.  
 EMSU - Satellite #6  
 Unit N, Sec. 3, T-21-S, R-36-E  
 Lea County, New Mexico

N 32° 30' 12"  
 W 103° 15' 14"

Larson &  
 associates, Inc.  
 Environmental Consultants

JWW



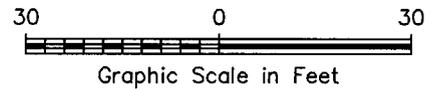
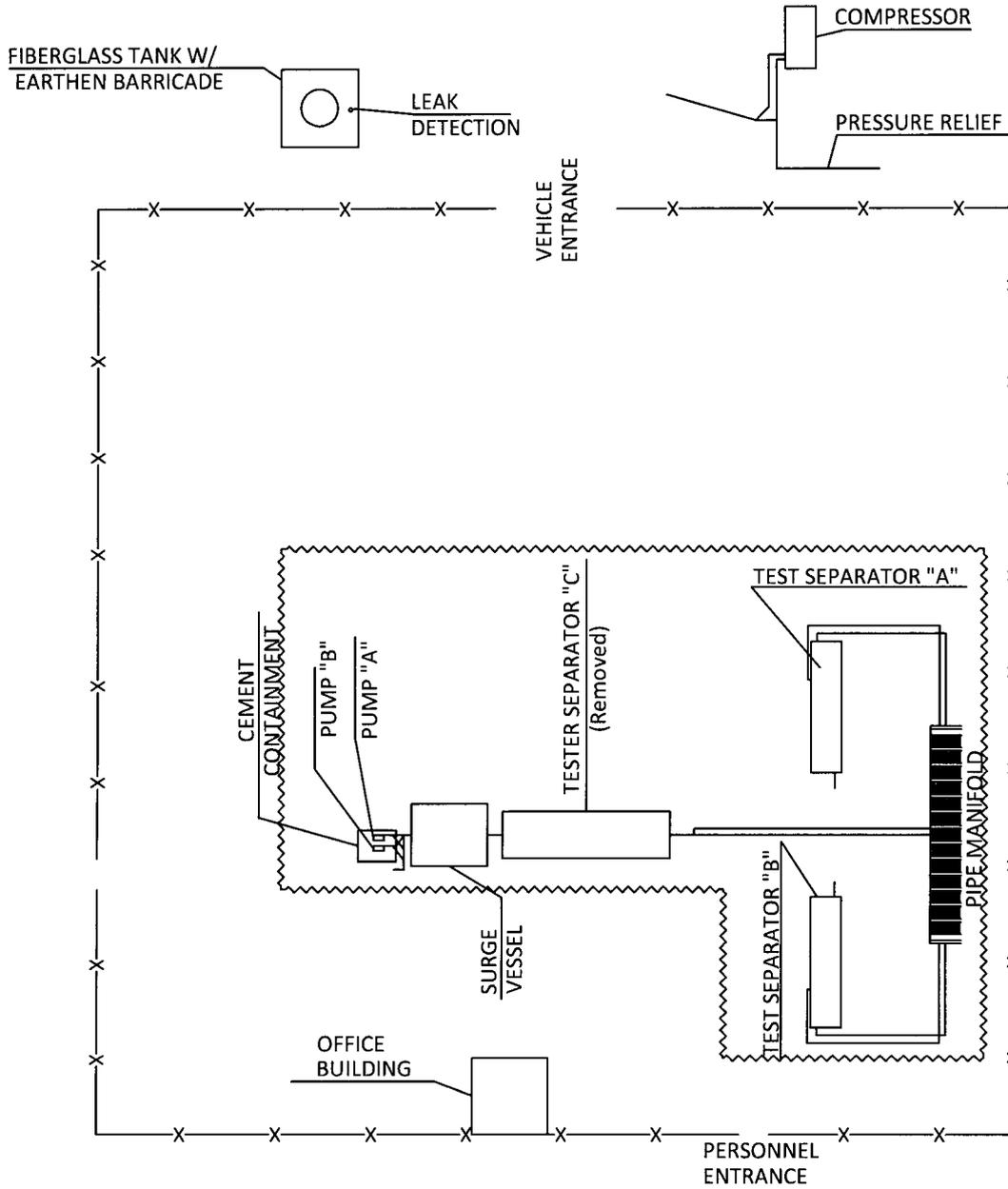
XTO Energy, Inc.  
 EMSU - Satellite #6  
 Unit N, Sec. 3, T-21-S, R-36-E  
 Lea County, New Mexico

N 32° 30' 12"  
 W 103° 15' 14"

**L**arson &  
 associates, Inc.  
 Environmental Consultants

Figure 2 Aerial

JWW



XTO Energy, Inc.  
 EMSU - Satellite #6  
 Unit N, Sec. 3, T-21-S, R-36-E  
 Lea County, New Mexico

N 32° 30' 12"  
 W 103° 15' 14"

Larson &  
 Associates, Inc.  
 Environmental Consultants

Figure 3 - Site Drawing

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

RECEIVED  
FEB 03 2010  
HOBBSOCO

For temporary pits, closed-loop systems, and below-grade tanks, submit to the appropriate NMOCD District Office.  
For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

Pit, Closed-Loop System, Below-Grade Tank, or  
Proposed Alternative Method Permit or Closure Plan Application

- Type of action:  Permit of a pit, closed-loop system, below-grade tank, or proposed alternative method  
 Closure of a pit, closed-loop system, below-grade tank, or proposed alternative method  
 Modification to an existing permit  
 Closure plan only submitted for an existing permitted or non-permitted pit, closed-loop system, below-grade tank, or proposed alternative method

**Instructions: Please submit one application (Form C-144) per individual pit, closed-loop system, below-grade tank or alternative request**

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.  
Operator: XTO ENERGY, INC. OGRID #: 5380  
Address: PERMIAN DIVISION-SE NEW MEXICO, P.O. BOX 700, EUNICE, NEW MEXICO 88231  
Facility or well name: EMSU-SATELLITE 6/EMSU-WELL NO. 263 (Nearest Well)  
API Number: 30-025-04456 (EMSU Well No. 263) OCD Permit Number: \_\_\_\_\_  
U/L or Qtr/Qtr Unit N Section 3 Township 21S Range 36E County LEA  
Center of Proposed Design: Latitude 32° 30' 11.88" N Longitude 103° 15' 14.40" W NAD:  1927  1983  
Surface Owner:  Federal  State  Private  Tribal Trust or Indian Allotment

2.  
 **Pit:** Subsection F or G of 19.15.17.11 NMAC  
Temporary:  Drilling  Workover  
 Permanent  Emergency  Cavitation  P&A  
 Lined  Unlined Liner type: Thickness \_\_\_\_\_ mil  LLDPE  HDPE  PVC  Other \_\_\_\_\_  
 String-Reinforced  
Liner Seams:  Welded  Factory  Other \_\_\_\_\_ Volume: \_\_\_\_\_ bbl Dimensions: L \_\_\_\_\_ x W \_\_\_\_\_ x D \_\_\_\_\_

3.  
 **Closed-loop System:** Subsection H of 19.15.17.11 NMAC  
Type of Operation:  P&A  Drilling a new well  Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)  
 Drying Pad  Above Ground Steel Tanks  Haul-off Bins  Other \_\_\_\_\_  
 Lined  Unlined Liner type: Thickness \_\_\_\_\_ mil  LLDPE  HDPE  PVC  Other \_\_\_\_\_  
Liner Seams:  Welded  Factory  Other \_\_\_\_\_

4.  
 **Below-grade tank:** Subsection I of 19.15.17.11 NMAC  
Volume: 90 bbl Type of fluid: OIL & PRODUCED WATER  
Tank Construction material: FIBERGLASS  
 Secondary containment with leak detection  Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off  
 Visible sidewalls and liner  Visible sidewalls only  Other LEAK DETECTION, METAL BARRICADE,  
Liner type: Thickness \_\_\_\_\_ mil  HDPE  PVC  Other \_\_\_\_\_

5.  
 **Alternative Method:**  
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

6. **Fencing:** Subsection D of 19.15.17.11 NMAC (*Applies to permanent pits, temporary pits, and below-grade tanks*)

- Chain link, six feet in height, two strands of barbed wire at top (*Required if located within 1000 feet of a permanent residence, school, hospital, institution or church*)
- Four foot height, four strands of barbed wire evenly spaced between one and four feet
- Alternate. Please specify \_\_\_\_\_

7. **Netting:** Subsection E of 19.15.17.11 NMAC (*Applies to permanent pits and permanent open top tanks*)

- Screen  Netting  Other \_\_\_\_\_
- Monthly inspections (If netting or screening is not physically feasible)

8. **Signs:** Subsection C of 19.15.17.11 NMAC

- 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers
- Signed in compliance with 19.15.3.103 NMAC

9. **Administrative Approvals and Exceptions:**

Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

**Please check a box if one or more of the following is requested, if not leave blank:**

- Administrative approval(s): Requests must be submitted to the appropriate division district or the Santa Fe Environmental Bureau office for consideration of approval.
- Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

10. **Siting Criteria (regarding permitting):** 19.15.17.10 NMAC

**Instructions:** The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to drying pads or above-grade tanks associated with a closed-loop system.

Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. (Applies to temporary, emergency, or cavitation pits and below-grade tanks) - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. (Applies to permanent pits) - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within a 100-year floodplain. - FEMA map	<input type="checkbox"/> Yes <input type="checkbox"/> No

11.

**Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist:** Subsection B of 19.15.17.9 NMAC

**Instructions:** Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
- Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC
- Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
- Previously Approved Design (attach copy of design) API Number: \_\_\_\_\_ or Permit Number: \_\_\_\_\_

12.

**Closed-loop Systems Permit Application Attachment Checklist:** Subsection B of 19.15.17.9 NMAC

**Instructions:** Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9
- Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19.15.17.10 NMAC
- Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
- Previously Approved Design (attach copy of design) API Number: \_\_\_\_\_
- Previously Approved Operating and Maintenance Plan API Number: \_\_\_\_\_ (Applies only to closed-loop system that use above ground steel tanks or haul-off bins and propose to implement waste removal for closure)

13.

**Permanent Pits Permit Application Checklist:** Subsection B of 19.15.17.9 NMAC

**Instructions:** Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- Climatological Factors Assessment
- Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- Quality Control/Quality Assurance Construction and Installation Plan
- Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- Nuisance or Hazardous Odors, including H<sub>2</sub>S, Prevention Plan
- Emergency Response Plan
- Oil Field Waste Stream Characterization
- Monitoring and Inspection Plan
- Erosion Control Plan
- Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

14.

**Proposed Closure:** 19.15.17.13 NMAC

**Instructions:** Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

- Type:  Drilling  Workover  Emergency  Cavitation  P&A  Permanent Pit  Below-grade Tank  Closed-loop System  
 Alternative
- Proposed Closure Method:  Waste Excavation and Removal  
 Waste Removal (Closed-loop systems only)  
 On-site Closure Method (Only for temporary pits and closed-loop systems)  
 In-place Burial  On-site Trench Burial  
 Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)

15.

**Waste Excavation and Removal Closure Plan Checklist:** (19.15.17.13 NMAC) **Instructions:** Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.

- Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
- Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
- Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
- Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

16.

**Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:** (19.15.17.13.D NMAC)

**Instructions:** Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.

Disposal Facility Name: \_\_\_\_\_ Disposal Facility Permit Number: \_\_\_\_\_  
Disposal Facility Name: \_\_\_\_\_ Disposal Facility Permit Number: \_\_\_\_\_

Will any of the proposed closed-loop system operations and associated activities occur on or in areas that *will not* be used for future service and operations?  
 Yes (If yes, please provide the information below)  No

Required for impacted areas which will not be used for future service and operations:  
 Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC  
 Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC  
 Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

17.

**Siting Criteria (regarding on-site closure methods only):** 19.15.17.10 NMAC

**Instructions:** Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.

- Ground water is less than 50 feet below the bottom of the buried waste.  
- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells  Yes  No  
 NA
- Ground water is between 50 and 100 feet below the bottom of the buried waste  
- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells  Yes  No  
 NA
- Ground water is more than 100 feet below the bottom of the buried waste.  
- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells  Yes  No  
 NA
- Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).  
- Topographic map; Visual inspection (certification) of the proposed site  Yes  No
- Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.  
- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image  Yes  No
- Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application.  
- NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site  Yes  No
- Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended.  
- Written confirmation or verification from the municipality; Written approval obtained from the municipality  Yes  No
- Within 500 feet of a wetland.  
- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site  Yes  No
- Within the area overlying a subsurface mine.  
- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division  Yes  No
- Within an unstable area.  
- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map  Yes  No
- Within a 100-year floodplain.  
- FEMA map  Yes  No

N/A / Method Not Proposed or Approved  
BAGS  
7/17/09

18.

**On-Site Closure Plan Checklist:** (19.15.17.13 NMAC) **Instructions:** Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.

- Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
- Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 19.15.17.11 NMAC
- Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC
- Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
- Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
- Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)
- Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
- Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

N/A / Method Not Proposed or Approved  
BAGS  
7/17/09

19.

**Operator Application Certification:**

I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name (Print): W.G. Haykus Title: Production Superintendent

Signature: [Signature] Date: 12/12/08

e-mail address: william-haykus@XTOENERGY.COM Telephone: 432-620-6705

20.

**OCD Approval:**  Permit Application (including closure plan)  Closure Plan (only)  OCD Conditions (see attachment)

OCD Representative Signature: [Signature] Approval Date: 7/17/09

Title: Environmental Engineer OCD Permit Number: \_\_\_\_\_

21.

**Closure Report (required within 60 days of closure completion):** Subsection K of 19.15.17.13 NMAC

*Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.*

Closure Completion Date: \_\_\_\_\_

22.

**Closure Method:**

Waste Excavation and Removal  On-Site Closure Method  Alternative Closure Method  Waste Removal (Closed-loop systems only)  
 If different from approved plan, please explain.

23.

**Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:**

*Instructions: Please identify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.*

Disposal Facility Name: \_\_\_\_\_ Disposal Facility Permit Number: \_\_\_\_\_

Disposal Facility Name: \_\_\_\_\_ Disposal Facility Permit Number: \_\_\_\_\_

Were the closed-loop system operations and associated activities performed on or in areas that will not be used for future service and operations?  
 Yes (If yes, please demonstrate compliance to the items below)  No

Required for impacted areas which will not be used for future service and operations:

- Site Reclamation (Photo Documentation)
- Soil Backfilling and Cover Installation
- Re-vegetation Application Rates and Seeding Technique

24.

**Closure Report Attachment Checklist:** *Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.*

- Proof of Closure Notice (surface owner and division)
  - Proof of Deed Notice (required for on-site closure)
  - Plot Plan (for on-site closures and temporary pits)
  - Confirmation Sampling Analytical Results (if applicable)
  - Waste Material Sampling Analytical Results (required for on-site closure)
  - Disposal Facility Name and Permit Number Disposal Facility Name: Sundance Services, Inc. Permit Number: R5516/NM-01-0003
  - Soil Backfilling and Cover Installation
  - Re-vegetation Application Rates and Seeding Technique
  - Site Reclamation (Photo Documentation)
- On-site Closure Location: Latitude 32° 30' 11.88" N Longitude 103° 15' 14.40" W NAD:  1927  1983

25.

**Operator Closure Certification:**

I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

Name (Print): W.G. Haykus Title: Production Superintendent

Signature: [Signature] Date: 01/29/10

e-mail address: williamhaykus@xtoenergy.com Telephone: 432.620.6705

# Sundance Services, Inc.

P.O. Box 1737 ★ Eunice, New Mexico 88231  
(575) 394-2511

TICKET NO 129073

LEASE OPERATOR/SHIPPER/COMPANY: XTO	
LEASE NAME: E & M South unit Sat 6	
TRANSPORTER COMPANY: C.W.S Buckoe	TIME 7:45 AM/PM
DATE: 12/15/09 VEHICLE NO.: 01	GENERATOR COMPANY MAN'S NAME: Gene Hudson
CHARGE TO: XTO	RIG NAME AND NUMBER

## TYPE OF MATERIAL

- |   |  |                                   |
|---|--|-----------------------------------|
| <input type="checkbox"/> Production Water | <input type="checkbox"/> Drilling Fluids     | <input type="checkbox"/> Rinsate  |
| <input type="checkbox"/> Tank Bottoms     | <input type="checkbox"/> Contaminated Soil   | <input type="checkbox"/> Jet Out  |
| <input type="checkbox"/> Solids           | <input type="checkbox"/> BS&W Content: _____ | <input type="checkbox"/> Call Out |

Description: o/d

RRC or API #

VOLUME OF MATERIAL  BBLs. \_\_\_\_\_ :  YARD 8 :  \_\_\_\_\_

AS A CONDITION TO SUNDANCE SERVICES, INC.'S ACCEPTANCE OF THE MATERIALS SHIPPED WITH THIS JOB TICKET, OPERATOR/SHIPPER REPRESENTS AND WARRANTS THAT THE WASTE MATERIAL SHIPPED HERewith IS MATERIAL EXEMPT FROM THE RESOURCE, CONSERVATION AND RECOVERY ACT OF 1976, AS AMENDED FROM TIME TO TIME, 40 U.S.C. § 6901, et seq., THE NM HEALTH AND SAF. CODE § 361.001 et seq., AND REGULATIONS RELATED THERETO, BY VIRTUE OF THE EXEMPTION AFFORDED DRILLING FLUIDS, PRODUCED WATERS, AND OTHER WASTE ASSOCIATED WITH THE EXPLORATION, DEVELOPMENT OR PRODUCTION OF CRUDE OIL OR NATURAL GAS OR GEOTHERMAL ENERGY.

ALSO AS A CONDITION TO SUNDANCE SERVICES, INC.'S ACCEPTANCE OF THE MATERIALS SHIPPED WITH THIS JOB TICKET, TRANSPORTER REPRESENTS AND WARRANTS THAT ONLY THE MATERIAL DELIVERED BY OPERATOR/SHIPPER TO TRANSPORTER IS NOW DELIVERED BY TRANSPORTER TO SUNDANCE SERVICES, INC.'S FACILITY FOR DISPOSAL.

*THIS WILL CERTIFY that the above Transporter loaded the material represented by this Transporter Statement at the above described location, and that it was tendered by the above described shipper. This will certify that no additional materials were added to this load, and that the material was delivered without incident.*

DRIVER:   
(SIGNATURE)

FACILITY REPRESENTATIVE:   
(SIGNATURE)

White - Sundance    Canary - Sundance Acct #1    Pink - Transporter  
Revised 09/09

Superior Printing Service, Inc.

# Analytical Report 352038

for

**Larson & Associates**

**Project Manager: Michelle Green**

**XTO - Satellite - 6**

**8-0146**

**18-NOV-09**

**RECEIVED**

**FEB 03 2010**

**HOBBSOCD**



**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 (AALI1), 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)



18-NOV-09

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

Reference: XENCO Report No: **352038**  
**XTO - Satellite - 6**  
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 352038. 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. 352038 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

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

*Certified and approved by numerous States and Agencies.*

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

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi - Latin America



**Sample Cross Reference 352038**



**Larson & Associates, Midland, TX**

XTO - Satellite - 6

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
Satellite 6 Pit Bottom	S	Nov-11-09 10:40		352038-001
Satellite Soil Pile	S	Nov-11-09 08:50		352038-002

# CASE NARRATIVE



*Client Name: Larson & Associates*

*Project Name: XTO - Satellite - 6*

*Project ID: 8-0146*  
*Work Order Number: 352038*

*Report Date: 18-NOV-09*  
*Date Received: 11/12/2009*

---

**Sample receipt non conformances and Comments:**

None

---

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

None

**Analytical Non Conformances and Comments:**

*Batch: LBA-781516 Percent Moisture  
AD2216A*

*Batch 781516, Percent Moisture RPD is outside the QC limit. This is most likely due to sample non-homogeneity.*

*Samples affected are: 352038-002, -001.*

*Batch: LBA-781731 Inorganic Anions by EPA 300  
None*

*Batch: LBA-781905 BTEX by EPA 8021B  
SW8021BM*

*Batch 781905, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.*

*Samples affected are: 352038-002, -001.*

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

*SW8021BM*

*Batch 781905, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene RPD was outside QC limits.*

*Samples affected are: 352038-002, -001*

*Batch: LBA-782043 TPH by EPA 418.1  
E418.1*

*Batch 782043, TPH, Total Petroleum Hydrocarbons recovered above QC limits in the Matrix Spike Duplicate.*

*Samples affected are: 352038-002, -001.*

*The Laboratory Control Sample for TPH, Total Petroleum Hydrocarbons is within laboratory Control Limits*



Certificate of Analysis Summary 552038

Larson & Associates, Midland, TX

Project Name: XTO - Satellite - 6



Project Id: 8-0146

Contact: Michelle Green

Date Received in Lab: Thu Nov-12-09 02:40 pm

Report Date: 18-NOV-09

Project Location:

Project Manager: Brent Barron, II

<b>Analysis Requested</b>	<b>Lab Id:</b> 352038-001 <b>Field Id:</b> Satellite 6 Pit Bottom <b>Depth:</b> <b>Matrix:</b> SOIL <b>Sampled:</b> Nov-11-09 10:40	<b>352038-002</b> Satellite Soil Pile  SOIL Nov-11-09 08:50				
<b>Anions by E300</b>	<b>Extracted:</b> <b>Analyzed:</b> Nov-13-09 12:13 <b>Units/RL:</b> mg/kg RL	<b>Nov-13-09 12:23</b> mg/kg RL				
Chloride	ND 4.59	105 5.76				
<b>BTEX by EPA 8021B</b>	<b>Extracted:</b> Nov-13-09 14:30 <b>Analyzed:</b> Nov-14-09 19:04 <b>Units/RL:</b> mg/kg RL	<b>Nov-13-09 14:30</b> Nov-14-09 19:25 mg/kg RL				
Benzene	ND 0.0011	ND 0.0014				
Toluene	ND 0.0022	ND 0.0027				
Ethylbenzene	ND 0.0011	ND 0.0014				
m,p-Xylenes	ND 0.0022	ND 0.0027				
o-Xylene	ND 0.0011	ND 0.0014				
Total Xylenes	ND 0.0011	ND 0.0014				
Total BTEX	ND 0.0011	ND 0.0014				
<b>Percent Moisture</b>	<b>Extracted:</b> <b>Analyzed:</b> Nov-12-09 17:00 <b>Units/RL:</b> % RL	<b>Nov-12-09 17:00</b> % RL				
Percent Moisture	8.47 1.00	27.1 1.00				
<b>TPH by EPA 418.1</b>	<b>Extracted:</b> <b>Analyzed:</b> Nov-17-09 12:48 <b>Units/RL:</b> mg/kg RL	<b>Nov-17-09 12:48</b> mg/kg RL				
TPH, Total Petroleum Hydrocarbons *	978 10.9	1390 13.7				

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.

Since 1990 Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America - Atlanta - Corpus Christi

Brent Barron, II  
Odessa Laboratory Manager

- 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
- \* Outside XENCO's scope of NELAC Accreditation.

*Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.  
Certified and approved by numerous States and Agencies.  
A Small Business and Minority Status Company that delivers SERVICE and QUALITY*

Houston - Dallas - San Antonio - Corpus Christi - Midland/Odessa - Tampa - Miami - Latin America

4143 Greenbriar Dr, Stafford, Tx 77477  
9701 Harry Hines Blvd , Dallas, TX 75220  
5332 Blackberry Drive, San Antonio TX 78238  
2505 North Falkenburg Rd, Tampa, FL 33619  
5757 NW 158th St, Miami Lakes, FL 33014  
12600 West I-20 East, Odessa, TX 79765  
842 Cantwell Lane, Corpus Christi, TX 78408

Phone	Fax
(281) 240-4200	(281) 240-4280
(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 - Satellite - 6

Work Orders : 352038,

Project ID: 8-0146

Lab Batch #: 781905

Sample: 543289-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/14/09 16:37

**SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 781905

Sample: 543289-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/14/09 16:58

**SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0305	0.0300	102	80-120	
4-Bromofluorobenzene	0.0296	0.0300	99	80-120	

Lab Batch #: 781905

Sample: 543289-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/14/09 17:40

**SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0269	0.0300	90	80-120	
4-Bromofluorobenzene	0.0299	0.0300	100	80-120	

Lab Batch #: 781905

Sample: 352038-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/14/09 19:04

**SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0272	0.0300	91	80-120	
4-Bromofluorobenzene	0.0292	0.0300	97	80-120	

Lab Batch #: 781905

Sample: 352038-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/14/09 19:25

**SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0273	0.0300	91	80-120	
4-Bromofluorobenzene	0.0306	0.0300	102	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 - Satellite - 6

Work Orders : 352038,

Project ID: 8-0146

Lab Batch #: 781905

Sample: 351729-004 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/15/09 01:45

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0277	0.0300	92	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 781905

Sample: 351729-004 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/15/09 02:07

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0281	0.0300	94	80-120	
4-Bromofluorobenzene	0.0280	0.0300	93	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.

**Project Name: XTO - Satellite - 6**

**Work Order #: 352038**

**Project ID:**

**8-0146**

**Lab Batch #: 781731**

**Sample: 781731-1-BKS**

**Matrix: Solid**

**Date Analyzed: 11/13/2009**

**Date Prepared: 11/13/2009**

**Analyst: LATCOR**

**Reporting Units: mg/kg**

**Batch #: 1**

**BLANK /BLANK SPIKE RECOVERY STUDY**

<b>Anions by E300</b>  <b>Analytes</b>	<b>Blank Result [A]</b>	<b>Spike Added [B]</b>	<b>Blank Spike Result [C]</b>	<b>Blank Spike %R [D]</b>	<b>Control Limits %R</b>	<b>Flags</b>
Chloride	ND	100	103	103	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 - Satellite - 6**

**Work Order #: 352038**

**Project ID: 8-0146**

**Analyst: ASA**

**Date Prepared: 11/13/2009**

**Date Analyzed: 11/14/2009**

**Lab Batch ID: 781905**

**Sample: 543289-1-BKS**

**Batch #: 1**

**Matrix: Solid**

**Units: mg/kg**

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

<b>BTEX by EPA 8021B</b>	<b>Blank Sample Result [A]</b>	<b>Spike Added [B]</b>	<b>Blank Spike Result [C]</b>	<b>Blank Spike %R [D]</b>	<b>Spike Added [E]</b>	<b>Blank Spike Duplicate Result [F]</b>	<b>Blk. Spk Dup. %R [G]</b>	<b>RPD %</b>	<b>Control Limits %R</b>	<b>Control Limits %RPD</b>	<b>Flag</b>
<b>Analytes</b>											
Benzene	ND	0.1000	0.0889	89	0.1	0.0873	87	2	70-130	35	
Toluene	ND	0.1000	0.0885	89	0.1	0.0867	87	2	70-130	35	
Ethylbenzene	ND	0.1000	0.0869	87	0.1	0.0856	86	2	71-129	35	
m,p-Xylenes	ND	0.2000	0.1873	94	0.2	0.1845	92	2	70-135	35	
o-Xylene	ND	0.1000	0.0915	92	0.1	0.0920	92	1	71-133	35	

**Analyst: LATCOR**

**Date Prepared: 11/17/2009**

**Date Analyzed: 11/17/2009**

**Lab Batch ID: 782043**

**Sample: 782043-1-BKS**

**Batch #: 1**

**Matrix: Solid**

**Units: mg/kg**

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

<b>TPH by EPA 418.1</b>	<b>Blank Sample Result [A]</b>	<b>Spike Added [B]</b>	<b>Blank Spike Result [C]</b>	<b>Blank Spike %R [D]</b>	<b>Spike Added [E]</b>	<b>Blank Spike Duplicate Result [F]</b>	<b>Blk. Spk Dup. %R [G]</b>	<b>RPD %</b>	<b>Control Limits %R</b>	<b>Control Limits %RPD</b>	<b>Flag</b>
<b>Analytes</b>											
TPH, Total Petroleum Hydrocarbons *	ND	2500	2830	113	2500	2820	113	0	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 - Satellite - 6

Work Order #: 352038

Lab Batch #: 781731

Project ID: 8-0146

Date Analyzed: 11/13/2009

Date Prepared: 11/13/2009

Analyst: LATCOR

QC- Sample ID: 351922-034 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

## MATRIX / MATRIX SPIKE RECOVERY STUDY

### Inorganic Anions by EPA 300

#### Analytes

	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	104	109	225	111	75-125	

Matrix Spike Percent Recovery [D] = 100\*(C-A)/B

Relative Percent Difference [E] = 200\*(C-A)/(C+B)

All Results are based on MDL and Validated for QC Purposes

RL - Below Reporting Limit



Project Name: XTO - Satellite - 6

Work Order #: 352038

Project ID: 8-0146

Lab Batch ID: 781905

QC- Sample ID: 351729-004 S

Batch #: 1 Matrix: Soil

Date Analyzed: 11/15/2009

Date Prepared: 11/13/2009

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	0.1130	0.0224	20	0.1130	0.0636	56	96	70-130	35
Toluene	ND	0.1130	0.0132	12	0.1130	0.0386	34	98	70-130	35	XF
Ethylbenzene	ND	0.1130	0.0166	15	0.1130	0.0545	48	107	71-129	35	XF
m,p-Xylenes	ND	0.2260	0.0024	1	0.2260	0.0041	2	52	70-135	35	XF
o-Xylene	ND	0.1130	0.0129	11	0.1130	0.0435	38	109	71-133	35	XF

Lab Batch ID: 782043

QC- Sample ID: 352036-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 11/17/2009

Date Prepared: 11/17/2009

Analyst: LATCOR

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 *	1600	2690	4490	107	2690	5370	140	18	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 - Satellite - 6

Work Order #: 352038

Lab Batch #: 781731

Project ID: 8-0146

Date Analyzed: 11/13/2009

Date Prepared: 11/13/2009

Analyst: LATCOR

QC- Sample ID: 351922-034 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Anions by E300 Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	104	94.8	9	20	

Lab Batch #: 781516

Date Analyzed: 11/12/2009

Date Prepared: 11/12/2009

Analyst: WRU

QC- Sample ID: 351952-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	3 89	4.79	21	20	F

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: 11.12.09 14:40  
 Lab ID #: 352038  
 Initials: AL

### Sample Receipt Checklist

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

# Analytical Report 355917

for

**Larson & Associates**

**Project Manager: Michelle Green**

**EMSU Satellite # 6**

**8-0146**

**21-DEC-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 (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), 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)



21-DEC-09

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

Reference: XENCO Report No: **355917**  
**EMSU Satellite # 6**  
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 355917. 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. 355917 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

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

*Certified and approved by numerous States and Agencies.*

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

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi - Latin America



**Sample Cross Reference 355917**



**Larson & Associates, Midland, TX**

EMSU Satellite # 6

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Satellite # 6 Fill	S	Dec-16-09 12:30		355917-001

# CASE NARRATIVE



*Client Name: Larson & Associates*

*Project Name: EMSU Satellite # 6*

*Project ID: 8-0146*  
*Work Order Number: 355917*

*Report Date: 21-DEC-09*  
*Date Received: 12/16/2009*

---

**Sample receipt non conformances and Comments:**

None

---

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-786252 Percent Moisture

None

Batch: LBA-786495 Inorganic Anions by EPA 300

None

Batch: LBA-786516 TPH by EPA 418.1

None

Contact: Michelle Green

Date Received in Lab: Wed Dec-16-09 05:00 pm

Report Date: 21-DEC-09

Project Manager: Brent Barron, II

Project Location:

<b>Analysis Requested</b>	<b>Lab Id:</b>	355917-001					
	<b>Field Id:</b>	Satellite # 6 Fill					
	<b>Depth:</b>						
	<b>Matrix:</b>	SOIL					
	<b>Sampled:</b>	Dec-16-09 12:30					
<b>Anions by E300</b>	<b>Extracted:</b>						
	<b>Analyzed:</b>	Dec-17-09 12:29					
	<b>Units/RL:</b>	mg/kg RL					
Chloride		5.16 4.29					
<b>Percent Moisture</b>	<b>Extracted:</b>						
	<b>Analyzed:</b>	Dec-17-09 17:00					
	<b>Units/RL:</b>	% RL					
Percent Moisture		2.09 1.00					
<b>TPH by EPA 418.1</b>	<b>Extracted:</b>						
	<b>Analyzed:</b>	Dec-21-09 09:30					
	<b>Units/RL:</b>	mg/kg RL					
TPH, Total Petroleum Hydrocarbons		234 10.2					

analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. 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 user of the data hereby presented. Liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

© 1990 Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America - Atlanta - Corpus Christi

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
- \* Outside XENCO's scope of NELAC Accreditation.

***Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.***  
*Certified and approved by numerous States and Agencies.*  
*A Small Business and Minority Status Company that delivers SERVICE and QUALITY*

Houston - Dallas - San Antonio - Corpus Christi - Midland/Odessa - Tampa - Miami - Latin America

	Phone	Fax
4143 Greenbriar Dr, Stafford, Tx 77477	(281) 240-4200	(281) 240-4280
9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116

**Project Name: EMSU Satellite # 6**

**Work Order #: 355917**

**Project ID:**

**8-0146**

**Lab Batch #: 786495**

**Sample: 786495-1-BKS**

**Matrix: Solid**

**Date Analyzed: 12/17/2009**

**Date Prepared: 12/17/2009**

**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	10.4	104	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: EMSU Satellite # 6**

**Work Order #: 355917**

**Analyst: LATCOR**

**Date Prepared: 12/21/2009**

**Project ID: 8-0146**

**Date Analyzed: 12/21/2009**

**Lab Batch ID: 786516**

**Sample: 786516-1-BKS**

**Batch #: 1**

**Matrix: Solid**

**Units: mg/kg**

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

TPH by EPA 418.1  Analytes	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
	TPH, Total Petroleum Hydrocarbons	ND	2500	2580	103	2500	2660	106	3	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: EMSU Satellite # 6

Work Order #: 355917

Lab Batch #: 786495

Date Analyzed: 12/17/2009

QC- Sample ID: 355911-001 S

Reporting Units: mg/kg

Date Prepared: 12/17/2009

Batch #: 1

Project ID: 8-0146

Analyst: LATCOR

Matrix: Soil

## MATRIX / MATRIX SPIKE RECOVERY STUDY

### Inorganic Anions by EPA 300

### Analytes

Chloride

Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
9.79	105	122	107	75-125	

Matrix Spike Percent Recovery [D] = 100\*(C-A)/B

Relative Percent Difference [E] = 200\*(C-A)/(C+B)

All Results are based on MDL and Validated for QC Purposes

RL - Below Reporting Limit



Project Name: EMSU Satellite # 6

Work Order #: 355917

Project ID: 8-0146

Lab Batch ID: 786516

QC- Sample ID: 355911-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 12/21/2009

Date Prepared: 12/21/2009

Analyst: LATCOR

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	13.9	2630	2520	95	2630	2750	104	9	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

**Project Name: EMSU Satellite # 6**

**Work Order #: 355917**

**Lab Batch #: 786495**

**Project ID: 8-0146**

**Date Analyzed: 12/17/2009**

**Date Prepared: 12/17/2009**

**Analyst: LATCOR**

**QC- Sample ID: 355911-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

**SAMPLE / SAMPLE DUPLICATE RECOVERY**

<b>Anions by E300</b>	<b>Parent Sample Result [A]</b>	<b>Sample Duplicate Result [B]</b>	<b>RPD</b>	<b>Control Limits %RPD</b>	<b>Flag</b>
<b>Analyte</b>					
Chloride	9.79	8.96	9	20	

**Lab Batch #: 786252**

**Date Analyzed: 12/17/2009**

**Date Prepared: 12/17/2009**

**Analyst: WRU**

**QC- Sample ID: 355930-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

**SAMPLE / SAMPLE DUPLICATE RECOVERY**

<b>Percent Moisture</b>	<b>Parent Sample Result [A]</b>	<b>Sample Duplicate Result [B]</b>	<b>RPD</b>	<b>Control Limits %RPD</b>	<b>Flag</b>
<b>Analyte</b>					
Percent Moisture	17.5	17.6	0	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: Layson & Assoc.  
 Date/ Time: 12-14-09 17:00  
 Lab ID #: 355917  
 Initials: AL

### Sample Receipt Checklist

Client Initials

#	Question	Yes	No	Notes	Client Initials
#1	Temperature of container/ cooler?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5.1 °C	
#2	Shipping container in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
#3	Custody Seals intact on shipping container/ cooler?	<input type="checkbox"/>	<input type="checkbox"/>	<del>Not Present</del>	
#4	Custody Seals intact on sample bottles/ container?	<input type="checkbox"/>	<input type="checkbox"/>	<del>Not Present</del>	
#5	Chain of Custody present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
#6	Sample instructions complete of Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
#7	Chain of Custody signed when relinquished/ received?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
#8	Chain of Custody agrees with sample label(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
#11	Containers supplied by ELOT?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
#12	Samples in proper container/ bottle?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below	
#13	Samples properly preserved?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below	
#14	Sample bottles intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
#15	Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
#16	Containers documented on Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
#17	Sufficient sample amount for indicated test(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below	
#18	All samples received within sufficient hold time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below	
#19	Subcontract of sample(s)?	<input type="checkbox"/>	<input type="checkbox"/>	<del>Not Applicable</del>	
#20	VOC samples have zero headspace?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not Applicable	

### Variance Documentation

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

Regarding: \_\_\_\_\_

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

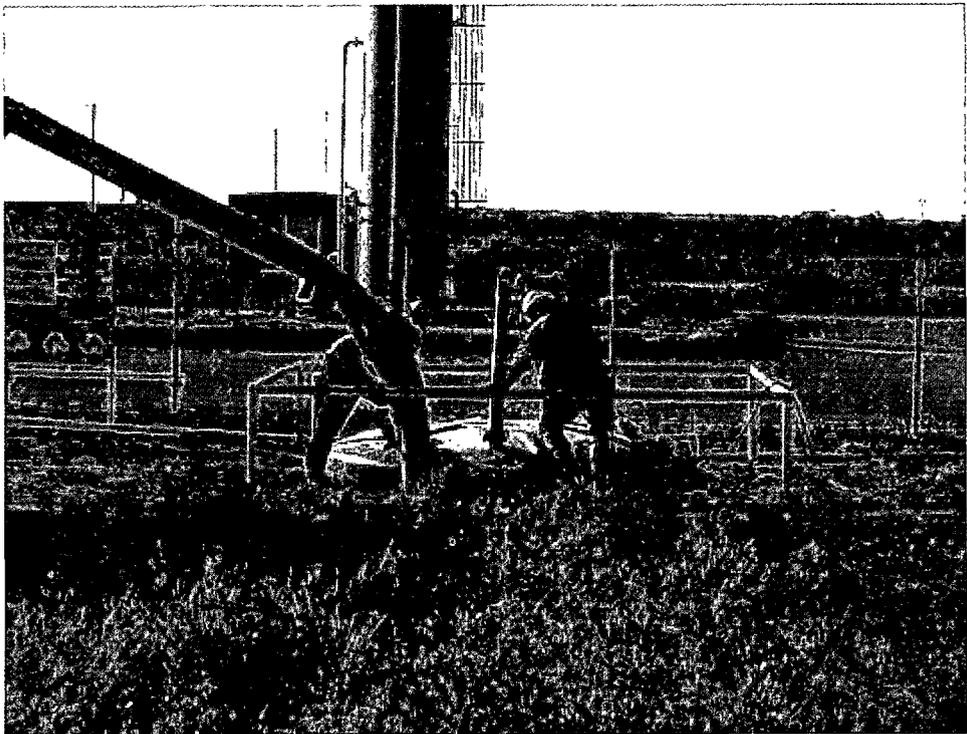
- Check all that Apply:
- See attached e-mail/ fax
  - Client understands and would like to proceed with analysis
  - Cooling process had begun shortly after sampling event



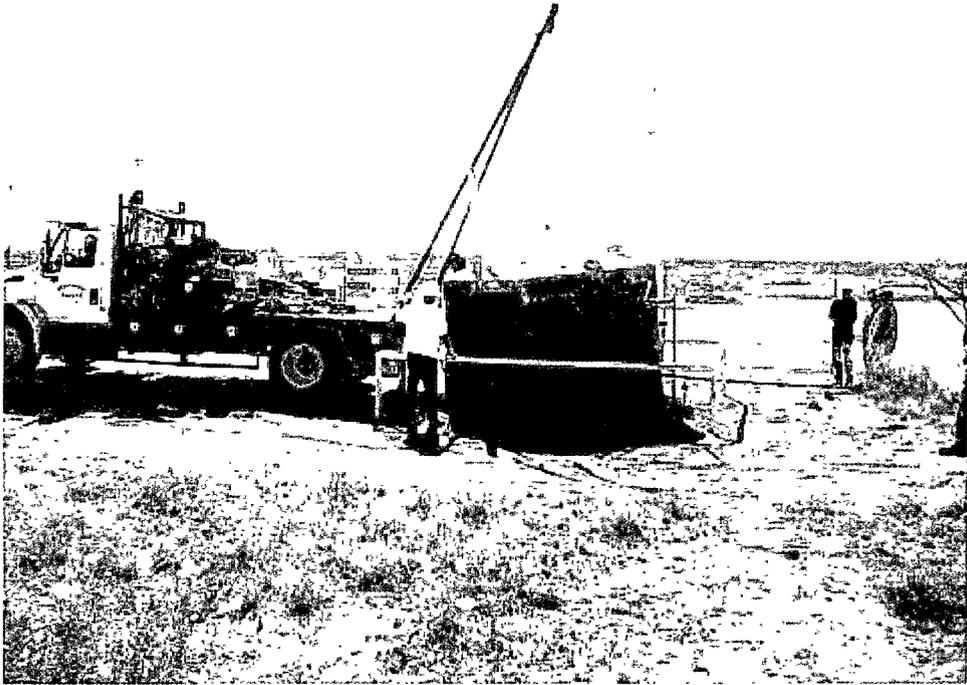
Facility Placard



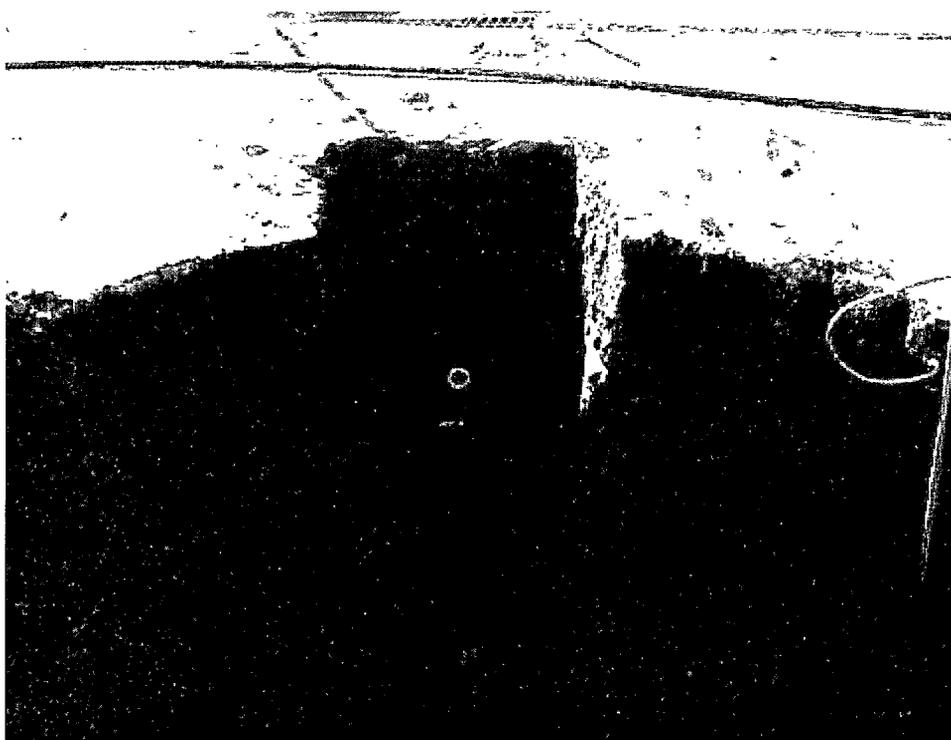
Below-grade tank prior to closure.



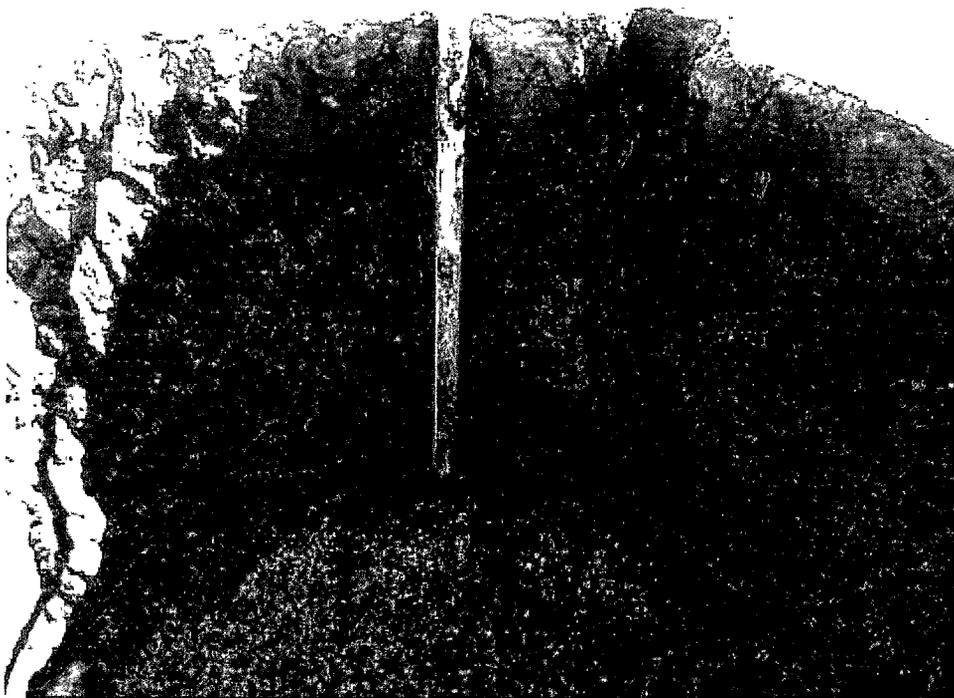
HydroVac excavation in progress.



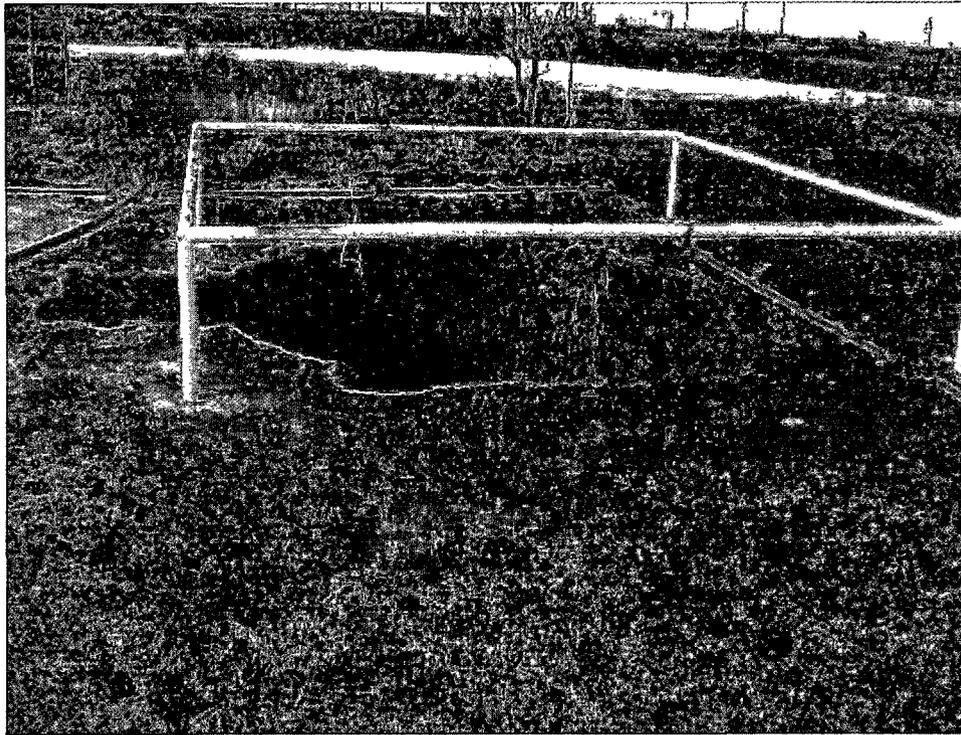
Tank being removed from its hold.



View of transfer line, staining was not present.



View of tankhold bottom.



Vacant tankhold prior to refilling.



Refilled and graded former tankhold location.

IRP-09-11- 2360

RECEIVED

FEB 03 2010

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

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

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. 6	Facility Type: Tank Battery - Nearest Well is EMSU #263 (API #30-025-04456)

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

LOCATION OF RELEASE

Unit Letter N	Section 3	Township 21S	Range 36E	Feet from the	North/South Line	Feet from the	East/West Line	County Lea
------------------	--------------	-----------------	--------------	---------------	------------------	---------------	----------------	---------------

Latitude: N 32° 30' 11.88" Longitude: W 103° 15' 14.40"

NATURE OF RELEASE

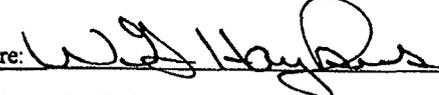
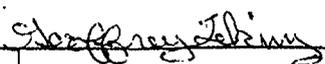
Type of Release: Crude Oil and Water	Volume of Release: Unknown	Volume Recovered: N/A
Source of Release: Below Grade Tank	Date and Hour of Occurrence: Unknown	Date and Hour of Discovery: Unknown
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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 978 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 - XTO Energy	ENV. ENGINEER: Approved by District Supervisor: 	
Title: <u>Production Superintendent</u>	Approval Date: 11/30/09	Expiration Date: 02/01/10
E-mail Address: William haykus@xtoenergy.com	Conditions of Approval: SUBMIT FINAL C-141 BY 02/01/10	Attached <input type="checkbox"/>
Date: 11/19/2009 Phone: (432) 682-8873	IRP-09-11-2360	

Attach Additional Sheets If Necessary

f 6RL 09 33540855

RECEIVED

FEB 03 2010

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

HOBBSUCD

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. 6	Facility Type: Tank Battery - Nearest Well is EMSU #263 (API #30-025-04456)

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

LOCATION OF RELEASE

Unit Letter N	Section 3	Township 21S	Range 36E	Feet from the	North/South Line	Feet from the	East/West Line	County Lea
------------------	--------------	-----------------	--------------	---------------	------------------	---------------	----------------	---------------

Latitude: N 32° 30' 11.88" Longitude: W 103° 15' 14.40"

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 978 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.

OIL CONSERVATION DIVISION

Signature: <i>William Haykus</i>	ENV. ENGINEER: Approved by District Supervisor: <i>Jeffery Johnson</i>	
Printed Name: Guy Haykus - XTO Energy	Approval Date: 12/02/09	Expiration Date: ---
Title: <i>Production Superintendent</i>	Conditions of Approval:	
E-mail Address: William haykus@xtoenergy.com	Attached <input type="checkbox"/>	
Date: 11/19/2009 Phone: (432) 682-8873	IRP-09-11-2360	

\* Attach Additional Sheets If Necessary