Larson & Associates, Inc.
Environmental Consultants

December 16, 2009

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DEC 17 2009
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Mr. Larry Johnson
Environmental Engineer
New Mexico Oil Conservation Division
1625 N. French Drive
Hobbs, New Mexico 88240

RE: 1RP-09-11-2359, Investigation Report and Remediation Plan, XTO Energy, Inc., Buckeye Gathering Station, Lea County, New Mexico, December 16, 2009

Dear Larry,

Please find enclosed investigation report and remediation plan for the above-referenced remediation project number (1RP-09-11-2359). Your approval of the remediation plan is requested. Attachment C presents the initial C-141. Please contact me with questions or concerns at 432.687.0901.

Sincerely,

LARSON & ASSOCIATES, INC.

Mark J. Larson, P.G., C.P.G., C.G.W.P.
Sr. Project Manager/President
mark@laenvironmental.com

Enclosure

CC Mr. Earl Richardson, XTO Energy, Midland
Mr. Dudley McMinn, XTO Energy, Midland

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1RP-09-11-2359
Investigation Report
Remediation Plan
Buckeye Gathering Station Crude Oil Spill
Lea County, New Mexico

LAI Project No. 9-0139

December 16, 2009

Prepared for:
XTO Energy, Inc.
200 North Loraine Street, Suite 800
Midland, Texas 79701

Prepared by:
Mark J. Larson, CPG
Certified Professional Geologist No. 10490

Larson & Associates, Inc.
507 North Marienfeld, Suite 200

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1.0 Executive Summary

This report presents the investigation of a crude oil spill that occurred at the XTO Energy, Inc., Buckeye Gathering System Station located in Unit P (SE/SE), Section 31, Township 17 South, Range 35 East, in Lea County, New Mexico. The spill occurred on November 17, 2009, and was reported to the New Mexico Oil Conservation Division District 1 office the same day. Approximately 420 barrels of crude oil was released and 410 barrels was recovered.

On November 30, 2009, Larson & Associates, Inc. supervised collecting soil samples at nine (9) locations (BH-1 through BH-9) using an air rotary rig and jam tube sampler. The soil samples were analyzed for benzene, toluene, ethylbenzene, xylene (BTEX), total petroleum hydrocarbons (TPH) and chloride. The recommended remediation action levels (RRAL) for the Site are 10 mg/Kg for benzene, 50 mg/Kg for BTEX and 1,000 mg/Kg for TPH. The RRAL for benzene, BTEX and TPH was exceeded in soil samples from approximately 0 to 1 foot below ground surface at locations BH-5, BH-7, BH-8 and BH-9. The RRAL for TPH was also exceeded in soil samples from 3 to 4 feet below ground surface at locations BH-5 and BH-9, and 7 to 8 feet below ground surface at location BH-7. The maximum chloride concentration was 780 mg/Kg (BH-5, 5 to 6 feet).

XTO proposes to excavate soil inside the containment (firewall) to about 1 foot below ground surface, with additional soil excavation to about 5 feet below ground surface near the southeast corner of the containment (BH-9). The contaminated soil will be hauled to an OCD approved landfarm or disposal facility. Six (6) 5-spot composite soil samples will be collected from the bottom of the excavation and analyzed for TPH by method 8015. The excavation will be filled with clean soil. A final report will be submitted to the OCD following completion of the project.

2.0 Introduction

This report was prepared by Larson & Associates, Inc. (LAI) for submittal to the New Mexico Oil Conservation Division (OCD) on behalf of XTO Energy, Inc. (XTO) for the investigation of a crude oil spill (release) at the Buckeye Gathering System Station (Site) location in Unit P (SE/Se), Section 31, Township 17 South, Range 35 East, in rural Lea County, New Mexico. The Site's geodetic position is North 32° 47' 08.4" and West 103° 29' 22.1". Figure 1 presents a topographic and depth to groundwater map. Figure 2 presents an aerial image. Figure 3 presents a Site drawing.

3.0 Chronology

The release was discovered at about 3:00 pm (MST) and verbally reported to the OCD at about 5:00 pm (MST) on November 17, 2009. XTO submitted Form C-141 on November 19, 2009. The OCD issued remediation project number 1RP-09-11-2359 for the incident. Form C-141 reported that the release was due to equipment upset and call-out system failure. XTO reported that approximately 420 barrels

(bbl) of crude oil was released and approximately 410 bbl was recovered. The net loss was about 10 bbl and was contained by the earthen firewall. The recovered oil was returned to the Buckeye Gathering System. A roustabout crew used a backhoe to scrape soil from the surface and disposed approximately 260 cubic yards of contaminated soil at CRI (OCD Permit R9166) located between Hobbs and Carlsbad, New Mexico.

4.0 Soil Samples and Laboratory Results

On November 30, 2009, LAI geologist John Fergersen supervised Scarborough Drilling, Inc., which collected soil samples at nine (9) locations (BH-1 through BH-9) using a truck-mounted air-rotary rig. A jam tube sampler was used to collect samples at the surface (0 to 1 foot), 3, 5, 7, 10, and 15 feet below ground surface (bgs). The samples were collected for field headspace analysis and laboratory analysis for total petroleum hydrocarbons (TPH) by method 8015 including gasoline range hydrocarbons (GRO) and diesel range hydrocarbons (DRO) and chloride by method 300. Samples that reported field headspace readings over 100 parts per million (ppm) were analyzed for benzene, toluene, ethylbenzene, xylene (BTEX), in addition to TPH and chloride. The jam tube sampler was cleaned with a solution of Alkonox® and water and rinsed with distilled water between samples. Drill cutting were placed on the ground adjacent to the borings until disposal is arranged. Table 1 presents a summary of the BTEX laboratory analysis. Table 2 presents a summary of the TPH and chloride laboratory results. Appendix A presents the laboratory report. Appendix B presents photographs.

The recommended remediation action levels (RRAL) for the Site are as follows:

Criteria	*Result*	*Ranking Score*
Depth-to-Groundwater (Vertical Feet)	50 - 99	10
Wellhead Protection Area	No	0
Distance to Surface Water Body (Horizontal Feet)	>1000	0
		Total: 10

The following RRALs have been assigned to the Site:

Benzene **10 mg/kg**
Total BTEX **50 mg/kg**
TPH **1,000 mg/kg**

The following soil samples exceed the RRAL for benzene:

Location	Depth (Feet BGS)	Benzene (mg/Kg)
BH-5	0 – 1	13.57
BH-8	0 – 1	19.01

Figure 4 presents the maximum benzene concentrations reported in soil samples.

The following soil samples exceed the RRAL for BTEX:

Location	Depth (Feet BGS)	BTEX (mg/Kg)
BH-5	0 – 1	142.98
BH-7	0 – 1	395.10
BH-8	0 – 1	202.80
BH-9	0 – 1	77.59

Figure 5 presents the maximum BTEX concentrations reported in soil samples.

The following soil samples exceed the RRAL for TPH:

Location	Depth (Feet BGS)	GRO (mg/Kg)	DRO (mg/Kg)	TPH (mg/Kg)
BH-5	0 – 1	3,220	11,800	15,020
	3 - 4	236	939	1,175
BH-7	0 - 1	1,930	3,730	5,660
	7 - 8	304	860	1,164
BH-8	0 – 1	2,890	4,320	7,210
BH-9	0 – 1	3,240	4,850	8,090
	3 - 4	898	3,090	3,988

Figure 5 presents the maximum TPH concentrations reported in soil samples.

The maximum chloride concentration was reported in sample BH-5, 5 to 6 feet bgs (780 mg/Kg). The vertical extent of chloride in soil was delineated to 250 mg/Kg. Figure 7 presents the maximum chloride concentrations reported in soil samples.

5.0 Remediation Plan

XTO will excavate soil to about 1 foot bgs inside the earthen firewall to reduce the benzene, BTEX and TPH below the RRAL. Additional soil will also be removed to about 5 feet bgs near the southeast corner (BH-9) of the Site to reduce the TPH below the RRAL. Six (6) 5-spot composite samples will be collected from the bottom of the excavation and analyzed for TPH by method 8015 for GRO and DRO. The OCD will be notified at least 24 hours prior to collecting the composite samples. The excavated soil will be hauled to an OCD permitted landfarm or disposal facility and the remediation area will be backfilled with clean soil. A final report will be submitted to the OCD upon completion of the project. Appendix B presents the initial C-141.

Tables

Table 1
XTO Energy, Inc.
1RP-09-11-2359
Soil Analytical Data Summary
Buckey Gathering Station
Lea County, New Mexico

Sample ID	Depth	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX
New Mexico Regulatory Limit			10	---	---	---	50
BH-1	0 - 1	11/30/2009	**0.0756**	**1.424**	**0.4119**	**1.1804**	**3.092**
BH-5	0 - 1	11/30/2009	**13.57**	**53.47**	**35.06**	**40.88**	**142.98**
	3 - 4	11/30/2009	**0.0086**	**0.1616**	**1.279**	**0.7903**	**2.2395**
BH-6	0 - 1	11/30/2009	<0.0011	<0.0021	<0.0011	**0.0014**	**0.0014**
BH-7	0 - 1	11/30/2009	**6.058**	**126.2**	**123.7**	**139.15**	**395.10**
	3 - 4	11/30/2009	<0.0213	<0.0426	**0.2565**	**0.5896**	**0.8461**
	7 - 8	11/30/2009	**0.0092**	**1.082**	**5.189**	**5.804**	**12.084**
	10 - 11	11/30/2009	<0.0010	<0.0021	**0.0028**	**0.0056**	**0.0084**
BH-8	0 - 1	11/30/2009	**19.01**	**75.50**	**45.43**	**62.84**	**202.8**
	5 - 6	11/30/2009	**0.0598**	**1.543**	**4.357**	**5.775**	**11.735**
BH-9	0 - 1	11/30/2009	**2.256**	**35.47**	**12.95**	**26.92**	**77.59**
	3 - 4	11/30/2009	**0.0803**	**0.6206**	**0.6484**	**3.877**	**5.226**
	7 - 8	11/30/2009	<0.0011	**0.0047**	**0.0266**	**0.0590**	**0.0903**

Notes

Benzene, Toluene, Ethylbenzene and Xylenes analyzed via EPA SW Method 8021B.

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

Bold indicates the analyte was detected.

Bold and blue indicates the value exceeds NMOCD requirements.

Table 2
XTO Energy, Inc.
1Rp-09-11-2359
Soil Boring Analytical Data Summary
Buckeye Gathering Station
Lea County, New Mexico

Sample ID	Depth	Date	GRO C6-C12	DRO C12-C28	TPH C6-C28	Chlorides
New Mexico Regulatory Limit			--	---	**1,000**	**250**
BH-1	0 - 1	11/30/2009	**139**	**490**	**629**	**9.67**
	3 - 4	11/30/2009	**81.7**	**331**	**412.7**	**8.99**
	5 - 6	11/30/2009	<15.8	**19.5**	**19.5**	**83.5**
BH-2	0 - 1	11/30/2009	<16.2	**19.9**	**19.9**	**35.4**
	3 - 4	11/30/2009	<15.9	**19.5**	**19.5**	**29.7**
	5 - 6	11/30/2009	<15.8	<15.8	<15.8	**24.3**
BH-3	0 - 1	11/30/2009	<16.0	**23.9**	<16.0	**32.0**
	3 - 4	11/30/2009	<15.9	**17.6**	**17.6**	**12.1**
	5 - 6	11/30/2009	<15.6	**36.4**	**36.4**	**7.25**
BH-4	0 - 1	11/30/2009	<16.6	**59.7**	**59.7**	**438**
	3 - 4	11/30/2009	<16.1	**37.8**	**37.8**	**73.5**
	7 - 8	11/30/2009	<16.4	**54.2**	**54.2**	**22.0**
BH-5	0 - 1	11/30/2009	**3,220**	**11,800**	**15,020**	**84.9**
	3 - 4	11/30/2009	**236**	**939**	**1,175**	**694**
	5 - 6	11/30/2009	**16.6**	**41.6**	**58.2**	**780**
	7 - 8	11/30/2009	<16.2	<16.2	<16.2	**27.4**
BH-6	0 - 1	11/30/2009	<16.0	**41.4**	**41.4**	**104**
	3 - 4	11/30/2009	**17.4**	**34.4**	**51.8**	**40.1**
	5 - 6	11/30/2009	<16.3	<16.3	<16.3	**29.8**
BH-7	0 - 1	11/30/2009	**1,930**	**3,730**	**5,660**	**13.4**
	3 - 4	11/30/2009	**191**	**523**	**714**	**8.32**
	7 - 8	11/30/2009	**304**	**860**	**1,164**	**6.42**
	10 - 11	11/30/2009	**58.2**	**262**	**320.2**	**4.85**
	15 - 16	11/30/2009	<15.8	**17.4**	**17.4**	**7.88**
BH-8	0 - 1	11/30/2009	**2,890**	**4,320**	**7,210**	**6.28**
	5 - 6	11/30/2009	**303**	**593**	**896**	**139**
	7 - 8	11/30/2009	<16.4	**20.4**	**20.4**	**22.2**
BH-9	0 - 1	11/30/2009	**3,240**	**4,850**	**8,090**	**87.2**
	3 - 4	11/30/2009	**898**	**3,090**	**3,988**	**29.5**
	7 - 8	11/30/2009	**44.1**	**89.5**	**133.6**	**24.4**
	10 - 11	11/30/2009	<16.0	**18.7**	**18.7**	**27.8**

Notes

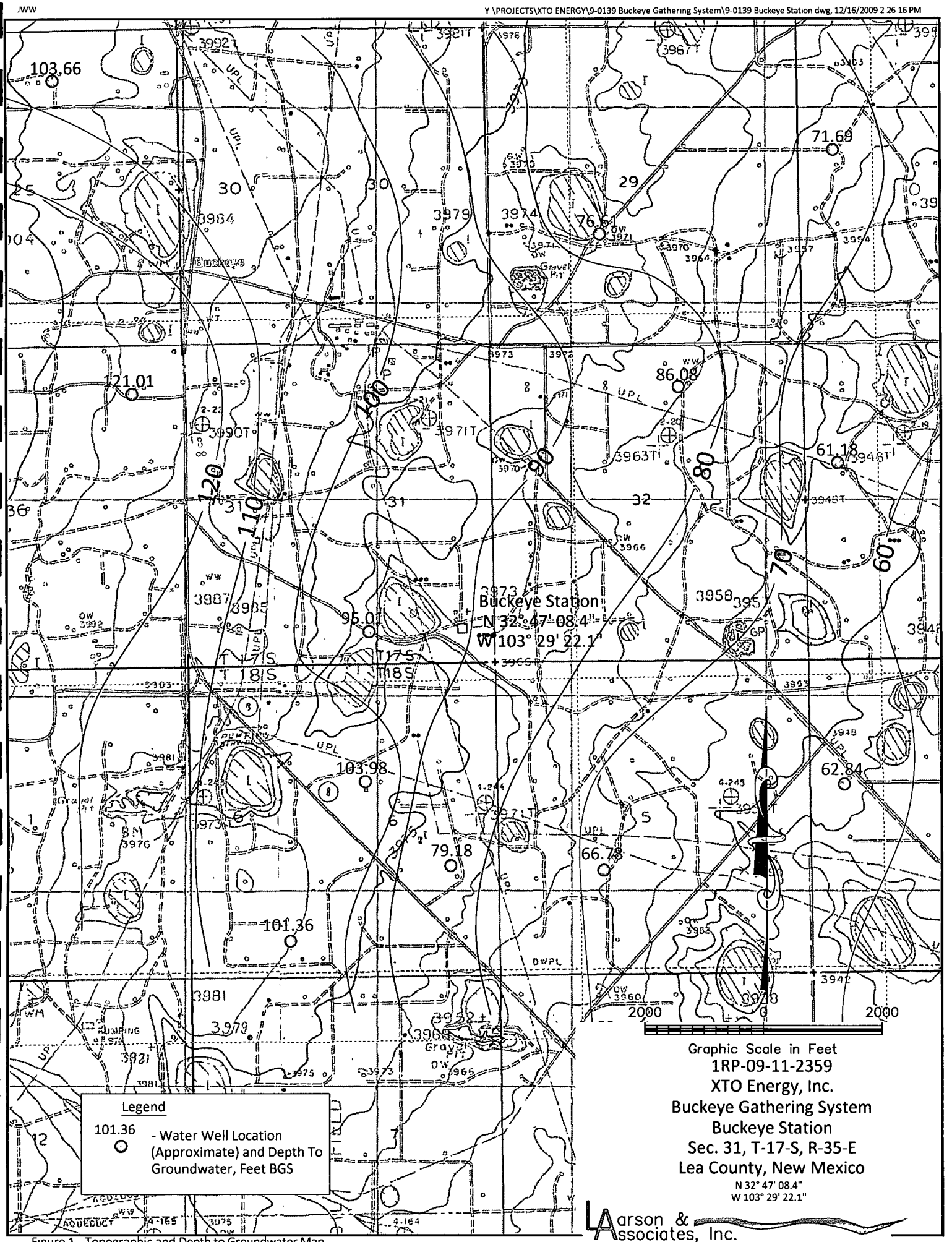
Total Petroleum Hydrocarbons analyzed via EPA SW Method 8015 Mod.

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

Bold indicates the analyte was detected.

Bold and blue indicates the value exceeds NMOCD requirements.

Figures



1RP-09-11-2359
XTO Energy, Inc.
Buckeye Gathering System
Buckeye Station
Sec. 31, T-17-S, R-35-E
Lea County, New Mexico
N 32° 47' 08.4"
W 103° 29' 22.1"

Larson & Associates, Inc.
Environmental Consultants

Figure 1 - Topographic and Depth to Groundwater Map

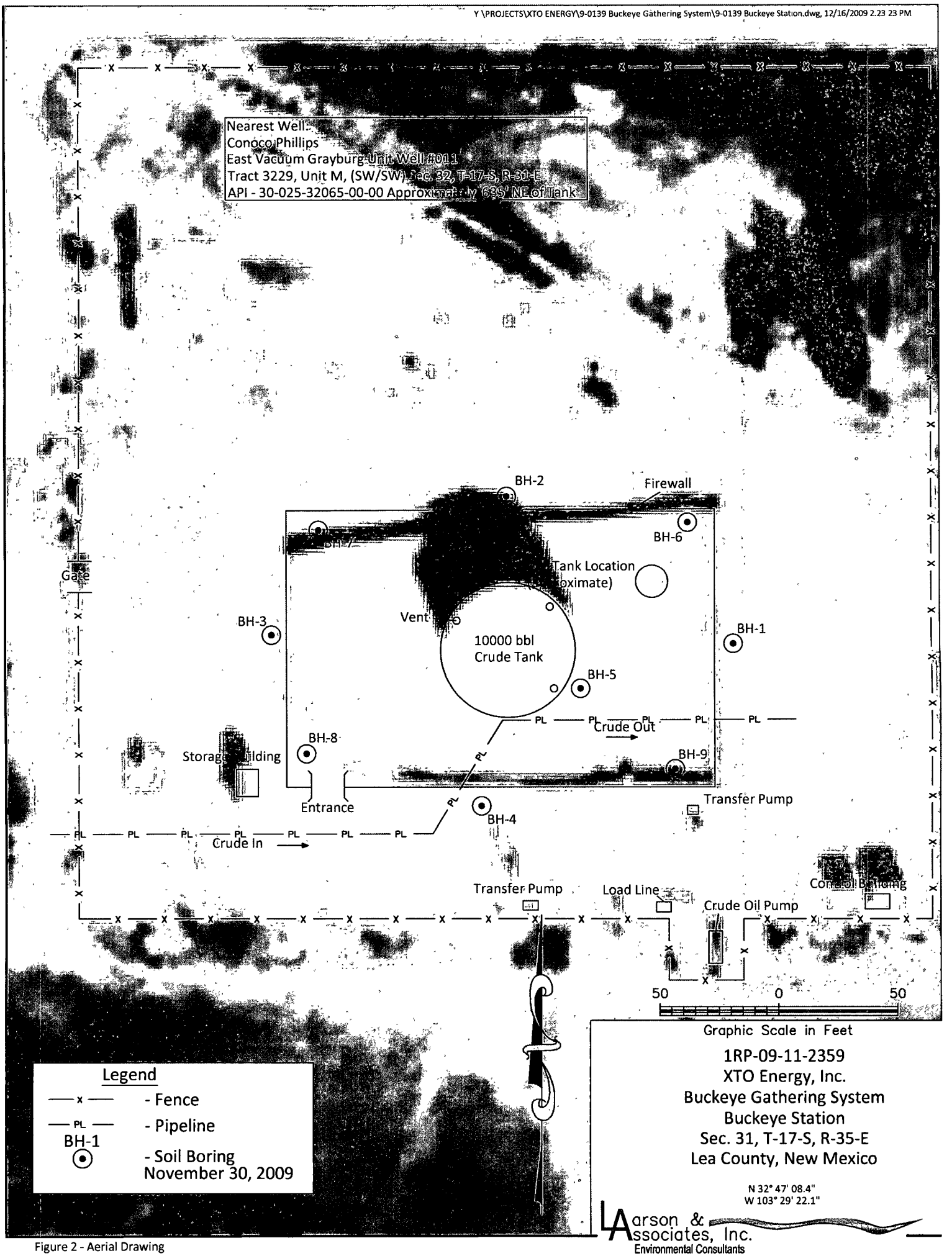


Figure 2 - Aerial Drawing

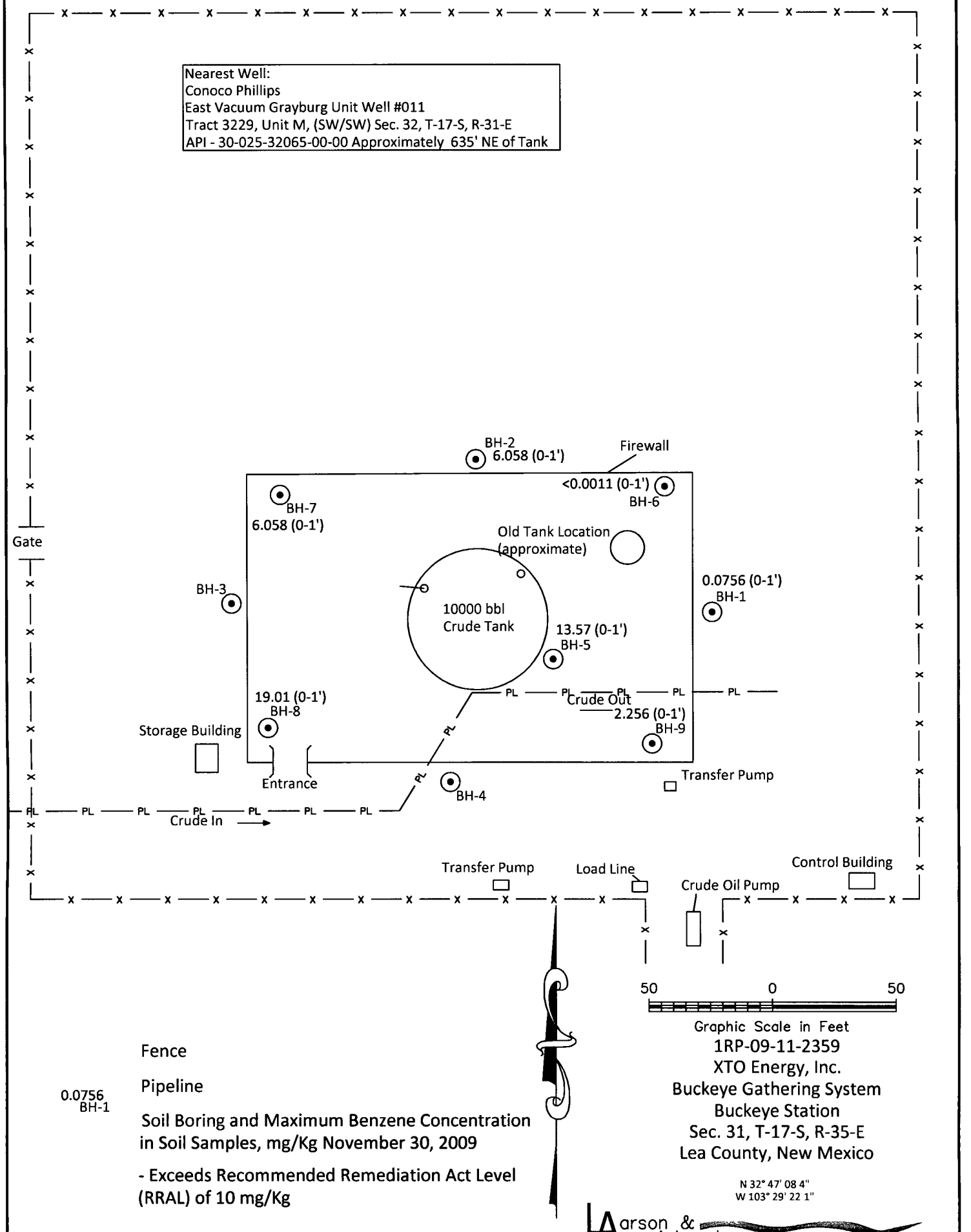


Figure 3 - Maximum Benzene Concentration In Soil Samples

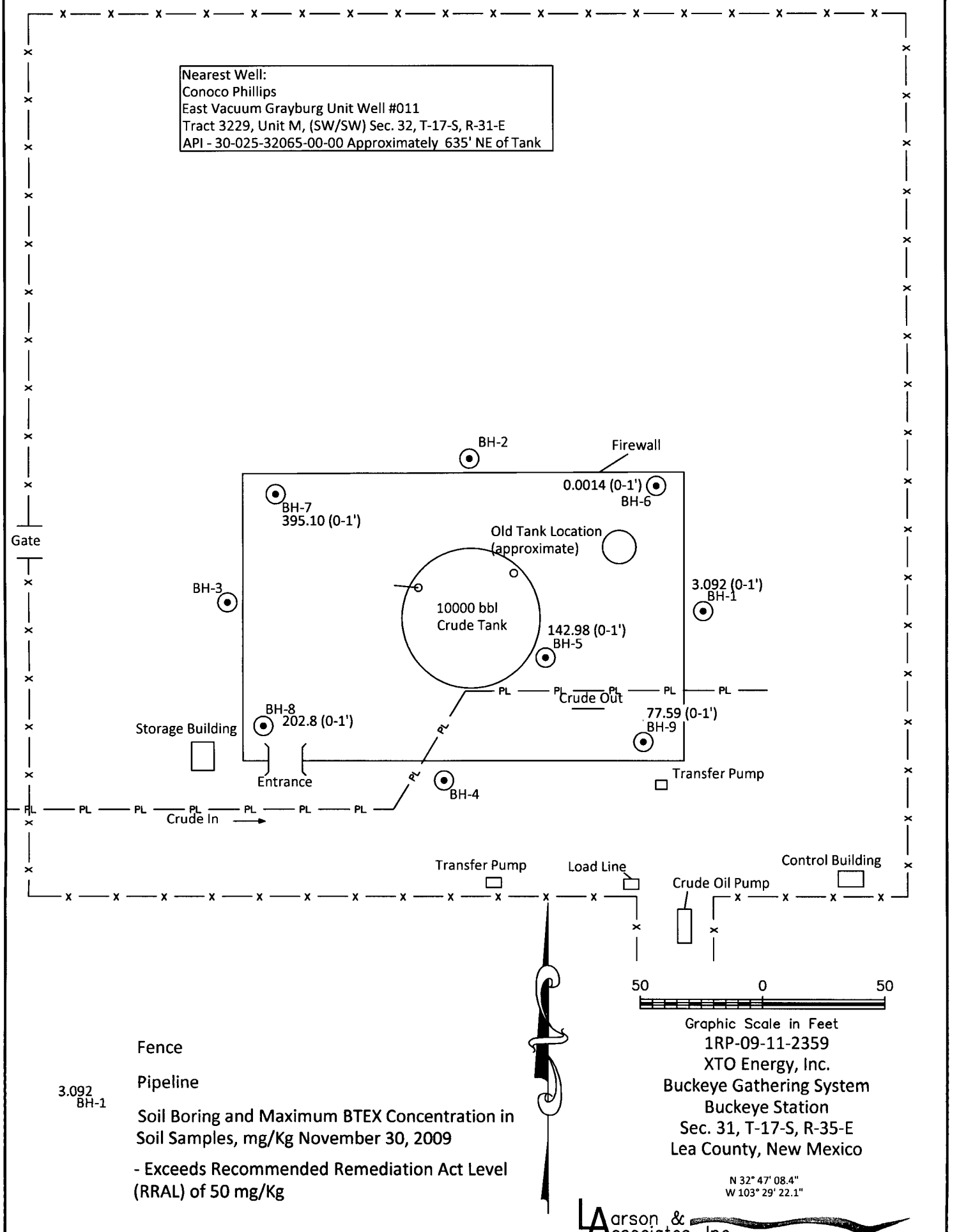


Figure 4 - Maximum BTEX Concentration In Soil Samples

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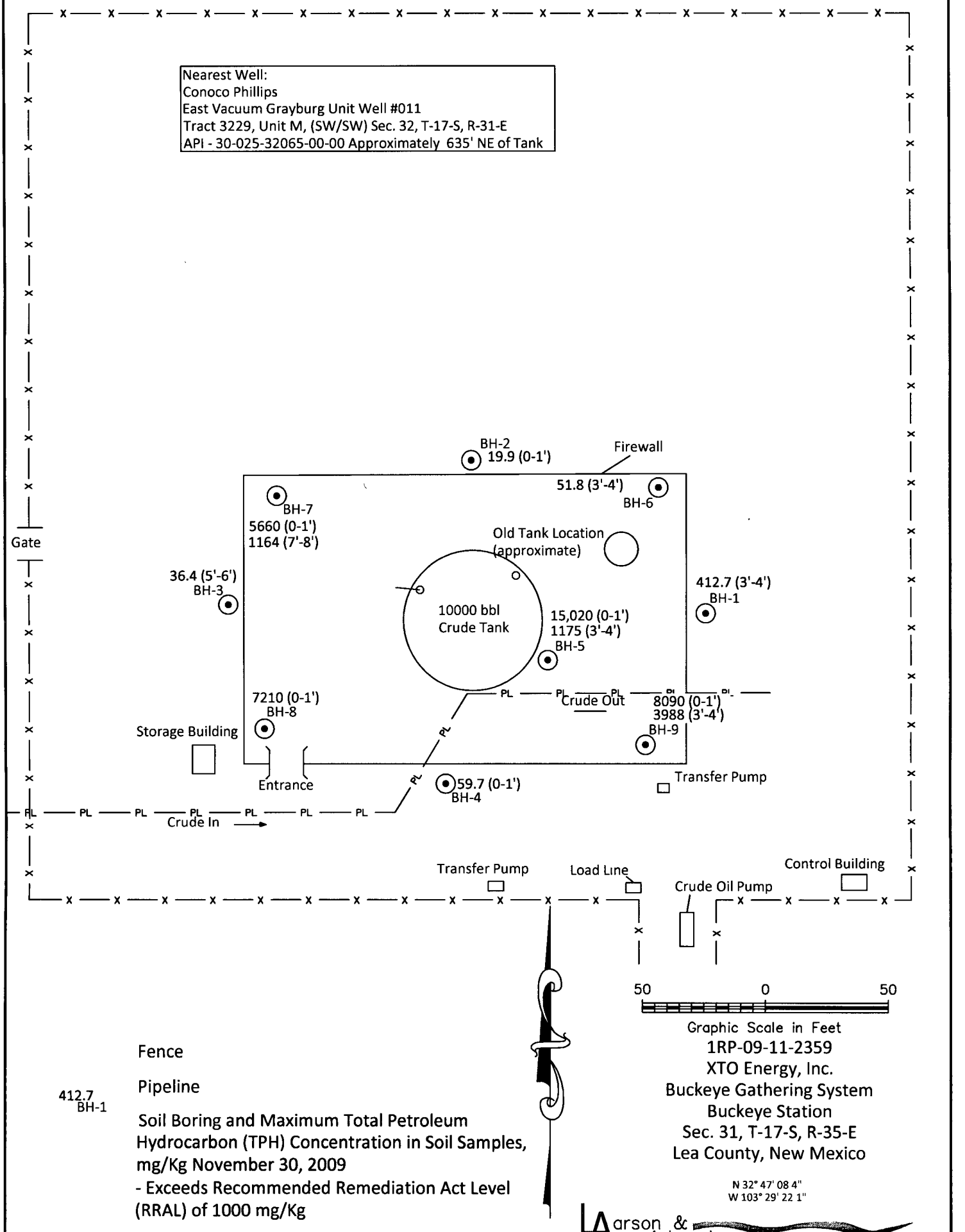
Environmental Consultants



Larson & Associates, Inc.
Environmental Consultants

Figure 5 - Maximum TPH Concentration In Soil Samples

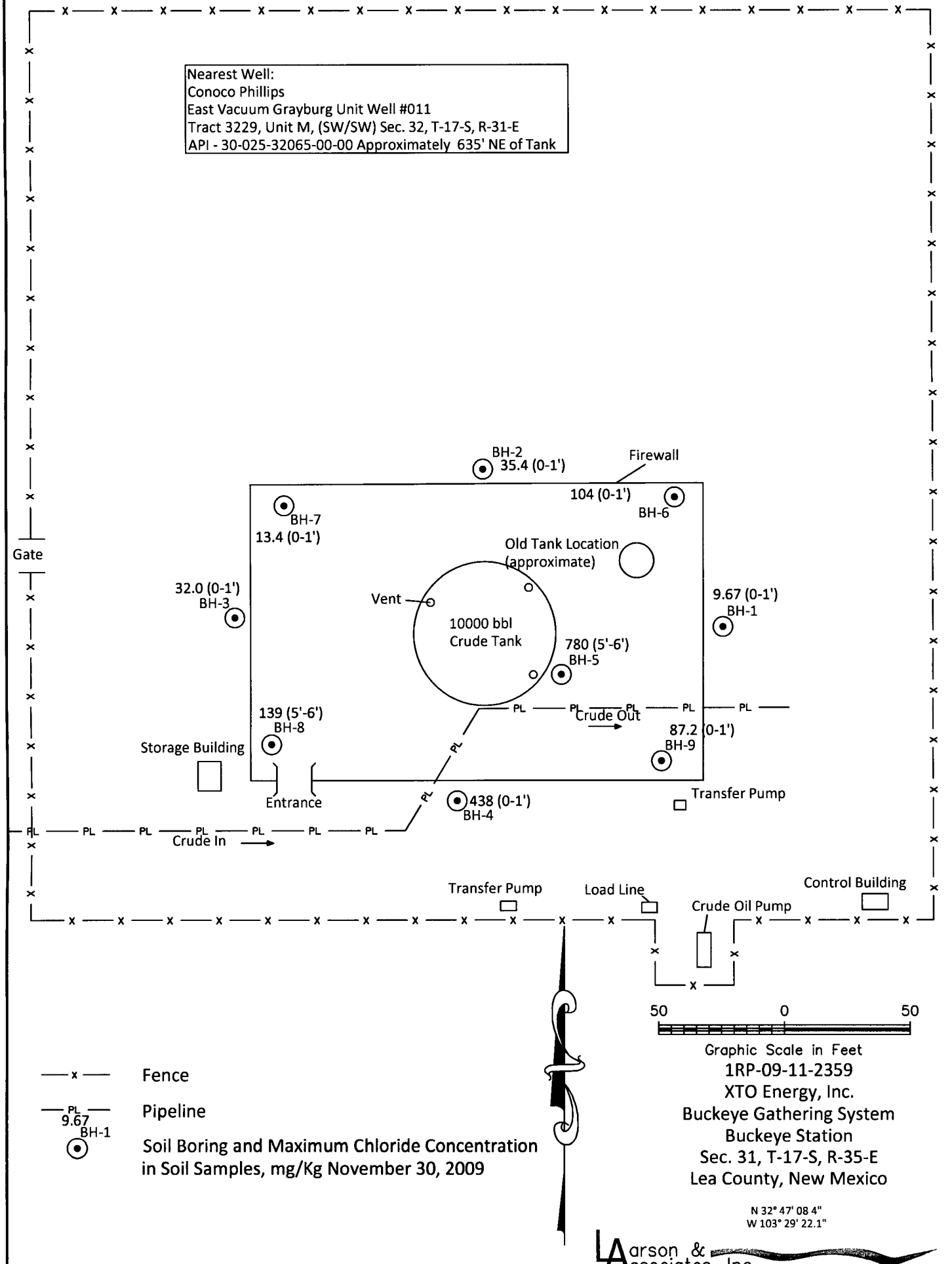


Figure 6 - Maximum Chloride Concentration In Soil Samples

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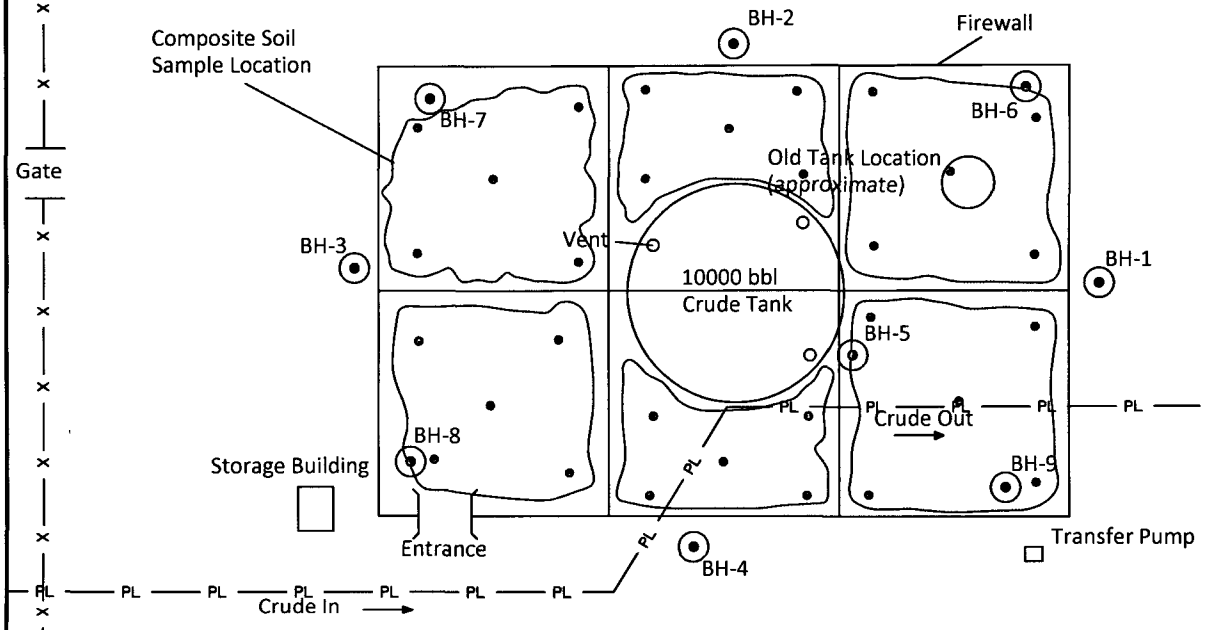
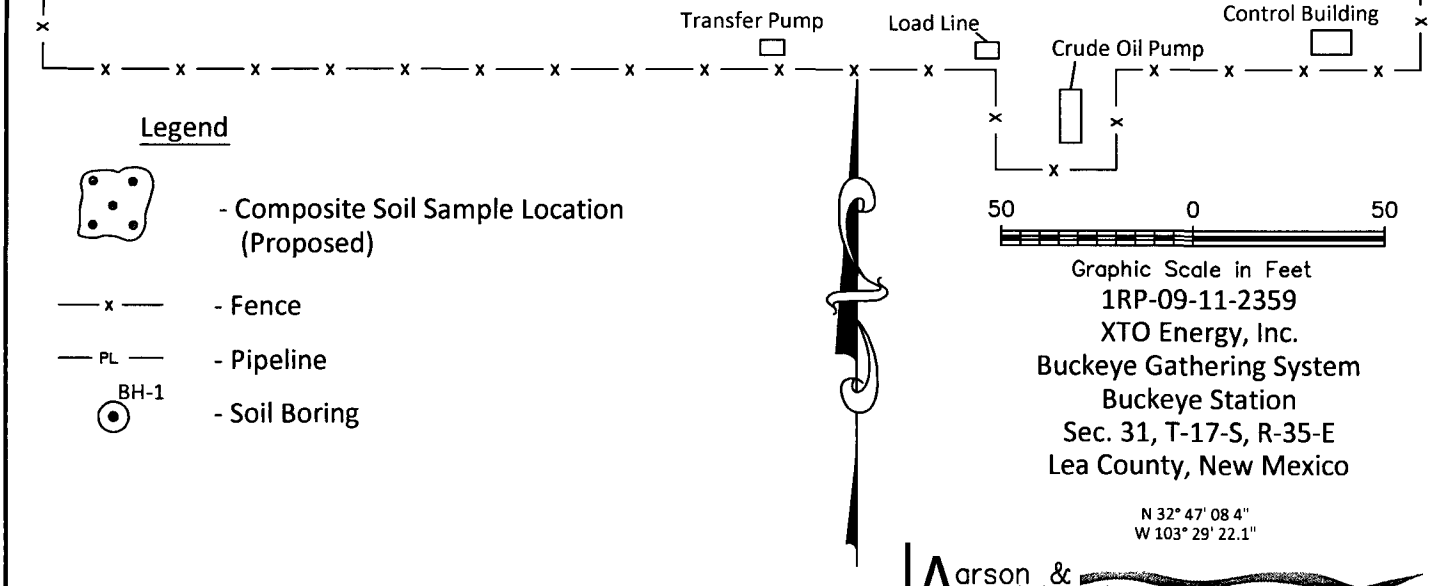
Nearest Well:
Conoco Phillips
East Vacuum Grayburg Unit Well #011
Tract 3229, Unit M, (SW/SW) Sec. 32, T-17-S, R-31-E
API - 30-025-32065-00-00 Approximately 635' NE of Tank





Legend

- Composite Soil Sample Location (Proposed)
- Fence
- Pipeline
- Soil Boring

50 0 50

Graphic Scale in Feet

1RP-09-11-2359
XTO Energy, Inc.
Buckeye Gathering System
Buckeye Station
Sec. 31, T-17-S, R-35-E
Lea County, New Mexico

N 32° 47' 08 4"
W 103° 29' 22.1"

Larson & Associates, Inc.
Environmental Consultants

Figure 7 - Composite Soil Sample Locations

Appendix A

Laboratory Report

Analytical Report 353862

for

Larson & Associates

Project Manager: Michelle Green

XTO - Buckeye Station

9-0139

11-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)

XENCO Laboratories

11-DEC-09

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

Reference: XENCO Report No: **353862**
XTO - Buckeye Station
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 353862. 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. 353862 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

XENCO Laboratories

Sample Cross Reference 353862

Larson & Associates, Midland, TX

XTO - Buckeye Station

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH-1 (0-1')	S	Nov-30-09 10:30	0 - 1 ft	353862-001
BH-1 (3-4')	S	Nov-30-09 10:35	3 - 4 ft	353862-002
BH-1 (5-6')	S	Nov-30-09 10:40	5 - 6 ft	353862-003
BH-2 (0-1')	S	Nov-30-09 11:10	0 - 1 ft	353862-004
BH-2 (3-4')	S	Nov-30-09 11:15	3 - 4 ft	353862-005
BH-2 (5-6')	S	Nov-30-09 11:20	5 - 6 ft	353862-006
BH-3 (0-1')	S	Nov-30-09 11:50	0 - 1 ft	353862-007
BH-3 (3-4')	S	Nov-30-09 11:55	3 - 4 ft	353862-008
BH-3 (5-6')	S	Nov-30-09 12:00	5 - 6 ft	353862-009
BH-4 (0-1')	S	Nov-30-09 12:25	0 - 1 ft	353862-010
BH-4 (3-4')	S	Nov-30-09 12:30	3 - 4 ft	353862-011
BH-4 (7-8')	S	Nov-30-09 12:40	7 - 8 ft	353862-012
BH-5 (0-1')	S	Nov-30-09 13:45	0 - 1 ft	353862-013
BH-5 (3-4')	S	Nov-30-09 13:50	3 - 4 ft	353862-014
BH-5 (5-6')	S	Nov-30-09 13:55	5 - 6 ft	353862-015
BH-5 (7-8')	S	Nov-30-09 14:00	7 - 8 ft	353862-016
BH-6 (0-1')	S	Nov-30-09 14:35	0 - 1 ft	353862-017
BH-6 (3-4')	S	Nov-30-09 14:40	3 - 4 ft	353862-018
BH-6 (5-6')	S	Nov-30-09 14:45	5 - 6 ft	353862-019
BH-7 (0-1')	S	Nov-30-09 15:15	0 - 1 ft	353862-020
BH-7 (3-4')	S	Nov-30-09 15:20	3 - 4 ft	353862-021
BH-7 (7-8')	S	Nov-30-09 15:30	7 - 8 ft	353862-022
BH-7 (10-11')	S	Nov-30-09 15:35	10 - 11 ft	353862-023
BH-7 (15-16')	S	Nov-30-09 15:40	15 - 16 ft	353862-024
BH-8 (0-1')	S	Nov-30-09 16:30	0 - 1 ft	353862-025
BH-8 (5-6')	S	Nov-30-09 16:35	5 - 6 ft	353862-026
BH-8 (7-8')	S	Nov-30-09 16:40	7 - 8 ft	353862-027
BH-9 (0-1')	S	Nov-30-09 16:55	0 - 1 ft	353862-028
BH-9 (3-4')	S	Nov-30-09 17:00	3 - 4 ft	353862-029
BH-9 (7-8')	S	Nov-30-09 17:10	7 - 8 ft	353862-030
BH-9 (10-11')	S	Nov-30-09 17:15	10 - 11 ft	353862-031

CASE NARRATIVE

XENCO Laboratories

Client Name: Larson & Associates
Project Name: XTO - Buckeye Station

Project ID: 9-0139
Work Order Number: 353862

Report Date: 11-DEC-09
Date Received: 12/01/2009

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-784105 Percent Moisture
None

Batch: LBA-784108 Percent Moisture
None

Batch: LBA-784111 Anions by E300
None

Batch: LBA-784114 Anions by E300
None

Batch: LBA-784443 TPH By SW8015 Mod
SW8015MOD_NM

Batch 784443, 1-Chlorooctane, o-Terphenyl recovered above QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 353862-023.

Batch: LBA-784510 TPH By SW8015 Mod
SW8015MOD_NM

Batch 784510, C12-C28 Diesel Range Hydrocarbons recovered below QC limits in the Matrix Spike Duplicate.
Samples affected are: 353862-001, -018, -005, -006, -002, -008, -007, -015, -019, -012, -013, -014, -017, -004, -009, -016, -011, -003, -010.
The Laboratory Control Sample for C12-C28 Diesel Range Hydrocarbons is within laboratory Control Limits

SW8015MOD_NM

Batch 784510, 1-Chlorooctane recovered above QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 353862-013,353862-002.

Batch: LBA-784779 BTEX by EPA 8021B
SW8021BM

Batch 784779, 4-Bromofluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 353862-001.
1,4-Difluorobenzene recovered above QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 353862-022,353862-013.

SW8021BM
Batch 784779, Benzene, Toluene, Ethylbenzene, m,p-Xylenes , o-Xylene RPD is outside the QC limit. This is most likely due to sample non-homogeneity.
Samples affected are: 353862-001, -020, -026, -014, -013, -022, -025, -030, -028.

SW8021BM
Batch 784779, o-Xylene was detected in the method blank just above the QC limit. Because the results in the sample are greater than 5 to 10 times that found in the blank, the samples are reported as analyzed. Samples affected are: 353862-001, -020, -026, -014, -013, -022, -025, -030, -028.

Batch: LBA-785118 BTEX by EPA 8021B
SW8021BM

Batch 785118, 4-Bromofluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 353862-025.
1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 353862-025,353862-028,353862-029.
4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 353862-022.

SW8021BM
Batch 785118, Ethylbenzene and m,p-Xylene were detected in the method blank just above the QC limit. Because the results in the samples were either greater than 5 to 10 times that found in the blank, or non-detect, the samples are reported as analyzed. Samples affeccted are 353862--014, -017, -021, -022, -025, -028, -029.

Batch: LBA-785339 BTEX by EPA 8021B
SW8021BM

Batch 785339, 4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; QC data not confirmed by re-analysis
Samples affected are: 354812-002 S.

SW8021BM

Batch 785339, Benzene, Ethylbenzene, Toluene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.
Samples affected are: 353862-023.
The Laboratory Control Sample for Toluene, Benzene, Ethylbenzene is within laboratory Control Limits

Certificate of Analysis Summary 353862

Larson & Associates, Midland, TX

Project Name: XTO - Buckeye Station

Project Id: 9-0139
Contact: Michelle Green
Project Location:

Date Received in Lab: Tue Dec-01-09 02:55 pm
Report Date: 11-DEC-09
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	353862-001		353862-002		353862-003		353862-004		353862-005		353862-006	
	Field Id:	BH-1 (0-1')		BH-1 (3-4')		BH-1 (5-6')		BH-2 (0-1')		BH-2 (3-4')		BH-2 (5-6')	
	Depth:	0-1 ft		3-4 ft		5-6 ft		0-1 ft		3-4 ft		5-6 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-30-09 10 30		Nov-30-09 10 35		Nov-30-09 10 40		Nov-30-09 11 10		Nov-30-09 11 15		Nov-30-09 11 20	
Anions by E300	*Extracted:*												
	Analyzed:	Dec-02-09 13 12		Dec-02-09 13 12		Dec-02-09 13 12		Dec-02-09 13 12		Dec-02-09 13 12		Dec-02-09 13 12	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		9 67	4 50	8 99	4 41	83 5	4 42	35 4	4 55	29 7	4 47	24 3	4 43
BTEX by EPA 8021B	*Extracted:*	Dec-07-09 15 00											
	Analyzed:	Dec-07-09 23 42											
	Units/RL:	mg/kg	RL										
Benzene		0 0756	0 0536										
Toluene		1 424	0 1073										
Ethylbenzene		0 4119	0 0536										
m,p-Xylenes		0 9986	0 1073										
o-Xylene		0 1818	0 0536										
Total Xylenes		1 1804	0 0536										
Total BTEX		3 092	0 0536										
Percent Moisture	*Extracted:*												
	Analyzed:	Dec-02-09 17 00		Dec-02-09 17 00		Dec-02-09 17 00		Dec-02-09 17 00		Dec-02-09 17 00		Dec-02-09 17 00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		6 77	1 00	4 77	1 00	4 96	1 00	7 66	1 00	5 95	1 00	5 21	1 00
TPH By SW8015 Mod	*Extracted:*	Dec-02-09 10 30		Dec-02-09 10 30		Dec-02-09 10 30		Dec-02-09 10 30		Dec-02-09 10 30		Dec-02-09 10 30	
	Analyzed:	Dec-06-09 08 26		Dec-06-09 08 53		Dec-06-09 09 19		Dec-06-09 09 46		Dec-06-09 10.13		Dec-06-09 10 40	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		139	16 1	81 7	15 8	ND	15 8	ND	16 2	ND	15 9	ND	15 8
C12-C28 Diesel Range Hydrocarbons		490	16 1	331	15 8	19 5	15 8	19 9	16 2	19 5	15 9	ND	15 8
C28-C35 Oil Range Hydrocarbons		43 4	16 1	29 5	15 8	ND	15 8	ND	16 2	ND	15 9	ND	15 8
Total TPH		672	16 1	442	15 8	19 5	15 8	19 9	16 2	19 5	15 9	ND	15 8

Brent Barron, II
Odessa Laboratory Manager

Certificate of Analysis Summary 353862

Larson & Associates, Midland, TX

Project Name: XTO - Buckeye Station

Project Id: 9-0139
Contact: Michelle Green
Project Location:

Date Received in Lab: Tue Dec-01-09 02:55 pm
Report Date: 11-DEC-09
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	353862-007		353862-008		353862-009		353862-010		353862-011		353862-012	
	Field Id:	BH-3 (0-1')		BH-3 (3-4')		BH-3 (5-6')		BH-4 (0-1')		BH-4 (3-4')		BH-4 (7-8')	
	Depth:	0-1 ft		3-4 ft		5-6 ft		0-1 ft		3-4 ft		7-8 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-30-09 11 50		Nov-30-09 11 55		Nov-30-09 12 00		Nov-30-09 12 25		Nov-30-09 12 30		Nov-30-09 12 40	
Anions by E300	*Extracted:*												
	Analyzed:	Dec-02-09 13 12		Dec-02-09 13 12		Dec-02-09 13 12		Dec-02-09 13 12		Dec-02-09 13 12		Dec-02-09 13 12	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		32 0	4 48	12 1	4 48	7 25	4 37	438	18 6	73 5	4 52	22 0	4 63
Percent Moisture	*Extracted:*												
	Analyzed:	Dec-02-09 17 00		Dec-02-09 17 00		Dec-02-09 17 00		Dec-02-09 17 00		Dec-02-09 17.00		Dec-02-09 17 00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		6 19	1 00	6 25	1 00	3 95	1 00	9 56	1 00	7 07	1 00	9 23	1 00
TPH By SW8015 Mod	*Extracted:*	Dec-02-09 10 30		Dec-02-09 10 30		Dec-02-09 10 30		Dec-02-09 10 30		Dec-02-09 10 30		Dec-02-09 10 30	
	Analyzed:	Dec-06-09 11 07		Dec-06-09 11 35		Dec-06-09 12 02		Dec-06-09 12 56		Dec-06-09 13 23		Dec-06-09 13 50	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	16 0	ND	15 9	ND	15 6	ND	16 6	ND	16 1	ND	16 4
C12-C28 Diesel Range Hydrocarbons		23 9	16 0	17 6	15 9	36 4	15 6	59 7	16 6	37 8	16 1	54 2	16 4
C28-C35 Oil Range Hydrocarbons		ND	16 0	ND	15 9	ND	15 6	ND	16 6	ND	16 1	ND	16 4
Total TPH		23 9	16 0	17 6	15 9	36 4	15 6	59 7	16 6	37 8	16 1	54.2	16 4

Brent Barron, II
Odessa Laboratory Manager

Certificate of Analysis Summary 353862

Larson & Associates, Midland, TX

Project Name: XTO - Buckeye Station

Project Id: 9-0139
Contact: Michelle Green
Project Location:

Date Received in Lab: Tue Dec-01-09 02:55 pm
Report Date: 11-DEC-09
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	353862-013		353862-014		353862-015		353862-016		353862-017		353862-018	
	Field Id:	BH-5 (0-1')		BH-5 (3-4')		BH-5 (5-6')		BH-5 (7-8')		BH-6 (0-1')		BH-6 (3-4')	
	Depth:	0-1 ft		3-4 ft		5-6 ft		7-8 ft		0-1 ft		3-4 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-30-09 13 45		Nov-30-09 13 50		Nov-30-09 13 55		Nov-30-09 14 00		Nov-30-09 14 35		Nov-30-09 14 40	
Anions by E300	*Extracted:*												
	Analyzed:	Dec-02-09 13 12		Dec-02-09 13 12		Dec-02-09 13 12		Dec-02-09 13 12		Dec-02-09 13 12		Dec-02-09 13 12	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		84 9	4 67	694	8 78	780	9 00	27 4	4 54	104	9 01	40 1	4 37
BTEX by EPA 8021B	*Extracted:*	Dec-07-09 15 00		Dec-07-09 15 00						Dec-09-09 15 45			
	Analyzed:	Dec-08-09 00 05		Dec-07-09 22 36						Dec-10-09 01 04			
	Units/RL:	mg/kg	RL	mg/kg	RL					mg/kg	RL		
Benzene		13 57	0 2773	0 0086	0 0010					ND	0 0011		
Toluene		53 47	0 5546	0.1616	0 0021					ND	0 0021		
Ethylbenzene		35 06	0 2773	1 279 D	0 0209					ND	0 0011		
m,p-Xylenes		28 33	0 5546	0 6063	0 0021					ND	0 0021		
o-Xylene		12 55	0 2773	0 1840	0 0010					0 0014	0 0011		
Total Xylenes		40 88	0 2773	0 7903	0 0010					0 0014	0 0011		
Total BTEX		142 98	0 2773	2 2395	0 0010					0 0014	0 0011		
Percent Moisture	*Extracted:*												
	Analyzed:	Dec-02-09 17 00		Dec-02-09 17 00		Dec-02-09 17 00		Dec-02-09 17 00		Dec-02-09 17 00		Dec-02-09 17 00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		10 0	1 00	4 30	1 00	6 66	1.00	7 57	1 00	6 72	1 00	3 91	1.00
TPH By SW8015 Mod	*Extracted:*	Dec-02-09 10 30		Dec-02-09 10 30		Dec-02-09 10 30		Dec-02-09 10 30		Dec-02-09 10 30		Dec-02-09 10 30	
	Analyzed:	Dec-06-09 14 18		Dec-06-09 14 45		Dec-06-09 15 12		Dec-06-09 15 39		Dec-06-09 16 05		Dec-06-09 16 32	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		3220	333	236	78 4	16 6	16 0	ND	16 2	ND	16 0	17 4	15 6
C12-C28 Diesel Range Hydrocarbons		11800	333	939	78 4	41 6	16 0	ND	16 2	41 4	16 0	34 4	15 6
C28-C35 Oil Range Hydrocarbons		1170	333	ND	78 4	ND	16 0	ND	16 2	ND	16 0	ND	15 6
Total TPH		16190	333	1175	78 4	58 2	16 0	ND	16 2	41 4	16 0	51 8	15 6

Brent Barron, II
Odessa Laboratory Manager

Certificate of Analysis Summary 353862

Larson & Associates, Midland, TX

Project Name: XTO - Buckeye Station

Project Id: 9-0139
Contact: Michelle Green
Project Location:

Date Received in Lab: Tue Dec-01-09 02:55 pm
Report Date: 11-DEC-09
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	353862-019		353862-020		353862-021		353862-022		353862-023		353862-024	
	Field Id:	BH-6 (5-6')		BH-7 (0-1')		BH-7 (3-4')		BH-7 (7-8')		BH-7 (10-11')		BH-7 (15-16')	
	Depth:	5-6 ft		0-1 ft		3-4 ft		7-8 ft		10-11 ft		15-16 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-30-09 14 45		Nov-30-09 15 15		Nov-30-09 15 20		Nov-30-09 15 30		Nov-30-09 15 35		Nov-30-09 15 40	
Anions by E300	*Extracted:*												
	Analyzed:	Dec-02-09 13 12		Dec-02-09 13 12		Dec-02-09 18 42		Dec-02-09 18 42		Dec-02-09 18 42		Dec-02-09 18 42	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		29 8	4 58	13 4	4 59	8 32	4 47	6 42	4 38	4 85	4 35	7 88	4 41
BTEX by EPA 8021B	*Extracted:*			Dec-07-09 15 00		Dec-09-09 15 45		Dec-07-09 15 00		Dec-10-09 14 00			
	Analyzed:			Dec-08-09 00 27		Dec-10-09 02 54		Dec-08-09 01 11		Dec-11-09 09 59			
	Units/RL:			mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Benzene				6 058	0 5448	ND	0 0213	0 0092	0 0052	ND	0 0010		
Toluene				126 2	1 090	ND	0 0426	1 082	0 0104	ND	0 0021		
Ethylbenzene				123 7	0 5448	0 2565	0 0213	5 189 D	0 0209	0 0028	0 0010		
m,p-Xylenes				99 70	1 090	0 3629	0 0426	3 905	0 0104	0 0033	0 0021		
o-Xylene				39 45	0 5448	0 2267	0 0213	1 899	0 0052	0 0023	0 0010		
Total Xylenes				139 15	0 5448	0 5896	0 0213	5 804	0 0052	0 0056	0 0010		
Total BTEX				395 1	0 5448	0 8461	0 0213	12 084	0 0052	0 0084	0 0010		
Percent Moisture	*Extracted:*												
	Analyzed:	Dec-02-09 17 00		Dec-02-09 17 00		Dec-02-09 17 00		Dec-02-09 17 00		Dec-02-09 17 00		Dec-02-09 17 00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		8 23	1 00	8 41	1 00	6 04	1 00	4.08	1 00	3 51	1 00	4 85	1 00
TPH By SW8015 Mod	*Extracted:*	Dec-02-09 10 30		Dec-02-09 10 30		Dec-02-09 10 30		Dec-02-09 10 30		Dec-02-09 10 30		Dec-02-09 10 30	
	Analyzed:	Dec-06-09 16 59		Dec-05-09 19 41		Dec-05-09 20 08		Dec-05-09 20 34		Dec-05-09 21 01		Dec-05-09 21 27	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	16 3	1930	16 3	191	15 9	304	15 6	58 2	15 5	ND	15 8
C12-C28 Diesel Range Hydrocarbons		ND	16 3	3730	16 3	523	15 9	860	15 6	262	15 5	17 4	15 8
C28-C35 Oil Range Hydrocarbons		ND	16 3	175	16 3	28 3	15 9	46 2	15 6	ND	15 5	ND	15 8
Total TPH		ND	16 3	5835	16 3	742	15 9	1210	15 6	320	15 5	17 4	15 8

Brent Barron, II
Odessa Laboratory Manager

Certificate of Analysis Summary 353862

Larson & Associates, Midland, TX

Project Name: XTO - Buckeye Station

Project Id: 9-0139
Contact: Michelle Green
Project Location:

Date Received in Lab: Tue Dec-01-09 02:55 pm
Report Date: 11-DEC-09
Project Manager: Brent Barron, II

Analysis Requested		353862-025		353862-026		353862-027		353862-028		353862-029		353862-030	
	Lab Id:												
	Field Id:	BH-8 (0-1')		BH-8 (5-6')		BH-8 (7-8')		BH-9 (0-1')		BH-9 (3-4')		BH-9 (7-8')	
	Depth:	0-1 ft		5-6 ft		7-8 ft		0-1 ft		3-4 ft		7-8 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-30-09 16 30		Nov-30-09 16 35		Nov-30-09 16 40		Nov-30-09 16 55		Nov-30-09 17 00		Nov-30-09 17 10	
Anions by E300	Extracted:												
	Analyzed:	Dec-02-09 18 42		Dec-02-09 18 42		Dec-02-09 18 42		Dec-02-09 18 42		Dec-02-09 18 42		Dec-02-09 18 42	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		6 28	4 67	139	9 00	22 2	4 59	87 2	10 1	29 5	4 50	24 4	4 57
BTEX by EPA 8021B	Extracted:	Dec-07-09 15 00		Dec-07-09 15 00				Dec-07-09 15 00		Dec-09-09 15 45		Dec-07-09 15 00	
	Analyzed:	Dec-08-09 01 56		Dec-08-09 03 25				Dec-08-09 03 47		Dec-10-09 04 44		Dec-07-09 23 20	
	Units/RL:	mg/kg	RL	mg/kg	RL			mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		19 01	0 1106	0 0598	0 0534			2 256 D	0 2403	0 0803	0 0535	ND	0 0011
Toluene		75 50 D	1 112	1 543	0 1068			35 47 D	0 4805	0 6206	0 1071	0.0047	0 0022
Ethylbenzene		45 43 D	0 5562	4 357	0 0534			12 95 D	0 2403	0 6484	0 0535	0 0266	0 0011
m,p-Xylenes		45 30	0 2211	3 938	0 1068			18 72 D	0 4805	2 505	0 1071	0 0364	0 0022
o-Xylene		17 54	0 1106	1 837	0 0534			8 195	0 0240	1 372	0 0535	0 0226	0 0011
Total Xylenes		62 84	0 1106	5 775	0 0534			26 92	0 0240	3 877	0 0535	0 0590	0 0011
Total BTEX		202 8	0 1106	11 735	0 0534			77 59	0 0240	5.226	0 0535	0 0903	0 0011
Percent Moisture	Extracted:												
	Analyzed:	Dec-02-09 17 00		Dec-02-09 17 00		Dec-02-09 17 00		Dec-02-09 17 00		Dec-02-09 17 00		Dec-02-09 17 00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		10 1	1 00	6 71	1 00	8 43	1 00	16 8	1 00	6 62	1 00	8 01	1 00
TPH By SW8015 Mod	Extracted:	Dec-02-09 10 30		Dec-02-09 10 30		Dec-02-09 10 30		Dec-02-09 10 30		Dec-02-09 10 30		Dec-02-09 10 30	
	Analyzed:	Dec-05-09 21 54		Dec-05-09 22 20		Dec-05-09 22 47		Dec-05-09 23 13		Dec-05-09 23 39		Dec-06-09 00 32	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		2890	167	303	16 1	ND	16 4	3240	358	898	161	44 1	16 3
C12-C28 Diesel Range Hydrocarbons		4320	167	593	16 1	20 4	16 4	4850	358	3090	161	89 5	16 3
C28-C35 Oil Range Hydrocarbons		353	167	37 5	16 1	17 5	16 4	520	358	239	161	ND	16 3
Total TPH		7563	167	934	16 1	37 9	16 4	8610	358	4227	161	133 6	16 3

Brent Barron, II
Odessa Laboratory Manager

Certificate of Analysis Summary 353862

Larson & Associates, Midland, TX

Project Name: XTO - Buckeye Station

Project Id: 9-0139
Contact: Michelle Green
Project Location:

Date Received in Lab: Tue Dec-01-09 02:55 pm
Report Date: 11-DEC-09
Project Manager: Brent Barron, II

Analysis Requested							
	Lab Id:	353862-031					
	Field Id:	BH-9 (10-11')					
	Depth:	10-11 ft					
	Matrix:	SOIL					
	Sampled:	Nov-30-09 17 15					
Anions by E300	***Extracted:***						
	Analyzed:	Dec-02-09 18 42					
	Units/RL:	mg/kg	RL				
Chloride		27 8	4 50				
Percent Moisture	***Extracted:***						
	Analyzed:	Dec-02-09 17 00					
	Units/RL:	%	RL				
Percent Moisture		6 62	1 00				
TPH By SW8015 Mod	***Extracted:***	Dec-02-09 10 30					
	Analyzed:	Dec-06-09 00 58					
	Units/RL:	mg/kg	RL				
C6-C12 Gasoline Range Hydrocarbons		ND	16 0				
C12-C28 Diesel Range Hydrocarbons		18 7	16 0				
C28-C35 Oil Range Hydrocarbons		ND	16 0				
Total TPH		18 7	16 0				

Brent Barron, II
Odessa Laboratory Manager

Final Ver. 1.000

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.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: XTO - Buckeye Station

Work Orders : 353862,

Project ID: 9-0139

Lab Batch #: 784779 **Sample:** 544970-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/07/09 21:06

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 0343	0 0300	114	80-120	
4-Bromofluorobenzene	0 0322	0 0300	107	80-120	

Lab Batch #: 784779 **Sample:** 544970-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/07/09 21:29

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 0345	0 0300	115	80-120	
4-Bromofluorobenzene	0 0331	0 0300	110	80-120	

Lab Batch #: 784779 **Sample:** 544970-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/07/09 22:13

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 0315	0 0300	105	80-120	
4-Bromofluorobenzene	0 0332	0 0300	111	80-120	

Lab Batch #: 784779 **Sample:** 353862-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/07/09 22:36

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 0271	0 0300	90	80-120	
4-Bromofluorobenzene	0 0643	0 0300	214	80-120	**

Lab Batch #: 784779 **Sample:** 353862-030 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/07/09 23:20

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 0317	0 0300	106	80-120	
4-Bromofluorobenzene	0 0413	0 0300	138	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 - Buckeye Station

Work Orders : 353862,

Project ID: 9-0139

Lab Batch #: 784779 **Sample:** 353862-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/07/09 23:42

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 0227	0 0300	76	80-120	**

Lab Batch #: 784779 **Sample:** 353862-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/08/09 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 0383	0 0300	128	80-120	**
4-Bromofluorobenzene	0 0296	0 0300	99	80-120	

Lab Batch #: 784779 **Sample:** 353862-020 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/08/09 00:27

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 0293	0 0300	98	80-120	

Lab Batch #: 784779 **Sample:** 353862-022 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/08/09 01:11

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 0383	0 0300	128	80-120	**
4-Bromofluorobenzene	0 0777	0 0300	259	80-120	**

Lab Batch #: 784779 **Sample:** 353862-025 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/08/09 01:56

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 0291	0 0300	97	80-120	
4-Bromofluorobenzene	0 0317	0 0300	106	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 - Buckeye Station

Work Orders : 353862,

Project ID: 9-0139

Lab Batch #: 784779 **Sample:** 353862-026 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/08/09 03:25

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 0305	0 0300	102	80-120	
4-Bromofluorobenzene	0 0357	0 0300	119	80-120	

Lab Batch #: 784779 **Sample:** 353862-028 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/08/09 03:47

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 0482	0 0300	161	80-120	**

Lab Batch #: 784779 **Sample:** 353862-001 D / MD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/08/09 07:07

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 0297	0 0300	99	80-120	

Lab Batch #: 785118 **Sample:** 545171-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/09/09 23:36

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 0308	0 0300	103	80-120	
4-Bromofluorobenzene	0 0318	0 0300	106	80-120	

Lab Batch #: 785118 **Sample:** 545171-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/09/09 23:58

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 0307	0 0300	102	80-120	
4-Bromofluorobenzene	0 0318	0 0300	106	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 - Buckeye Station

Work Orders : 353862,

Project ID: 9-0139

Lab Batch #: 785118 **Sample:** 545171-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/10/09 00:42

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 0265	0 0300	88	80-120	
4-Bromofluorobenzene	0 0313	0 0300	104	80-120	

Lab Batch #: 785118 **Sample:** 353862-017 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/10/09 01:04

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 0320	0 0300	107	80-120	

Lab Batch #: 785118 **Sample:** 353862-014 / DL **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/10/09 02:32

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 0255	0 0300	85	80-120	
4-Bromofluorobenzene	0 0322	0 0300	107	80-120	

Lab Batch #: 785118 **Sample:** 353862-021 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/10/09 02:54

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 0265	0 0300	88	80-120	
4-Bromofluorobenzene	0 0336	0 0300	112	80-120	

Lab Batch #: 785118 **Sample:** 353862-022 / DL **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/10/09 03:16

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0261	0 0300	87	80-120	
4-Bromofluorobenzene	0 0461	0.0300	154	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 - Buckeye Station

Work Orders : 353862,

Project ID: 9-0139

Lab Batch #: 785118 **Sample:** 353862-025 / DL **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/10/09 04:00

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 0206	0 0300	69	80-120	**
4-Bromofluorobenzene	0 0216	0 0300	72	80-120	**

Lab Batch #: 785118 **Sample:** 353862-028 / DL **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/10/09 04:22

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 0190	0 0300	63	80-120	**
4-Bromofluorobenzene	0 0240	0 0300	80	80-120	

Lab Batch #: 785118 **Sample:** 353862-029 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/10/09 04:44

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 0215	0 0300	72	80-120	**
4-Bromofluorobenzene	0 0247	0 0300	82	80-120	

Lab Batch #: 785339 **Sample:** 545305-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/11/09 08:09

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 0310	0 0300	103	80-120	
4-Bromofluorobenzene	0 0316	0 0300	105	80-120	

Lab Batch #: 785339 **Sample:** 545305-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/11/09 08:31

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 0293	0 0300	98	80-120	
4-Bromofluorobenzene	0 0304	0 0300	101	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 - Buckeye Station

Work Orders : 353862,

Project ID: 9-0139

Lab Batch #: 785339 **Sample:** 545305-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/11/09 09:15

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 0275	0 0300	92	80-120	
4-Bromofluorobenzene	0 0316	0 0300	105	80-120	

Lab Batch #: 785339 **Sample:** 353862-023 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/11/09 09:59

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 0273	0 0300	91	80-120	
4-Bromofluorobenzene	0 0329	0 0300	110	80-120	

Lab Batch #: 785339 **Sample:** 354812-002 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/11/09 10:44

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 0308	0 0300	103	80-120	
4-Bromofluorobenzene	0 0394	0 0300	131	80-120	*

Lab Batch #: 785339 **Sample:** 354812-002 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/11/09 11:06

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 0307	0 0300	102	80-120	
4-Bromofluorobenzene	0 0342	0 0300	114	80-120	

Lab Batch #: 784443 **Sample:** 544775-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/05/09 18:21

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.7	99 8	88	70-135	
o-Terphenyl	42 5	49 9	85	70-135	

* 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 - Buckeye Station

Work Orders : 353862,

Project ID: 9-0139

Lab Batch #: 784443 **Sample:** 544775-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/05/09 18:48

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88 4	99 6	89	70-135	
o-Terphenyl	42 2	49 8	85	70-135	

Lab Batch #: 784443 **Sample:** 544775-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/05/09 19:14

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89 5	99 8	90	70-135	
o-Terphenyl	49 2	49 9	99	70-135	

Lab Batch #: 784443 **Sample:** 353862-020 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/05/09 19:41

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	99 5	102	70-135	
o-Terphenyl	42 0	49 8	84	70-135	

Lab Batch #: 784443 **Sample:** 353862-021 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/05/09 20:08

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	81 6	99 7	82	70-135	
o-Terphenyl	43 3	49 9	87	70-135	

Lab Batch #: 784443 **Sample:** 353862-022 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/05/09 20:34

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	83 5	100	84	70-135	
o-Terphenyl	42 0	50 0	84	70-135	

* 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 - Buckeye Station

Work Orders : 353862,

Project ID: 9-0139

Lab Batch #: 784443 **Sample:** 353862-023 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/05/09 21:01

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	147	100	147	70-135	**
o-Terphenyl	73 5	50 0	147	70-135	**

Lab Batch #: 784443 **Sample:** 353862-024 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/05/09 21:27

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	83 0	100	83	70-135	
o-Terphenyl	44 8	50 0	90	70-135	

Lab Batch #: 784443 **Sample:** 353862-025 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/05/09 21:54

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	100	103	70-135	
o-Terphenyl	50 9	50 0	102	70-135	

Lab Batch #: 784443 **Sample:** 353862-026 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/05/09 22:20

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82 2	99 9	82	70-135	
o-Terphenyl	43 3	50 0	87	70-135	

Lab Batch #: 784443 **Sample:** 353862-027 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/05/09 22:47

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80 0	100	80	70-135	
o-Terphenyl	44.3	50 0	89	70-135	

* 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 - Buckeye Station

Work Orders : 353862,

Project ID: 9-0139

Lab Batch #: 784443 **Sample:** 353862-028 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/05/09 23:13

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	99 4	111	70-135	
o-Terphenyl	56 5	49 7	114	70-135	

Lab Batch #: 784443 **Sample:** 353862-029 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/05/09 23:39

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93 9	100	94	70-135	
o-Terphenyl	51 1	50 0	102	70-135	

Lab Batch #: 784443 **Sample:** 353862-030 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/09 00:32

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	84 4	99 7	85	70-135	
o-Terphenyl	44 8	49 9	90	70-135	

Lab Batch #: 784443 **Sample:** 353862-031 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/09 00:58

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82 6	99 8	83	70-135	
o-Terphenyl	45 4	49 9	91	70-135	

Lab Batch #: 784443 **Sample:** 353862-024 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/09 03:37

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89 1	99 5	90	70-135	
o-Terphenyl	42 5	49 8	85	70-135	

* 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 - Buckeye Station

Work Orders : 353862,

Project ID: 9-0139

Lab Batch #: 784443 **Sample:** 353862-024 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/09 04:03

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	84.1	99.8	84	70-135	
o-Terphenyl	40 9	49 9	82	70-135	

Lab Batch #: 784510 **Sample:** 544822-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/06/09 06:41

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	107	99 8	107	70-135	
o-Terphenyl	45 7	49 9	92	70-135	

Lab Batch #: 784510 **Sample:** 544822-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/06/09 07:07

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	107	100	107	70-135	
o-Terphenyl	46 1	50 0	92	70-135	

Lab Batch #: 784510 **Sample:** 544822-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/06/09 07:34

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93 4	99 8	94	70-135	
o-Terphenyl	49 7	49 9	100	70-135	

Lab Batch #: 784510 **Sample:** 353862-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/09 08:26

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95 8	99 9	96	70-135	
o-Terphenyl	49 3	50 0	99	70-135	

* 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 - Buckeye Station

Work Orders : 353862,

Project ID: 9-0139

Lab Batch #: 784510 **Sample:** 353862-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/09 08:53

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	143	100	143	70-135	**
o-Terphenyl	65 6	50 0	131	70-135	

Lab Batch #: 784510 **Sample:** 353862-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/09 09:19

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93 7	99 9	94	70-135	
o-Terphenyl	50 0	50 0	100	70-135	

Lab Batch #: 784510 **Sample:** 353862-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/09 09:46

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	84 5	99 8	85	70-135	
o-Terphenyl	46 1	49 9	92	70-135	

Lab Batch #: 784510 **Sample:** 353862-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/09 10:13

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79 0	99 8	79	70-135	
o-Terphenyl	42.8	49 9	86	70-135	

Lab Batch #: 784510 **Sample:** 353862-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/09 10:40

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	74 4	99 8	75	70-135	
o-Terphenyl	41 5	49 9	83	70-135	

* 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 - Buckeye Station

Work Orders : 353862,

Project ID: 9-0139

Lab Batch #: 784510 **Sample:** 353862-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/09 11:07

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80 4	99 9	80	70-135	
o-Terphenyl	43 5	50 0	87	70-135	

Lab Batch #: 784510 **Sample:** 353862-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/09 11:35

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77 4	99 5	78	70-135	
o-Terphenyl	41 8	49 8	84	70-135	

Lab Batch #: 784510 **Sample:** 353862-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/09 12:02

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	76 8	100	77	70-135	
o-Terphenyl	41 7	50 0	83	70-135	

Lab Batch #: 784510 **Sample:** 353862-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/09 12:56

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79 7	100	80	70-135	
o-Terphenyl	42 8	50 0	86	70-135	

Lab Batch #: 784510 **Sample:** 353862-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/09 13:23

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	76 6	99 8	77	70-135	
o-Terphenyl	41 7	49 9	84	70-135	

* 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 - Buckeye Station

Work Orders : 353862,

Project ID: 9-0139

Lab Batch #: 784510 **Sample:** 353862-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/09 13:50

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	83 9	99 5	84	70-135	
o-Terphenyl	45 5	49 8	91	70-135	

Lab Batch #: 784510 **Sample:** 353862-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/09 14:18

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	138	100	138	70-135	**
o-Terphenyl	54 6	50 0	109	70-135	

Lab Batch #: 784510 **Sample:** 353862-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/09 14:45

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92 9	100	93	70-135	
o-Terphenyl	50 3	50 0	101	70-135	

Lab Batch #: 784510 **Sample:** 353862-015 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/09 15:12

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82 5	99 5	83	70-135	
o-Terphenyl	44 7	49 8	90	70-135	

Lab Batch #: 784510 **Sample:** 353862-016 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/09 15:39

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	100	114	70-135	
o-Terphenyl	59 8	50 0	120	70-135	

* 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 - Buckeye Station

Work Orders : 353862,

Project ID: 9-0139

Lab Batch #: 784510 **Sample:** 353862-017 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/09 16:05

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90 1	99 8	90	70-135	
o-Terphenyl	48 1	49 9	96	70-135	

Lab Batch #: 784510 **Sample:** 353862-018 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/09 16:32

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79 1	99 8	79	70-135	
o-Terphenyl	43 5	49 9	87	70-135	

Lab Batch #: 784510 **Sample:** 353862-019 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/09 16:59

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	81 7	100	82	70-135	
o-Terphenyl	44 4	50 0	89	70-135	

Lab Batch #: 784510 **Sample:** 353862-003 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/09 17:25

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99 8	99 8	100	70-135	
o-Terphenyl	43 2	49 9	87	70-135	

Lab Batch #: 784510 **Sample:** 353862-003 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/09 17:52

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93 0	100	93	70-135	
o-Terphenyl	41 2	50 0	82	70-135	

* 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

Blank Spike Recovery

Project Name: XTO - Buckeye Station

Work Order #: 353862 **Project ID:** 9-0139

Lab Batch #: 784111 **Sample:** 784111-1-BKS **Matrix:** Solid
Date Analyzed: 12/02/2009 **Date Prepared:** 12/02/2009 **Analyst:** LATCOR
Reporting Units: mg/kg **Batch #:** 1

Anions by E300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
	BLANK /BLANK SPIKE RECOVERY STUDY					
Chloride	ND	10.0	9 32	93	75-125	

Lab Batch #: 784114 **Sample:** 784114-1-BKS **Matrix:** Solid
Date Analyzed: 12/02/2009 **Date Prepared:** 12/02/2009 **Analyst:** LATCOR
Reporting Units: mg/kg **Batch #:** 1

Anions by E300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
	BLANK /BLANK SPIKE RECOVERY STUDY					
Chloride	ND	10 0	10 2	102	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 - Buckeye Station

Work Order #: 353862 **Project ID:** 9-0139

Analyst: ASA **Date Prepared:** 12/07/2009 **Date Analyzed:** 12/07/2009

Lab Batch ID: 784779 **Sample:** 544970-1-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 0982	98	0 1	0 0971	97	1	70-130	35	
Toluene	ND	0 1000	0 1010	101	0 1	0 1010	101	0	70-130	35	
Ethylbenzene	ND	0 1000	0 0983	98	0 1	0 0974	97	1	71-129	35	
m,p-Xylenes	ND	0 2000	0 1998	100	0 2	0 1985	99	1	70-135	35	
o-Xylene	0 0010	0 1000	0 1044	104	0 1	0 1042	104	0	71-133	35	

Analyst: ASA **Date Prepared:** 12/09/2009 **Date Analyzed:** 12/09/2009

Lab Batch ID: 785118 **Sample:** 545171-1-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 1052	105	0 1	0 1052	105	0	70-130	35	
Toluene	ND	0 1000	0 1046	105	0 1	0 1043	104	0	70-130	35	
Ethylbenzene	0 0010	0.1000	0 1047	105	0 1	0 1042	104	0	71-129	35	
m,p-Xylenes	0 0020	0 2000	0 2248	112	0 2	0 2239	112	0	70-135	35	
o-Xylene	ND	0 1000	0 1135	114	0 1	0 1132	113	0	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 - Buckeye Station

Work Order #: 353862 **Project ID:** 9-0139

Analyst: ASA **Date Prepared:** 12/10/2009 **Date Analyzed:** 12/11/2009

Lab Batch ID: 785339 **Sample:** 545305-1-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 0992	99	0 1	0 0934	93	6	70-130	35	
Toluene	ND	0 1000	0 0979	98	0 1	0 0921	92	6	70-130	35	
Ethylbenzene	ND	0 1000	0 0941	94	0 1	0 0868	87	8	71-129	35	
m,p-Xylenes	ND	0 2000	0 1978	99	0 2	0 1920	96	3	70-135	35	
o-Xylene	ND	0 1000	0 1034	103	0 1	0 1007	101	3	71-133	35	

Analyst: BEV **Date Prepared:** 12/02/2009 **Date Analyzed:** 12/05/2009

Lab Batch ID: 784443 **Sample:** 544775-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod 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
C6-C12 Gasoline Range Hydrocarbons	ND	998	916	92	996	923	93	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	998	901	90	996	869	87	4	70-135	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

BS / BSD Recoveries

Project Name: XTO - Buckeye Station

Work Order #: 353862
Analyst: BEV
Lab Batch ID: 784510
Sample: 544822-1-BKS
Units: mg/kg

Date Prepared: 12/02/2009
Batch #: 1

Project ID: 9-0139
Date Analyzed: 12/06/2009
Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod 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
C6-C12 Gasoline Range Hydrocarbons	ND	998	946	95	1000	966	97	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	998	770	77	1000	796	80	3	70-135	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 - Buckeye Station

Work Order #: 353862

Lab Batch #: 784111 **Project ID:** 9-0139

Date Analyzed: 12/02/2009 **Date Prepared:** 12/02/2009 **Analyst:** LATCOR

QC- Sample ID: 353862-001 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 67	107	115	98	75-125	

Lab Batch #: 784114

Date Analyzed: 12/02/2009 **Date Prepared:** 12/02/2009 **Analyst:** LATCOR

QC- Sample ID: 353862-021 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	8 32	106	115	101	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 - Buckeye Station

Work Order # : 353862 **Project ID:** 9-0139

Lab Batch ID: 785339 **QC- Sample ID:** 354812-002 S **Batch #:** 1 **Matrix:** Soil
Date Analyzed: 12/11/2009 **Date Prepared:** 12/10/2009 **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 1100	0 0684	62	0 1100	0 0677	62	1	70-130	35	X
Toluene	ND	0 1100	0 0692	63	0 1100	0 0684	62	1	70-130	35	X
Ethylbenzene	ND	0 1100	0 0753	68	0 1100	0 0744	68	1	71-129	35	X
m,p-Xylenes	ND	0 2199	0 1656	75	0 2199	0 1651	75	0	70-135	35	
o-Xylene	ND	0 1100	0 0857	78	0 1100	0 0800	73	7	71-133	35	

Lab Batch ID: 784443 **QC- Sample ID:** 353862-024 S **Batch #:** 1 **Matrix:** Soil
Date Analyzed: 12/06/2009 **Date Prepared:** 12/02/2009 **Analyst:** BEV
Reporting Units: mg/kg

TPH By SW8015 Mod 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
C6-C12 Gasoline Range Hydrocarbons	ND	1050	950	90	1050	924	88	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	17 4	1050	830	77	1050	778	72	6	70-135	35	

Lab Batch ID: 784510 **QC- Sample ID:** 353862-003 S **Batch #:** 1 **Matrix:** Soil
Date Analyzed: 12/06/2009 **Date Prepared:** 12/02/2009 **Analyst:** BEV
Reporting Units: mg/kg

TPH By SW8015 Mod 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
C6-C12 Gasoline Range Hydrocarbons	ND	1050	935	89	1050	878	84	6	70-135	35	
C12-C28 Diesel Range Hydrocarbons	19 5	1050	842	78	1050	740	69	13	70-135	35	X

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

Sample Duplicate Recovery

Project Name: XTO - Buckeye Station

Work Order #: 353862

Lab Batch #: 784111 **Project ID:** 9-0139
Date Analyzed: 12/02/2009 **Date Prepared:** 12/02/2009 **Analyst:** LATCOR
QC- Sample ID: 353862-001 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 67	8 57	12	20	

Lab Batch #: 784114
Date Analyzed: 12/02/2009 **Date Prepared:** 12/02/2009 **Analyst:** LATCOR
QC- Sample ID: 353862-021 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	8 32	7 29	13	20	

Lab Batch #: 784779
Date Analyzed: 12/08/2009 **Date Prepared:** 12/07/2009 **Analyst:** ASA
QC- Sample ID: 353862-001 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: mg/kg

BTEX by EPA 8021B Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	0 0756	0 0011	194	35	F
Toluene	1 424	0 0279	192	35	F
Ethylbenzene	0 4119	0 0086	192	35	F
m,p-Xylenes	0 9986	0 0218	191	35	F
o-Xylene	0 1818	0 0041	191	35	F

Lab Batch #: 784105
Date Analyzed: 12/02/2009 **Date Prepared:** 12/02/2009 **Analyst:** WRU
QC- Sample ID: 353862-001 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	6 77	7 25	7	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

XENCO Laboratories

Sample Duplicate Recovery

Project Name: XTO - Buckeye Station

Work Order #: 353862

Lab Batch #: 784108 **Project ID:** 9-0139

Date Analyzed: 12/02/2009 **Date Prepared:** 12/02/2009 **Analyst:** WRU

QC- Sample ID: 353862-021 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	6 04	5 73	5	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

Data Reported to: Michelle Green

DATE: 12/1/09 PAGE 1 OF 3
PO #: LAB WORK ORDER #:
PROJECT LOCATION OR NAME: XTO - Buckeye Station
LAI PROJECT #: 9-0139 COLLECTOR: JMF

TRRP report? ☐ Yes ☒ No
TIME ZONE: Time zone/State: Central
S=SOIL P=PAINT W=WATER SL=SLUDGE A=AIR OT=OTHER
353862

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 ☒ ANIONS ☐ ALKALINITY ☐	FIELD NOTES
BH-1 (0-1')	-01	11/30/09	1030	S	1				✓		✓		✓	✓														✓	
BH-1 (3-4')	-02	11/30/09	1035	S	1				✓				✓	✓														✓	
BH-1 (5-6')	-03	11/30/09	1040	S	1				✓				✓	✓														✓	
BH-2 (0-1')	-04	11/30/09	1110	S	1				✓				✓	✓														✓	
BH-2 (3-4')	-05	11/30/09	1115	S	1				✓				✓	✓														✓	
BH-2 (5-6')	-06	11/30/09	1120	S	1				✓				✓	✓														✓	
BH-3 (0-1')	-07	11/30/09	1150	S	1				✓				✓	✓														✓	
BH-3 (3-4')	-08	11/30/09	1155	S	1				✓				✓	✓														✓	
BH-3 (5-6')	-09	11/30/09	1200	S	1				✓				✓	✓														✓	
BH-4 (0-1')	-10	11/30/09	1225	S	1				✓				✓	✓														✓	
BH-4 (3-4')	-11	11/30/09	1230	S	1				✓				✓	✓														✓	
BH-4 (7-8')	-12	11/30/09	1240	S	1				✓				✓	✓														✓	
BH-5 (0-1')	-13	11/30/09	1345	S	1				✓		✓		✓	✓														✓	
BH-5 (3-4')	-14	11/30/09	1350	S	1				✓		✓		✓	✓														✓	
BH-5 (5-6')	-15	11/30/09	1355	S	1				✓				✓	✓														✓	
TOTAL																													

RELINQUISHED BY:(Signature) DATE/TIME 12/1/09 1455 RECEIVED BY:(Signature) Andrea Linn
RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)
RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)

TURN AROUND TIME
NORMAL ☒
1 DAY ☐
2 DAY ☐
OTHER ☐

LABORATORY USE ONLY:
RECEIVING TEMP: -1.4 THERM #: A7
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☒ NOT USED
☐ CARRIER BILL #
☒ HAND DELIVERED

CHAIN-OF-CUSTODY

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

Data Reported to: Michelle Green

DATE: 12/1/09 PAGE 2 OF 3
PO #: LAB WORK ORDER #:
PROJECT LOCATION OR NAME: XTO - Buckeye Station
LAI PROJECT #: 9-0139 COLLECTOR: JNF

TRRP report? ☐ Yes ☒ No
TIME ZONE: Time zone/State: Central
S=SOIL P=PAINT W=WATER SL=SLUDGE A=AIR OT=OTHER
3538862

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 ☒ ANIONS ☐ ALKALINITY ☐	FIELD NOTES
BH-5 (7-8')	-16	11/30/09	1400	S	1				✓				✓	✓													✓	
BH-6 (0-1')	-17	11/30/09	1435	S	1				✓		✓		✓	✓													✓	
BH-6 (3-4')	-18	11/30/09	1440	S	1				✓				✓	✓													✓	
BH-6 (5-6')	-19	11/30/09	1445	S	1				✓				✓	✓													✓	
BH-7 (0-1')	-20	11/30/09	1515	S	1				✓		✓		✓	✓													✓	
BH-7 (3-4')	-21	11/30/09	1520	S	1				✓		✓		✓	✓													✓	
BH-7 (7-8')	-22	11/30/09	1530	S	1				✓		✓		✓	✓													✓	
BH-7 (10-11')	-23	11/30/09	1535	S	1				✓		✓		✓	✓													✓	
BH-7 (15-16')	-24	11/30/09	1540	S	1				✓				✓	✓													✓	
BH-8 (0-1') DUP	-25	11/30/09	1630	S	1				✓		✓		✓	✓													✓	
BH-8 (5-6')	-26	11/30/09	1635	S	1				✓		✓		✓	✓													✓	
BH-8 (7-8')	-27	11/30/09	1640	S	1				✓				✓	✓													✓	
BH-9 (0-1')	-28	11/30/09	1655	S	1				✓		✓		✓	✓													✓	
BH-9 (3-4')	-29	11/30/09	1700	S	1				✓		✓		✓	✓													✓	
BH-9 (7-8')	-30	11/30/09	1710	S	1				✓		✓		✓	✓													✓	
TOTAL																												

RELINQUISHED BY:(Signature) DATE/TIME 12/1/09 1455 RECEIVED BY: (Signature) Andrea Fann
RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)
RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)

TURN AROUND TIME
NORMAL ☒
1 DAY ☐
2 DAY ☐
OTHER ☐

LABORATORY USE ONLY:
RECEIVING TEMP: -1.4 THERM #: A7
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☒ NOT USED
☐ CARRIER BILL #
☒ HAND DELIVERED

CHAIN-OF-CUSTODY

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

Data Reported to: Michelle Green

DATE: 12/1/09 PAGE 3 OF 3

PO #: _____ LAB WORK ORDER #: _____

PROJECT LOCATION OR NAME: XTO - Buckeye Station

LAI PROJECT #: 9-0139 COLLECTOR: JNF

TRRP report? ☐ Yes ☒ No

TIME ZONE: Time zone/State: Central

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

353862

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 ☒ ANIONS ☐ ALKALINITY ☐	FIELD NOTES
BH-9 (10-11')	1-31	11/30/09	1715	S	1				✓			✓	✓														✓	
TOTAL																												

RELINQUISHED BY:(Signature) _____ DATE/TIME 12/1/09 1455 RECEIVED BY. (Signature) _____

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

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

TURN AROUND TIME
NORMAL ☒
1 DAY ☐
2 DAY ☐
OTHER ☐

LABORATORY USE ONLY:
RECEIVING TEMP: -1.4 THERM #: A7
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☒ NOT USED
☐ CARRIER BILL # _____
☒ HAND DELIVERED

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Larson & Assoc.

Date/ Time: 12.10.09 14:55

Lab ID # : 353862

Initials: AL

Sample Receipt Checklist

				Client Initials
#1	Temperature of container/ cooler?	(Yes)	No	-1.4 °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:

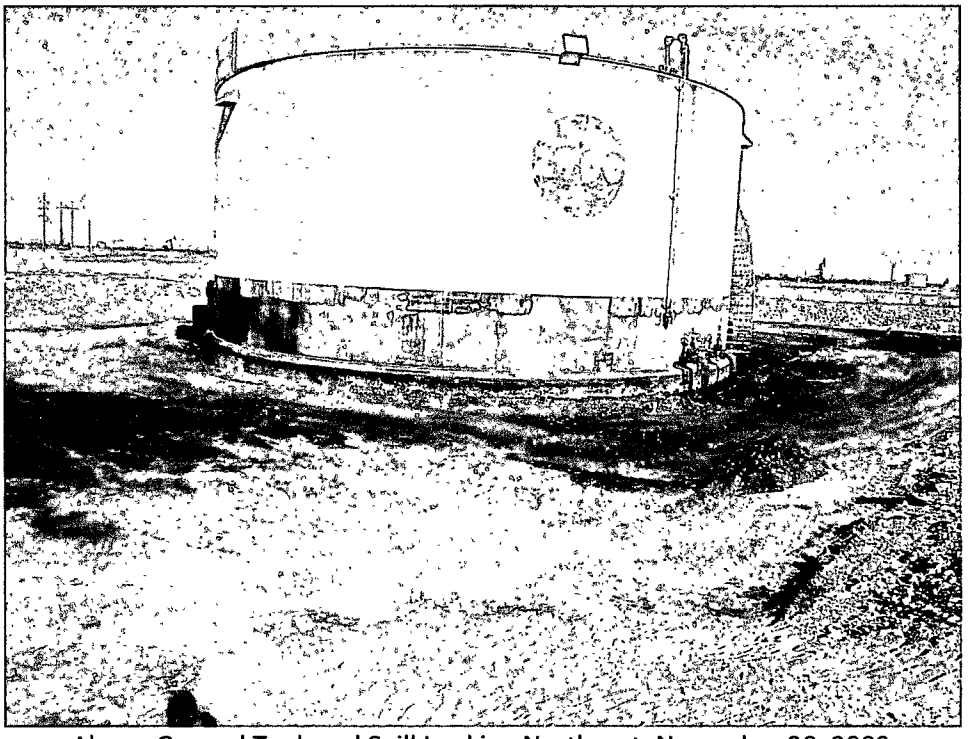
Check all that Apply:

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

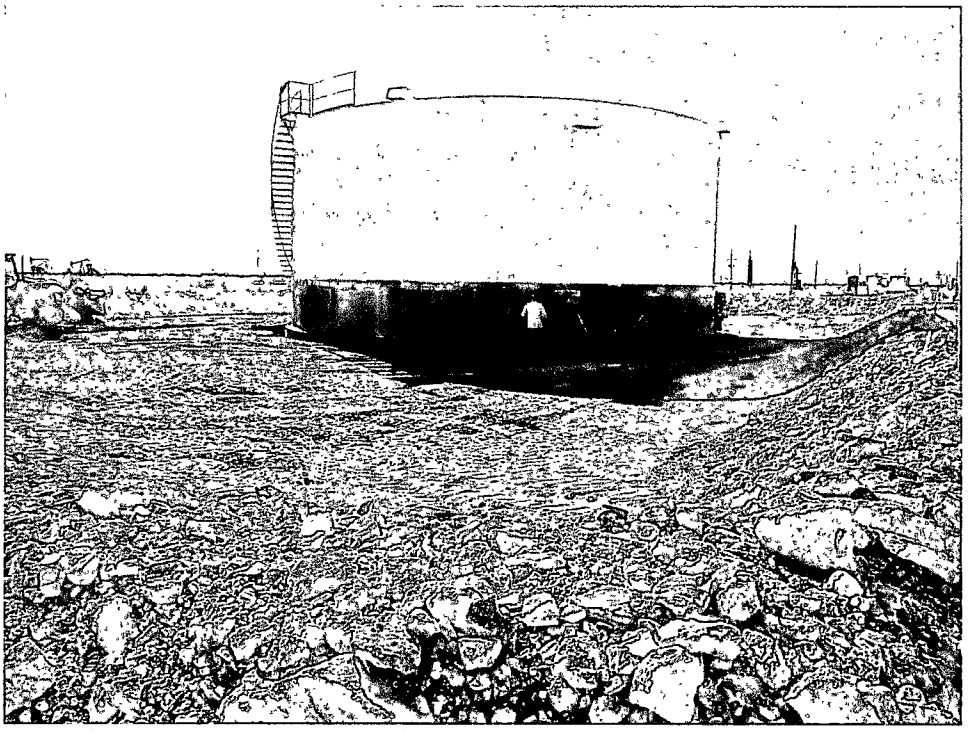
Appendix B

Photographs

Photographic Documentation

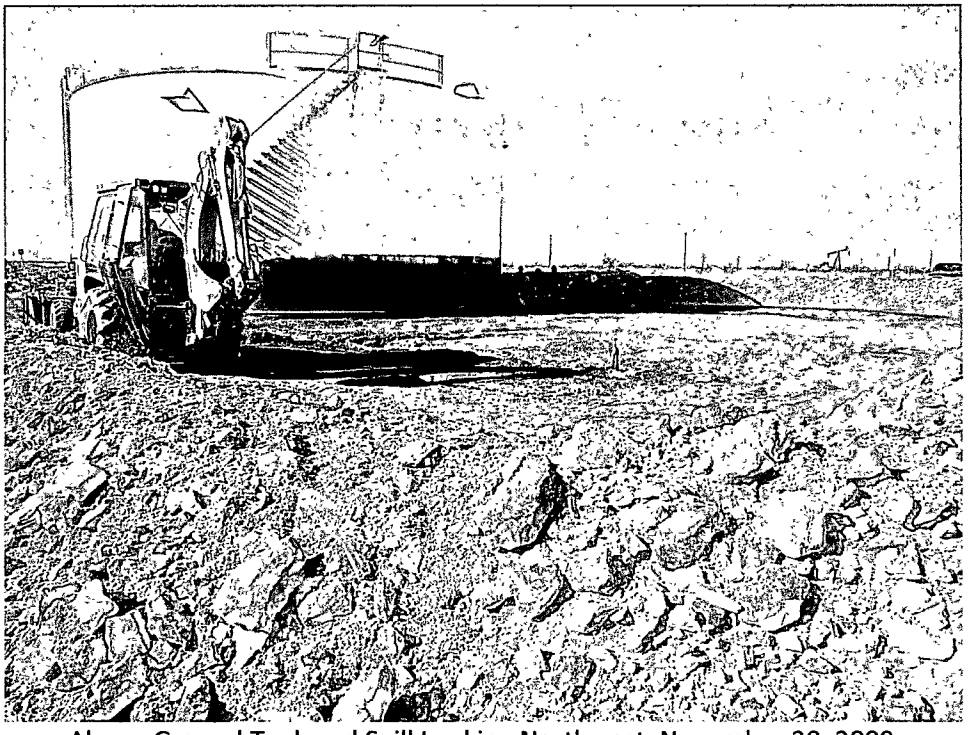


Above-Ground Tank and Spill Looking Northeast, November 20, 2009

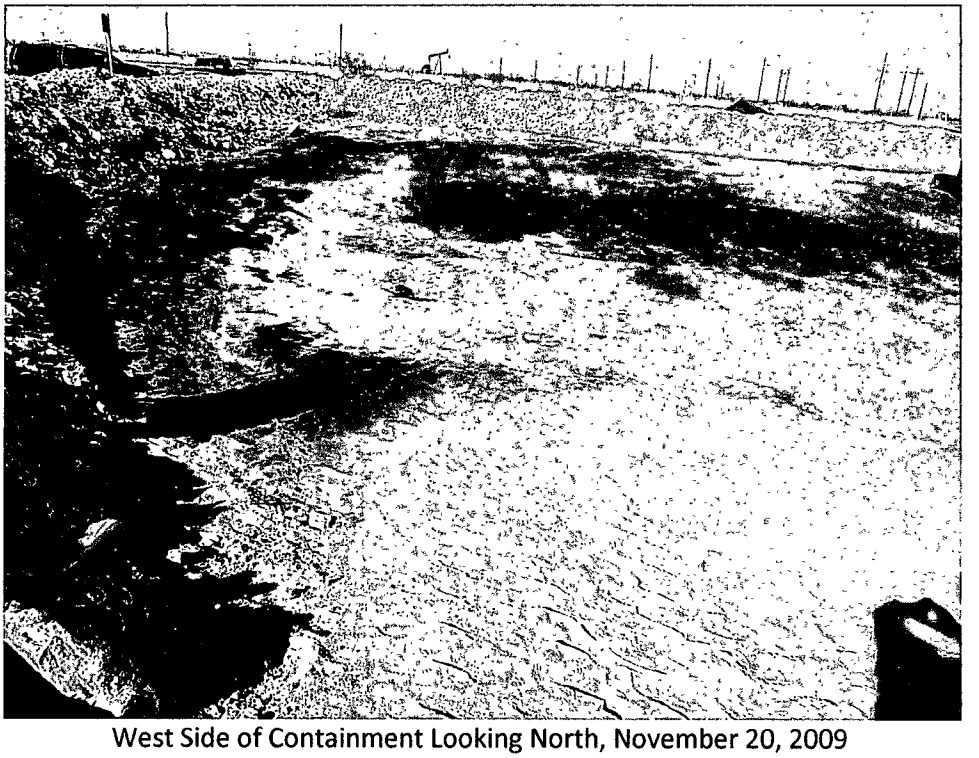


Above-Ground Tank and Spill Looking Southeast, November 20, 2009

Photographic Documentation

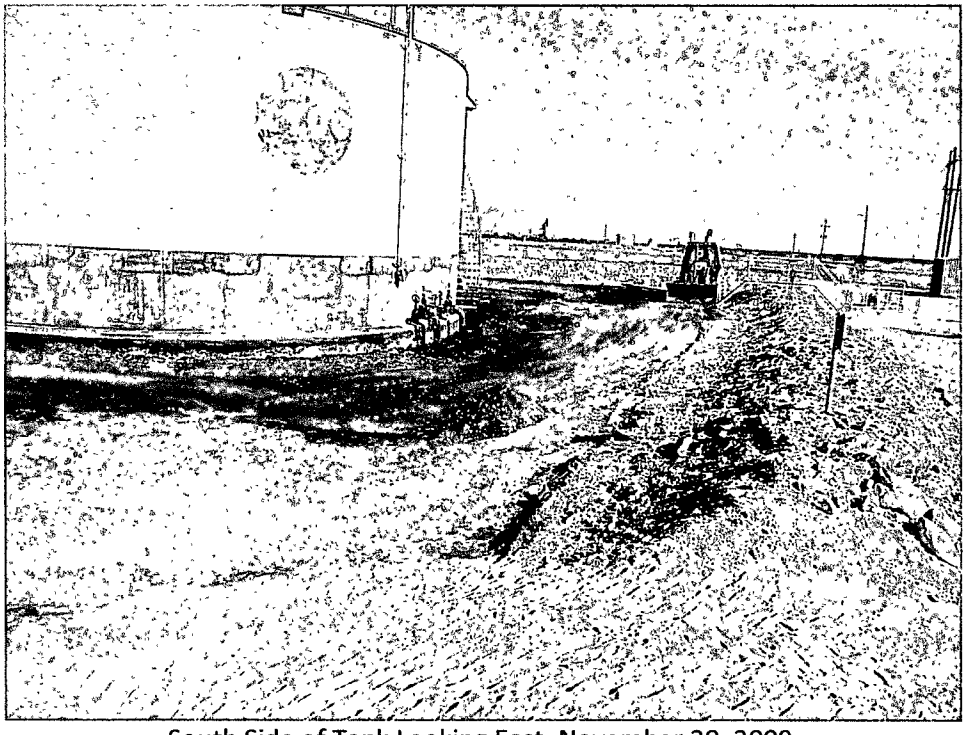


Above-Ground Tank and Spill Looking Northwest, November 20, 2009

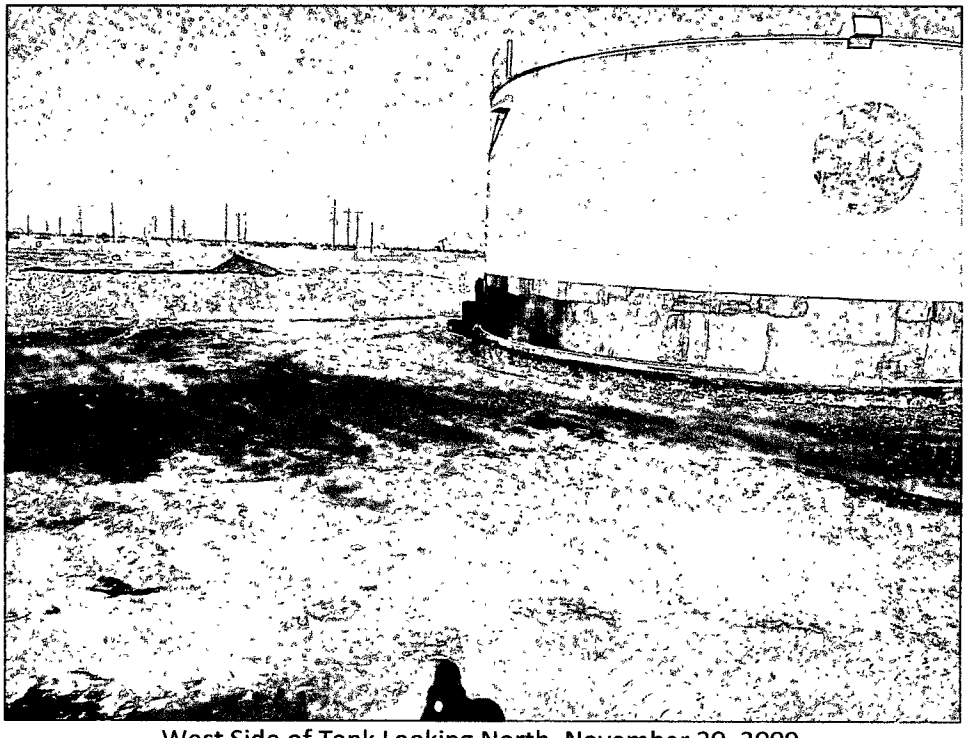


West Side of Containment Looking North, November 20, 2009

Photographic Documentation



South Side of Tank Looking East, November 20, 2009



West Side of Tank Looking North, November 20, 2009

Appendix C

Initial C-141

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

RECEIVED
DEC 17 2009
HOBBSOCD

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	Contact	Velma Gallardo
Address	200 N. Loraine Dr.	Telephone No.	432-620-4315
Facility Name	BUCKEYE STATION	Facility Type	SHIPPING TANK

Surface Owner	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
	31	17S	35E					LEA

Latitude N32 47.115 Longitude W103 29.314

NATURE OF RELEASE 420 bbl 410 bbl

Type of Release SPILL	Volume of Release ~~410~~ 515	Volume Recovered ~~420~~ 515
Source of Release TANK OVERFLOWED	Date and Hour of Occurrence 1100	Date and Hour of Discovery 1500 (11-17)
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? (11-17) MAXEY BROWN	
By Whom? MONTY PIERCE	Date and Hour 11-17-09 1700 (MST)	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
PHONE SYSTEM FAILED.
INSTALLED NEW PHONE SYSTEM.
CALL PHONE SYSTEM EACH DAY TO VERIFY OPERATIONAL.

Describe Area Affected and Cleanup Action Taken.* LEAK CONTAINED IN DIKE.
VACCUM 410 bbls FROM CONTAINMENT.
REMOVED 60 YARDS OF DIRT + HAULED TO CRI DISPOSAL.

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: Monty Pierce	OIL CONSERVATION DIVISION
Printed Name: MONTY PIERCE	Approved by District Supervisor: ENVIRONMENTAL ENGINEER
Title: PLANT FOREMAN	Approval Date: 12.17.09 Expiration Date: 2.17.09
E-mail Address: MONTY_PIERCE@XTOENERGY.COM	Conditions of Approval: SUBMIT FINAL C-141 BY
Date: 11-19-09 Phone: 806/252/4633	Attached ☐ IRP# 09.11.2359

* Attach Additional Sheets If Necessary