Below-Grade Tank
Closure Final 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

January 7, 2010

Table of Contents

Tables

Figures

Appendices

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 5 (Site) located in Lea County, New Mexico. The legal description of the Site is Unit M (SW/4, SW/4), Section 4, Township 21 South, Range 36 East (Figure 1). The geodetic location is N32° 30' 7.56", W103° 16' 27.36".

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 has a geodetic location of N32 N32° 30' 7.56", W103° 16' 27.36", and is located in rural Lea County, about 1 mile northwest of Oil Center, New Mexico. The nearest producing well is EMSU #258, API # 30-025-21251. The approximately 0.7 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 October 14, 2009, XTO used a HydroVac truck to excavate around the tank, and a backhoe to remove the tank.

On the following day, October 15, 2009, LAI personnel collected a 5-part composite soil sample from the bottom (Satellite #5) of the excavation. A 5-part composite sample was also collected from the excavated soil pile for waste characterization (Satellite #5 Soil Pile).

Approximately 20 cubic yards of excavated soil were disposed at Sundance Services, Inc. (OCD Permit R5516/NM-01-0003) on November 4, 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 #5, exceeded OCD reporting level of 100 ppm for TPH (126 ppm). Laboratory analytical data is presented as Appendix C.

The OCD District office issued remediation project number 1RP-09-10-2312. The OCD soil remediation ranking criteria was applied:

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

Recommended Remediation Action Levels

Constituent	Action Level (ppm)
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 composite sample were below the recommended remediation action levels of 10, 50 and 5,000 ppm, respectively.

3.5 Excavation Backfilling

Pit 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 for excavation backfilling approval (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 closure for this Site.

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	**126**	<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.

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

Sample ID	Date	TPH	Chlorides
RRAL:		100	250
Satellite-5 Fill	12/16/2009	13.9	9.79

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

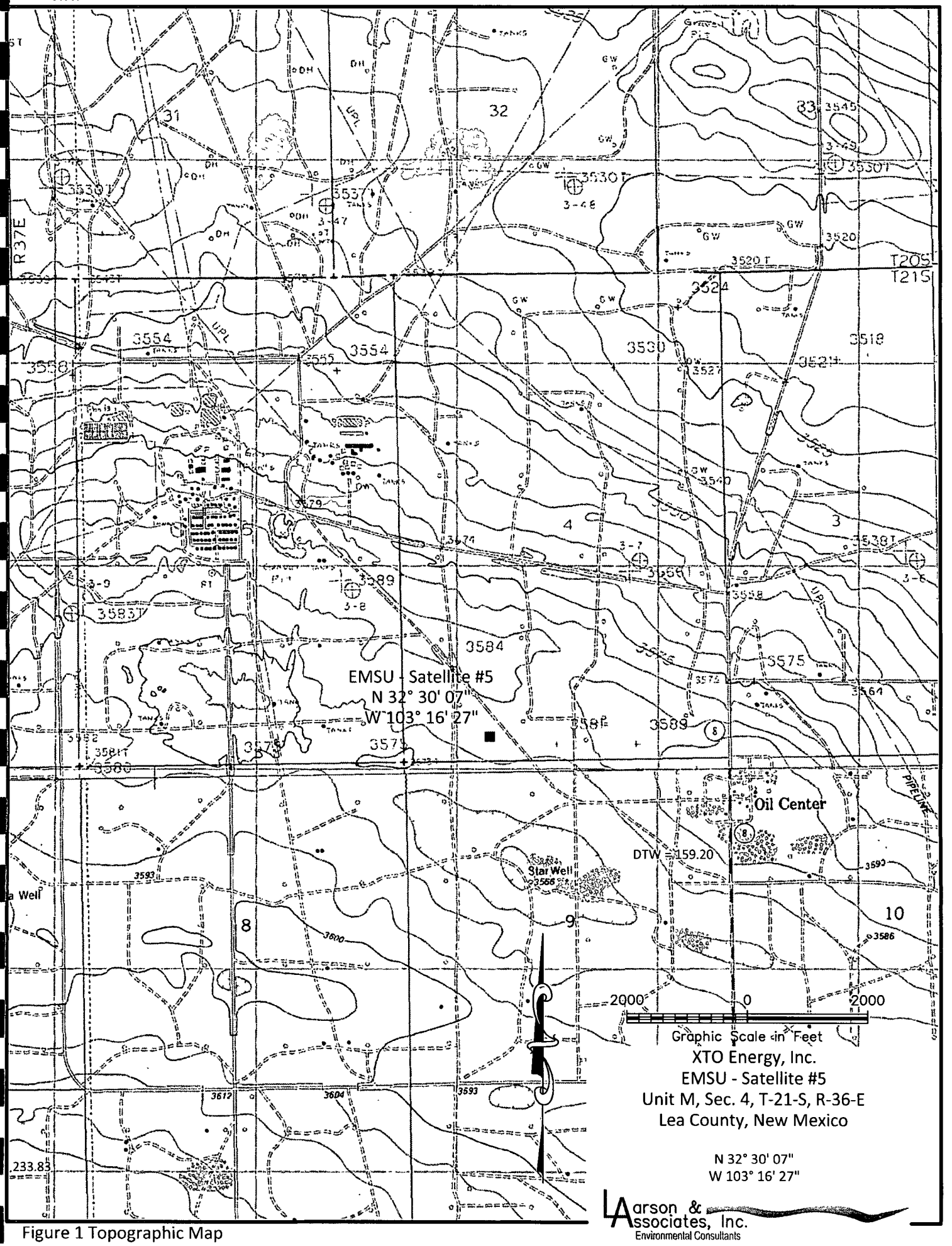
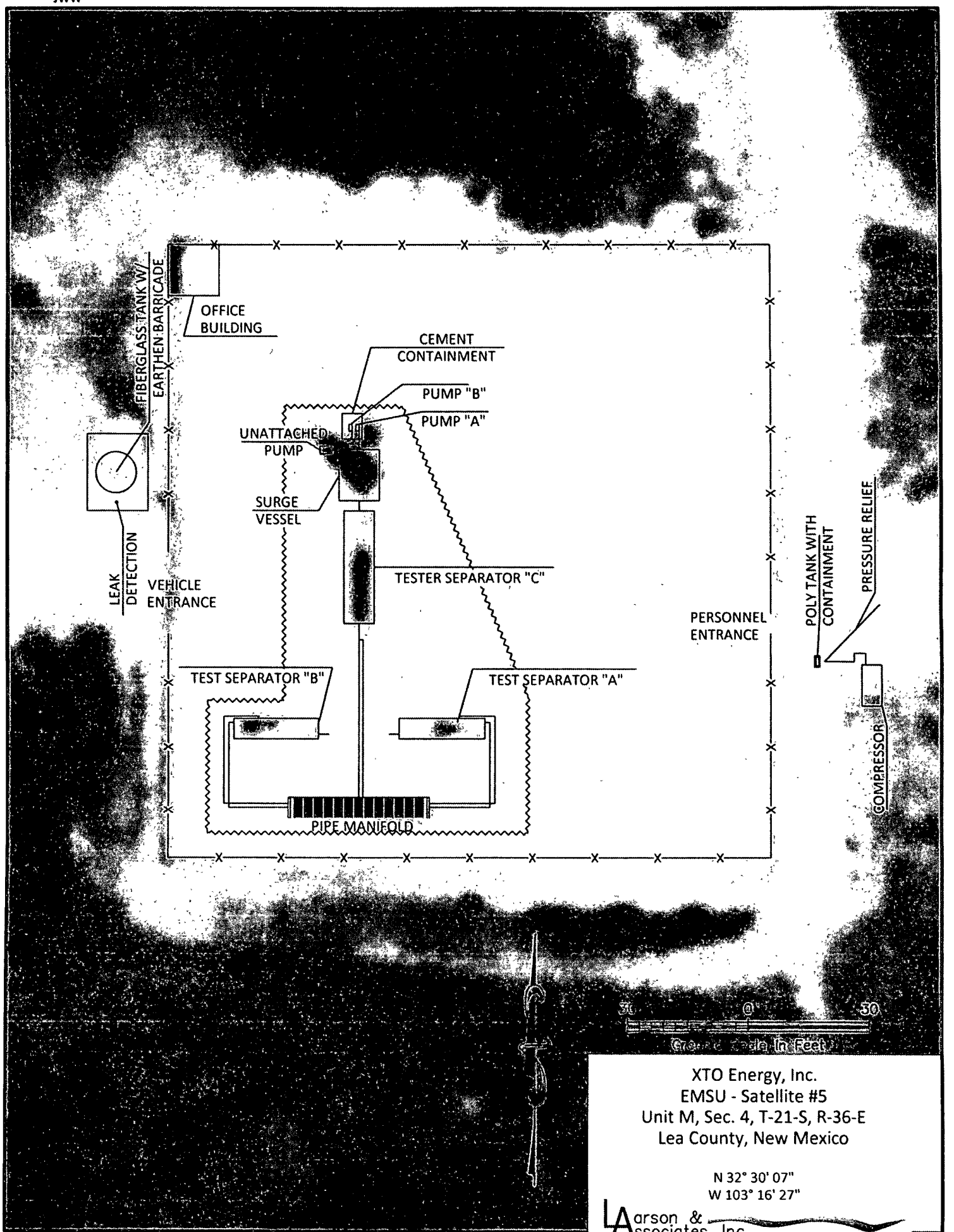


Figure 1 Topographic Map

JWW

Y:\PROJECTS\XTO ENERGY\8-01\8-0144 EMSU SAT #5.dwg, 10/28/2009 11:17:19 AM

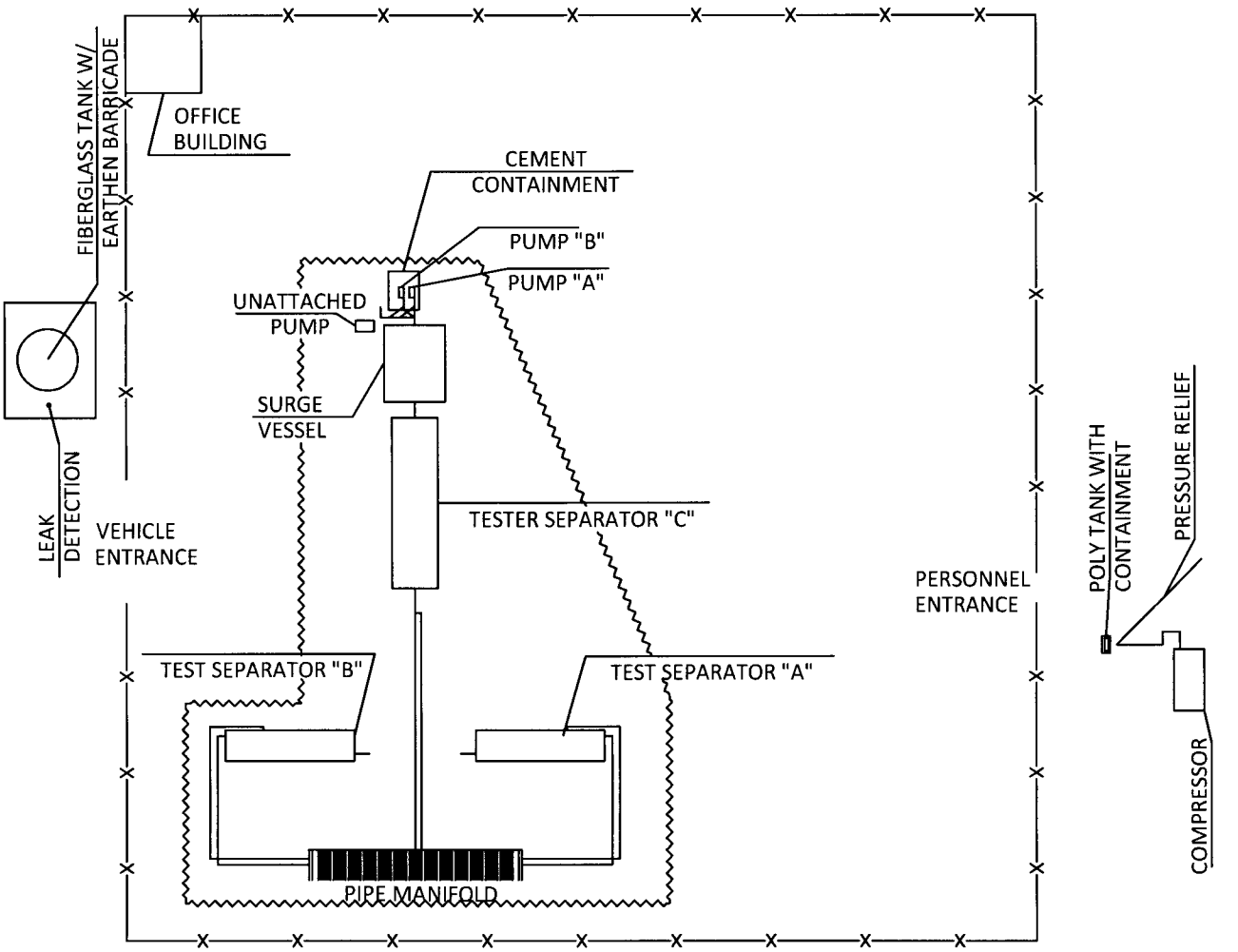


XTO Energy, Inc.
EMSU - Satellite #5
Unit M, Sec. 4, T-21-S, R-36-E
Lea County, New Mexico

N 32° 30' 07"
W 103° 16' 27"

LArson & Associates, Inc.
Environmental Consultants

Figure 2 - Aerial



30 0 30

Graphic Scale in Feet

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

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

Form C-144
July 21, 2008

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 5/EMSU-WELL NO. 258 (Nearest Well)
API Number: 30-025-21251 (EMSU Well No. 258) OCD Permit Number:
U/L or Qtr/Qtr Unit M Section 4 Township 21S Range 36E County LEA
Center of Proposed Design: Latitude 32° 30' 7.56" N Longitude 103° 16' 27.36" 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.

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_____

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)

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	☐ Yes ☐ 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	☐ Yes ☐ 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	☐ Yes ☐ No ☐ 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	☐ Yes ☐ No ☐ 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	☐ 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

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_2S, 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.

N/A - Method Not Proposed or Approved

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	BAS 7/17/09 ☐ 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

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.***

N/A - Method Not Proposed or Approved

☑ 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 BAS 7-17-09
☑ 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

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: W. G. Haykus 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 indentify 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' 7.56" N Longitude 103° 16' 27.36" 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: W. G. Haykus Date: 01/08/10

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 126204

LEASE OPERATOR/SHIPPER/COMPANY: XTO

LEASE NAME: EMSU Sat. #5

TRANSPORTER COMPANY: C.W. Backhoe TIME 10:30 (AM)/PM

DATE: 11/4/09 VEHICLE NO.: T4 GENERATOR COMPANY MAN'S NAME: Gene Hudson

CHARGE TO: XTO RIG NAME AND NUMBER

TYPE OF MATERIAL

[ ] Production Water	[ ] Drilling Fluids	[ ] Rinsate
[ ] Tank Bottoms	[X] Contaminated Soil	[ ] Jet Out
[ ] Solids	[ ] BS&W Content: _____	[ ] Call Out

Description: B/D

RRC or API #

VOLUME OF MATERIAL [ ] BBLS. _____ : [X] YARD 20 : [ ] _____

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: Roy Cooper (SIGNATURE)

FACILITY REPRESENTATIVE: Ida Sta Cruz (SIGNATURE)

White - Sundance Canary - Sundance Acct #1 Pink - Transporter

Revised 09/09

Superior Printing Service, Inc

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 (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)

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

Sample Cross Reference 348803

Larson & Associates, Midland, TX

XTO- EMSU-Satellite # 5

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

CASE NARRATIVE

XENCO Laboratories

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

Sample receipt non conformances and Comments:

None

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

Analysis Requested								
	Lab Id:	348803-001		348803-002				
	Field Id:	Satellite # 5 Soil Pile		Satellite # 5				
	Depth:							
	Matrix:	SOIL		SOIL				
	Sampled:	Oct-16-09 07 30		Oct-16-09 09 20				
Anions by E300	***Extracted:***							
	Analyzed:	Oct-19-09 09 42		Oct-19-09 09 42				
	Units/RL:	mg/kg	RL	mg/kg	RL			
Chloride		71 2	4 85	ND	4 47			
BTEX by EPA 8021B	***Extracted:***	Oct-19-09 13 00		Oct-17-09 11 00				
	Analyzed:	Oct-19-09 22 40		Oct-17-09 18 33				
	Units/RL:	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			
Percent Moisture	***Extracted:***							
	Analyzed:	Oct-19-09 09 00		Oct-19-09 09 00				
	Units/RL:	%	RL	%	RL			
Percent Moisture		13 5	1 00	6 01	1 00			
TPH by EPA 418.1	***Extracted:***							
	Analyzed:	Oct-21-09 12 53		Oct-21-09 12 53				
	Units/RL:	mg/kg	RL	mg/kg	RL			
TPH, Total Petroleum Hydrocarbons		2480	11 6	126	10 6			

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.

XENCO Laboratories

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

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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 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

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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.

XENCO Laboratories

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

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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

XENCO Laboratories

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

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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

XENCO Laboratories

BS / BSD Recoveries

Project Name: XTO- EMSU-Satellite # 5

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

Analyst: ASA **Date Prepared:** 10/17/2009 **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

BTEX by EPA 8021B 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
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

BTEX by EPA 8021B 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
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

XENCO Laboratories

BS / BSD Recoveries

Project Name: XTO- EMSU-Satellite # 5

Work Order #: 348803
Analyst: ASA
Lab Batch ID: 778126
Sample: 778126-1-BKS
Units: mg/kg

Date Prepared: 10/21/2009
Batch #: 1

Project ID: 8-0144
Date Analyzed: 10/21/2009
Matrix: Solid

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	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

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	102	212	293	90	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

BRL - Below Reporting Limit

XENCO Laboratories

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

BTEX by EPA 8021B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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

BTEX by EPA 8021B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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 ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

XENCO Laboratories

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

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

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

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

XENCO Laboratories

Sample Duplicate Recovery

ACCREDITED IN ACCORDANCE WITH nelac

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

Anions by E300	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
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: %

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

DHL ANALYTICAL
2300 Double Creek Drive • Round Rock, TX 78664
Phone (512) 388-8222 • FAX (512) 388-8229

348803

№ 41849

CHAIN-OF-CUSTODY

CLIENT: Larson + Associates Inc
ADDRESS:
PHONE: 432-697-0901 FAX:
DATA REPORTED TO: M. Green
ADDITIONAL REPORT COPIES TO:

DATE: 10-16-09 PAGE 1 OF 1
PO #: DHL WORK ORDER #:
PROJECT LOCATION OR NAME: XTO - EMSU - Satellite #5
CLIENT PROJECT #: 8-0144 COLLECTOR:

Authorize 5% surcharge for TRRP report? ☐ Yes ☐ No

S=SOIL P=PAINT W=WATER SL=SLUDGE A=AIR OT=OTHER

PRESERVATION: HCl | HNO_3 | H_2SO_4 ☐ NaOH ☐ | ICE | UNPRESERVED

ANALYSES: BTEX ☒ MTBE ☐ | TEPH 418.1 ☐ | TPH 1005 ☐ TPH 1006 ☐ | GASOLINE MOD 8015 ☐ | DIESEL - MOD 8015 ☐ | VOC 8260 ☐ | SVOC 8270 ☐ | PAH 8270 ☐ | HOLDPAH ☐ | 8081 PESTICIDES ☐ | 8082 PCBS ☐ | 8151 HERBICIDES ☐ | TCLP - METALS (RCRA) ☐ | TCLP VOC ☐ | TCLP - PEST ☐ HERB ☐ | Same VOC ☐ | TOTAL METALS (RCRA) ☐ | OTHER LIST ☐ | LEAD - TOTAL ☐ | D.W. 200.8 ☐ TCLP ☐ | RCI ☐ | TOX ☐ | FLASHPOINT ☐ | TDS ☐ | TSS ☐ | MOISTURE ☐ CYANIDE ☐ | DP ☐ | HEXAVALENT CHROMIUM ☐ | EXPLOSIVES ☐ PERCHLORATE ☐ | CHLORIDE ☒ ANIONS ☐ | ALKALINITY ☐

Field Sample I D	DHL Lab #	Date	MST Time	Matrix	Container Type	# of Containers	HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	BTEX ☒	TEPH 418.1 ☐	CHLORIDE ☒	FIELD NOTES
Satellite #5 sample	-01	10-16	0750	S	402	2				X		X	X	X	300
Satellite #5	-02		0920	S	"	2				X		X	X	X	

TOTAL

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
	10-16-09 / 1200	
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
	10-16-09 / 1510	Andrea Sam
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)

☐ DHL DISPOSAL @ $5.00 each ☐ Return

TURN AROUND TIME
RUSH ☐ CALL FIRST
1 DAY ☐ CALL FIRST
2 DAY ☐
NORMAL ☒
OTHER ☐ ____

LABORATORY USE ONLY:
RECEIVING TEMP. 4.0 THERM #. A7
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☒ NOT USED
☐ CARRIER BILL #
☐ APC DELIVERY
☒ HAND DELIVERED

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Larson & Assoc.

Date/ Time: 10.16.09 15:10

Lab ID #: 348803

Initials: AL

Sample Receipt Checklist

				Client Initials
#1	Temperature of container/ cooler?	(Yes)	No	4.6 °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 even:

Analytical Report 355911

for

Larson & Associates

Project Manager: Michelle Green

EMSU Satellite # 5

8-0144

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: **355911**
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 355911. 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. 355911 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

Sample Cross Reference 355911

Larson & Associates, Midland, TX

EMSU Satellite # 5

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Satellite # 5 Fill	S	Dec-16-09 12:55		355911-001

CASE NARRATIVE

XENCO Laboratories

Client Name: Larson & Associates
Project Name: EMSU Satellite # 5

Project ID: 8-0144 *Report Date:* 21-DEC-09
Work Order Number: 355911 *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 Anions by E300
None

Batch: LBA-786516 TPH by EPA 418.1
None

Certificate of Analysis Summary 355911

Larson & Associates, Midland, TX

Project Name: EMSU Satellite # 5

Project Id: 8-0144
Contact: Michelle Green
Project Location:

Date Received in Lab: Wed Dec-16-09 05:00 pm
Report Date: 21-DEC-09
Project Manager: Brent Barron, II

Analysis Requested							
	Lab Id:	355911-001					
	Field Id:	Satellite # 5 Fill					
	Depth:						
	Matrix:	SOIL					
	Sampled:	Dec-16-09 12 55					
Anions by E300	***Extracted:***						
	Analyzed:	Dec-17-09 12 29					
	Units/RL:	mg/kg	RL				
Chloride		9 79	4 42				
Percent Moisture	***Extracted:***						
	Analyzed:	Dec-17-09 17 00					
	Units/RL:	%	RL				
Percent Moisture		4 93	1 00				
TPH by EPA 418.1	***Extracted:***						
	Analyzed:	Dec-21-09 09 30					
	Units/RL:	mg/kg	RL				
TPH, Total Petroleum Hydrocarbons		13 9	10 5				

Brent Barron, II
Odessa Laboratory Manager

XENCO Laboratories

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.

Blank Spike Recovery

Project Name: EMSU Satellite # 5

Work Order #: 355911 **Project ID:** 8-0144

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

XENCO Laboratories

BS / BSD Recoveries

Project Name: EMSU Satellite # 5

Work Order #: 355911 **Project ID:** 8-0144

Analyst: LATCOR **Date Prepared:** 12/21/2009 **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 # 5

Work Order #: 355911
Lab Batch #: 786495
Project ID: 8-0144
Date Analyzed: 12/17/2009
Date Prepared: 12/17/2009
Analyst: LATCOR
QC- Sample ID: 355911-001 S
Batch #: 1
Matrix: Soil
Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	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

BRL - Below Reporting Limit

XENCO Laboratories

Form 3 - MS / MSD Recoveries

Project Name: EMSU Satellite # 5

Work Order # : 355911 **Project ID:** 8-0144

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 ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Sample Duplicate Recovery

Project Name: EMSU Satellite # 5

Work Order #: 355911

Lab Batch #: 786495 **Project ID:** 8-0144
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

Anions by E300 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
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: %

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

CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants
507 N. Marienfeld, Ste. 200
Midland, TX 79701
432-687-0901

DATE: 12-16-09 PAGE 1 OF 1

PO #: _____ LAB WORK ORDER #: _____

PROJECT LOCATION OR NAME: EMSU SATELLITE #5

LAI PROJECT #: 8-0144 COLLECTOR: R. BROOKS

Data Reported to: MICHELLE GREEN

TRRP report? ☐ Yes ☐ No

S=SOIL P=PAINT
W=WATER SL=SLUDGE
A=AIR OT=OTHER

TIME ZONE: Time zone/State: MST/NM

355911

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES: BTEX ☐ MTBE ☐	TRPH 418.1	TPH 1005 ☐ TPH 1006 ☐	GASOLINE MOD 8015 ☐	DIESEL - MOD 8015 ☐	VOC 8260 ☐	SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐	8081 PESTICIDES ☐ 8151 HERBICIDES ☐	8082 PCBS ☐	TCLP - METALS (RCRA) ☐ TCLP VOC ☐	TCLP - PEST ☐ HERB ☐ Semi-VOC ☐	TOTAL METALS (RCRA) ☐ OTHER LIST ☐	LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐	RCI ☐ TOX ☐ FLASHPOINT ☐	TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐	pH ☐ HEXAVALENT CHROMIUM ☐	EXPLOSIVES ☐ PECHLORATE ☐	CHLORIDE X ANIONS ☐ ALKALINITY ☐	FIELD NOTES
SATELLITE #5 -01		12-16	12:55	S	2				X			X																X	
TOTAL																													

RELINQUISHED BY:(Signature) L.N. Brooks DATE/TIME 12-16-09 5:00 PM RECEIVED BY: (Signature) Andrea Jones

RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)

RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)

TURN AROUND TIME
NORMAL X
1 DAY ☐
2 DAY ☐
OTHER ☐ _____

LABORATORY USE ONLY:
RECEIVING TEMP: 5.1 THERM #: A7
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☑ NOT USED
☐ CARRIER BILL # _____
☑ HAND DELIVERED 4 oz glass

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Larson & Assoc.

Date/ Time: 12.16.09 17:00

Lab ID # : 355911

Initials: AL

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	(Yes)	No	5.1 °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

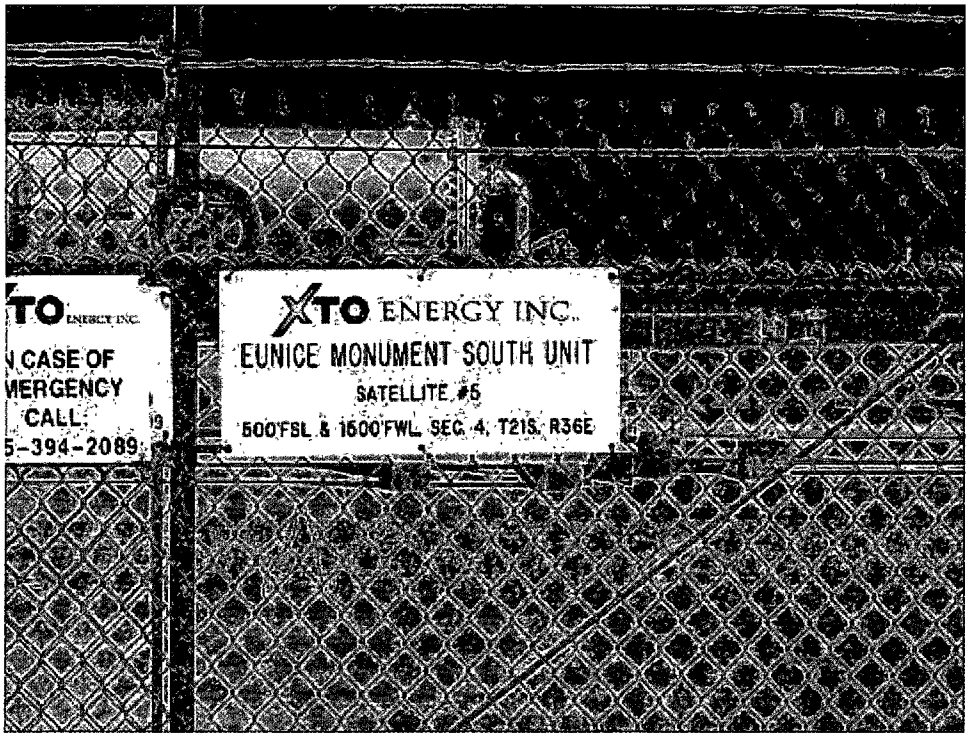
Contact: _____ Contacted by: _____ Date/ Time: _____

Regarding: _____

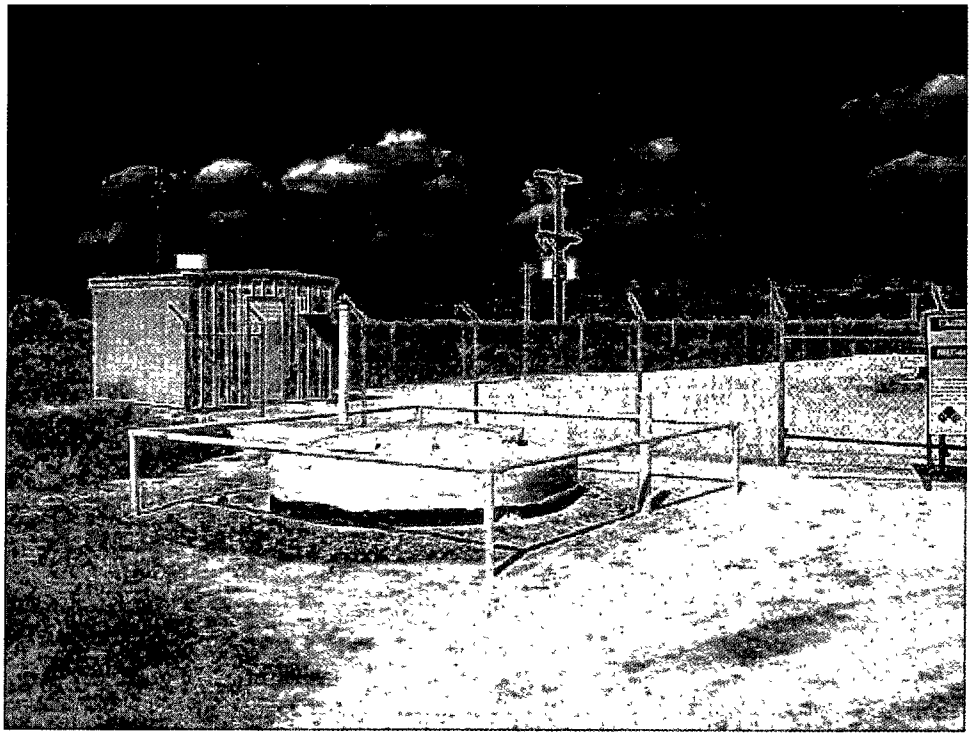
Corrective Action Taken:

Check all that Apply:

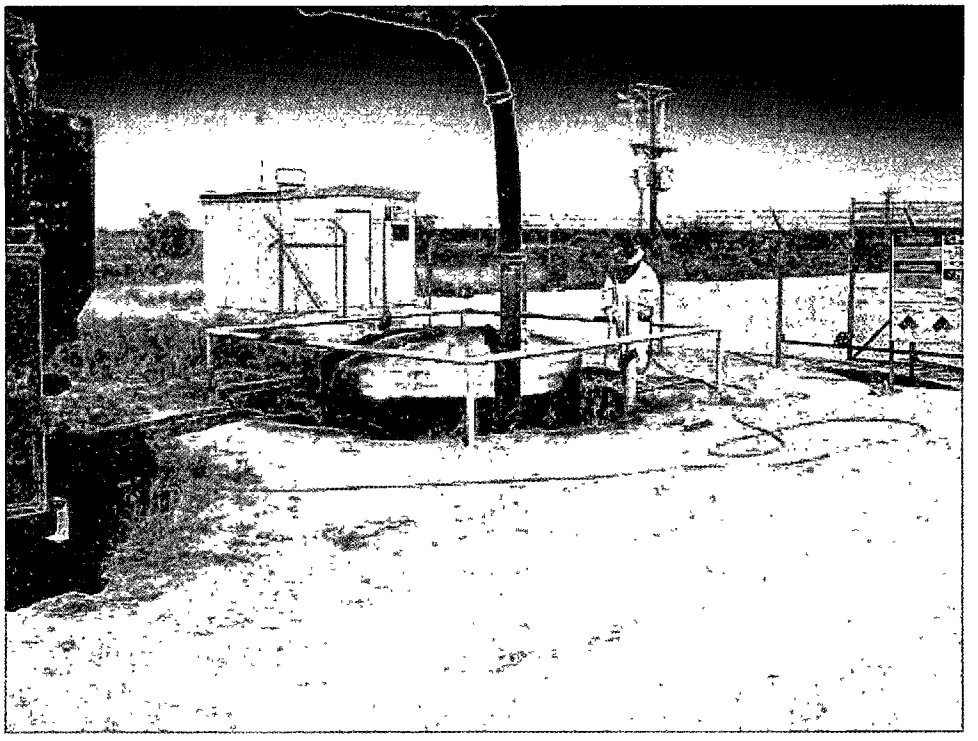
- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event



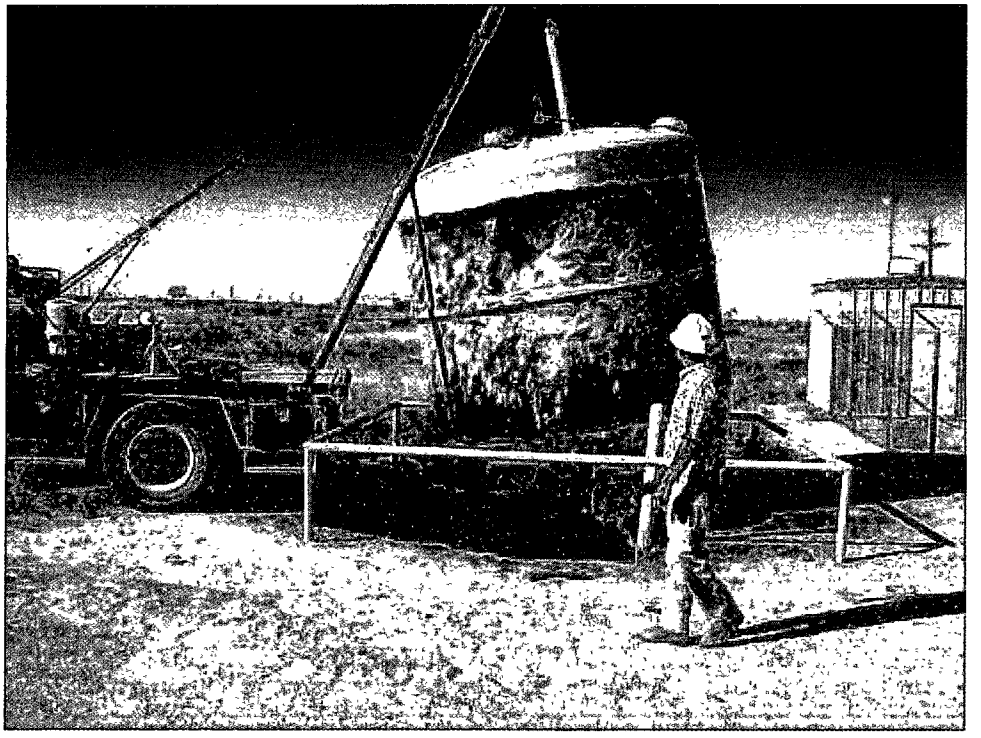
Facility Placard



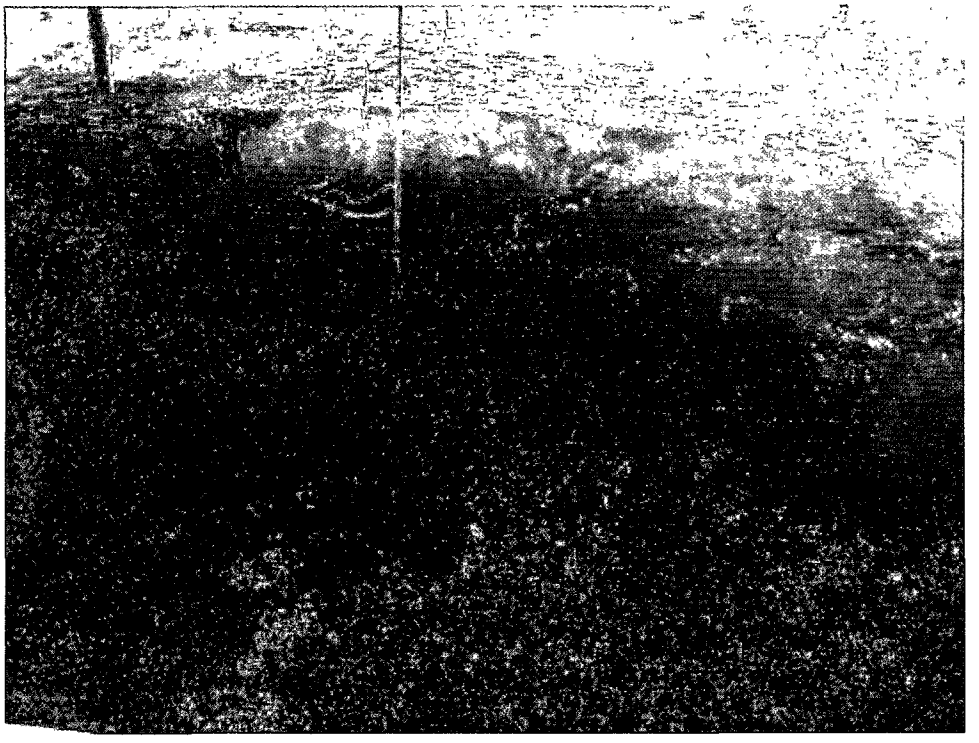
Below-grade tank prior to closure.



HydroVac excavation in progress.

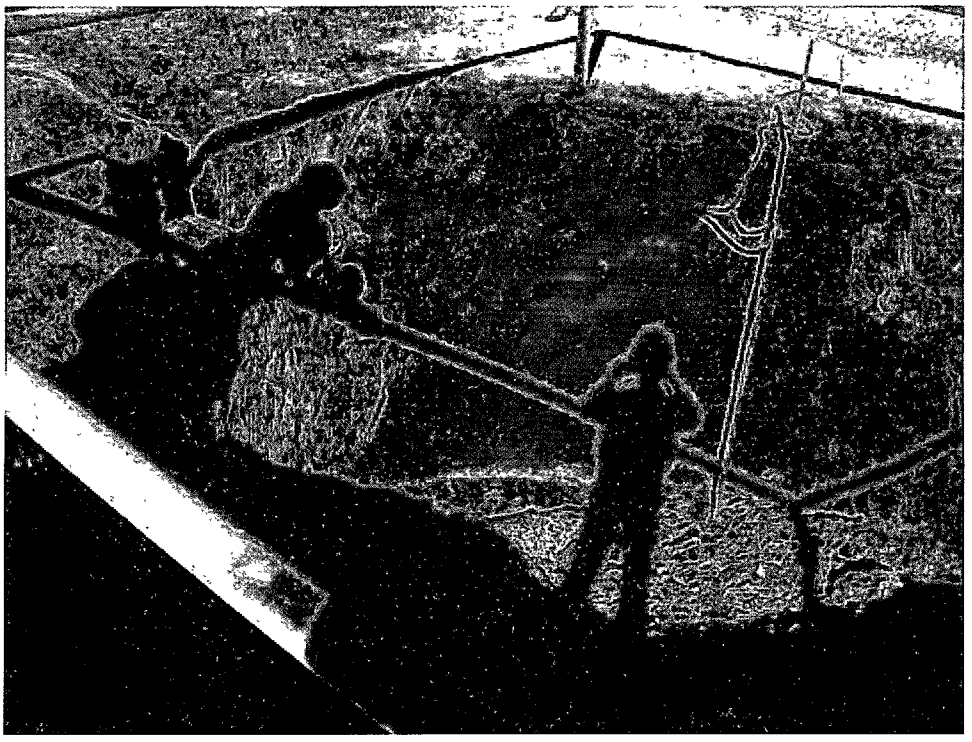


Tank being removed from its hold.

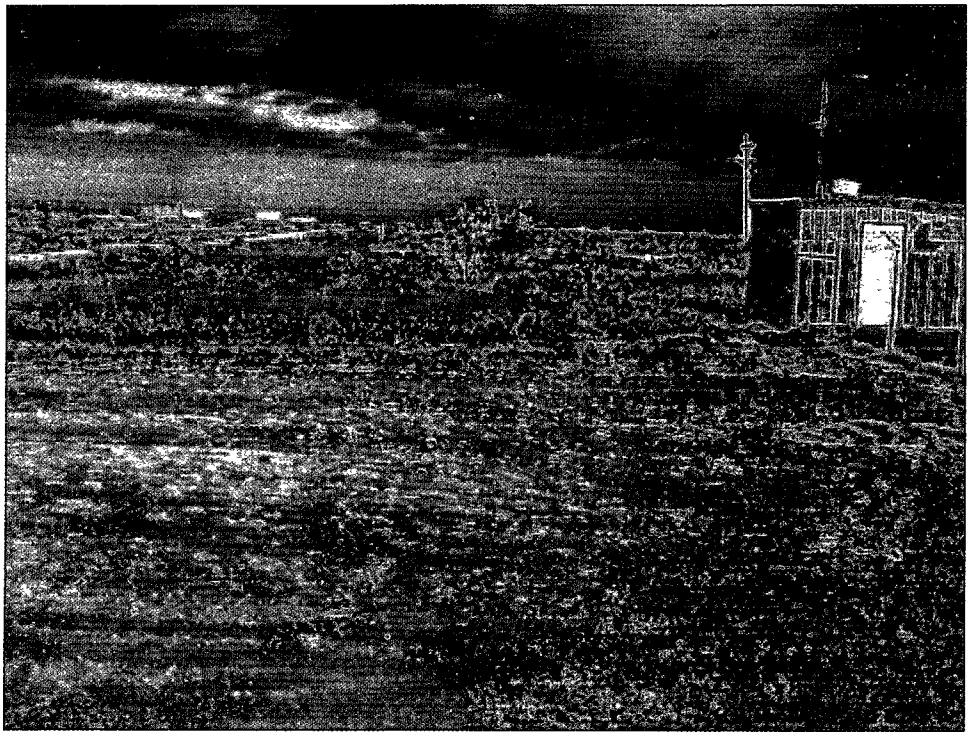


View of tankhold bottom.

View of transfer line staining was not present.



Vacant tankhold prior to refilling.



Refilled and graded former tankhold location.

1RP-09-10-2312

RECEIVED
JAN 11 2010
HOBBSOCD

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? ☐ 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.*

WATER91180'

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:	OIL CONSERVATION DIVISION
Printed Name: Guy Haykus	Approved by ~~District Supervisor~~: ENV ENGINEER
Title: Production Superintendent	Approval Date: 11/02/09 Expiration Date:
E-mail Address: William_haykus@xtoenergy.com	Conditions of Approval: Attached ☐
Date: 10/26/2009 Phone: (432) 682-8873	

Attach Additional Sheets If Necessary

fGRL 1003535078

1RP-09-10-2312

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By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

WATER @ 180'

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.

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Signature: W. 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~~ ENV ENGINEER: Geoffrey Leking

Approval Date: 11/02/09 Expiration Date: 01/02/10

Conditions of Approval: Attached ☐

* Attach Additional Sheets If Necessary

fGRL 1003535078