

**2RP-3874**  
**REMEDIATION REPORT**  
**Nash Draw Tank Battery #19 & #34**  
**Eddy County, New Mexico**

LAI Project No. 16-0108-07

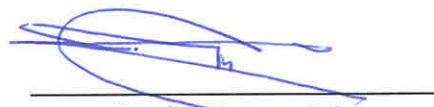
March 27, 2017

Prepared for:

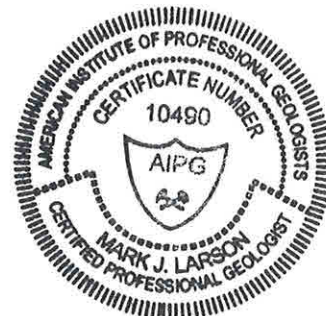
XTO Energy, Inc.  
500 W. Illinois Ave., Suite 100  
Midland, Texas 79707

Prepared by:

Larson & Associates, Inc.  
507 North Marienfeld Street, Suite 205  
Midland, Texas 79701

  
Mark J. Larson, P.G.

Certified Professional Geologist #10490



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## 1.0 INTRODUCTION

Larson & Associates, Inc. (LAI) has prepared this report on behalf of XTO Energy, Inc. (XTO) for submittal to the New Mexico Oil Conservation Division (OCD) District 2, in Artesia, New Mexico and U.S. Bureau of Land Management (BLM) in Carlsbad, New Mexico, to document soil remediation at the Nash Draw #19 & #34 tank battery (Site). The Site is located in Unit J (NW/4, SE/4), Section 12, Township 23 South, Range 29 East in Eddy County, New Mexico. The geodetic position is North 32° 19' 06.5650" and West 103° 56' 12.19027". Figure 1 presents a topographic map. Figure 2 presents an aerial map.

### 1.1 Background

On June 22, 2016, LAI personnel used a Terraprobe® direct-push rig to collect soil samples at eight (8) locations (DP-07-01 through DP-07-08). Soil samples were collected between ground surface and approximately four (4) feet below ground surface (bgs). A background sample was not collected due to close proximity to the playa lake (Salt Lake). The laboratory analysis and initial C-141 were submitted to OCD which assigned remediation permit number 2RP-3871, on September 8, 2016.

On November 7, 2016, LAI, on behalf of XTO, submitted a plan OCD District 2 and BLM for approval to remediate impacts to soil based on laboratory analysis of soil samples collected on June 22, 2016. On November 10, 2016, OCD District 2 approved the remediation plan. Appendix A presents the OCD approval.

### 1.2 Physical Setting

The physical setting is as follows:

- Elevation is approximately 2,983 feet above mean sea level (AMSL);
- Surface drainage is to the south and north towards a playa lake (Salt Lake) located immediately south of the Site;
- Surface geology is comprised of unconsolidated Holocene to mid- Pleistocene-age eolian and piedmont-slope deposits that are approximately 80 feet thick according to a log from a nearby well;
- The Triassic-age Chinle formation of the Dockum group underlies the unconsolidated deposits and is comprised of interbedded sand, clay, and mudstone;
- According to State of New Mexico Office of the State Engineer (NMOSE) records a fresh water well is located about 2.0 miles south in Unit J (NW/4, SE/4), Section 24, Township 23 South, Range 29 East with groundwater reported at about 54 feet bgs.

### 1.3 Recommended Remediation Action Levels

Recommended remediation action levels (RRAL) were calculated for benzene, BTEX and TPH based on the following criteria established by the OCD in "Guidelines for Remediation of Leaks, Spills and Releases, August 13, 1993":

Criteria	Result	Score
Depth-to-Groundwater	50 - 99 feet	10



Wellhead Protection Area	No	0
Distance to Surface Water Body	<200 Horizontal Feet	20

The following RRAL apply to the release for ranking score: 30

- Benzene 10 mg/Kg
- BTEX 50 mg/Kg
- TPH 100 mg/Kg

## 2.0 REMEDIATION

Soil remediation was performed between December 5 and 16, 2016, according to the plan approved by OCD District 2 on November 10, 2016. SDR, under supervision from LAI, excavated soil from the areas of DP-07-01, DP-07-02, DP-07-07 and DP-07-08 measuring about 10 x 20 feet (DP-07-01 and DP-07-02), 10 x 10 feet (DP-07-07) and 15 x 15 feet (DP-07-08) to about 2 feet bgs. Soil was excavated from the areas of DP-07-03, DP-07-04 and DP-07-06 measuring about 10 x 10 feet (DP-07-03) and 20 x 20 feet (DP-07-04 and DP-07-06) to about 1 foot bgs. The excavations were filled with caliche.

SDR excavated soil from the area of DP-07-05 measuring about 35 x 45 feet to about 4 feet bgs. On December 7, 2016, soil samples were collected from the excavation sidewalls and analyzed by Permian Basin Environmental Lab (PBEL) for benzene, toluene, ethylbenzene and xylenes (BTEX) by EPA SW-846 Method 8020B and TPH by EPA SW-846 Method 8015 including GRO (C6 – C12), DRO (>C12 – C28) and ORO (>C28 – C35). BTEX was below the method reporting limit (RL) in the sidewall samples from excavation DP-07-05. TPH was above the RRAL (100 mg/Kg) in the south sidewall sample (266.5 mg/Kg). On December 9, 2016, additional soil was excavated from the south sidewall followed by another confirmation sample on December 13, 2016. TPH was above the RRAL in the second confirmation sample. Additional soil was removed from the south sidewall followed by a third confirmation sample on December 13, 2016. TPH was led the method reporting limit (<29.4 mg/Kg) in the final confirmation soil sample. A 20 mil thickness polyethylene liner was placed in the bottom of the excavation at approximately 4 feet bgs and the excavation above the liner was filled with caliche.

Approximately 614 cubic yards of contaminated soil was disposed at Lea Land Landfill, LLC. Table 2 presents the confirmation soil sample analytical data summary. Figure 3 presents the remediation areas. Appendix B presents the confirmation sample laboratory reports. Appendix C presents photographs. Appendix D presents the waste manifests. Appendix E presents the initial and final C-141.

## 3.0 CONCLUSIONS

Soil was remediated according to the remediation plans approved by OCD District 2. XTO requests no further action for 2RP-3874.

## Tables

Table 1

2RP-3874

## Investigation Soil Sample Analytical Data Summary

XTO Energy, Inc., Nash Draw Tank Battery 19 and 34

Unit J (NE/4, SW/4), Section 12, Township 23 South, Range 29 East

Eddy County, New Mexico

Location	Depth (Feet)	Collection Date	Status	C6 - C12 (mg/Kg)	>C12 - C28 (mg/Kg)	>C28 - C35 (mg/Kg)	TPH (mg/Kg)
OCD RRAL: 100							
DP-07-01	0 - 1	6/22/2016	Excavated	31	547	115	683
	1 - 2	6/22/2016	Excavated	1,970	21,400	3,060	26,500
	2 - 3	6/22/2016	In-Situ	<27.2	<27.2	<27.2	<27.2
DP-07-02	0 - 1	6/22/2016	Excavated	<139	20,300	5,330	25,630
	1 - 2	6/22/2016	Excavated	39.2	286	71.2	396.4
	2 - 3	6/22/2016	In-Situ	72.5	31.7	<28.7	104.2
	3 - 4	6/22/2016	In-Situ	<29.8	<29.8	<29.8	<29.8
DP-07-03	0 - 1	6/22/2016	Excavated	<28.4	750	244	994
	1 - 2	6/22/2016	In-Situ	<28.7	<28.7	<28.7	<28.7
	2 - 3	6/22/2016	In-Situ	<29.8	<29.8	<29.8	<29.8
	3 - 4	6/22/2016	In-Situ	--	--	--	--
DP-07-04	0 - 1	6/22/2016	Excavated	<27.5	359	97.4	456.4
DP-07-05	0 - 1	6/22/2016	Excavated	216	5,530	1,560	7,306
	1 - 2	6/22/2016	Excavated	33.0	1,400	254	1,680
	2 - 3	6/22/2016	In-Situ	37.5	87.2	<28.1	124.7
DP-07-06	0 - 1	6/22/2016	In-Situ	<27.8	102	98.7	200.7

Table 1

2RP-3874

## Investigation Soil Sample Analytical Data Summary

XTO Energy, Inc., Nash Draw Tank Battery 19 and 34

Unit J (NE/4, SW/4), Section 12, Township 23 South, Range 29 East  
Eddy County, New Mexico

Location	Depth (Feet)	Collection Date	Status	C6 - C12 (mg/Kg)	>C12 - C28 (mg/Kg)	>C28 - C35 (mg/Kg)	TPH (mg/Kg)
OCD RRAL: 100							
DP-07-07	1 - 2	6/22/2016	In-Situ	--	--	--	--
	2 - 3	6/22/2016	In-Situ	--	--	--	--
	3 - 4	6/22/2016	In-Situ	--	--	--	--
	0 - 1	6/22/2016	In-Situ	810	22,500	4,350	27,660
DP-07-08	1 - 2	6/22/2016	In-Situ	72.8	1,360	186	1,618.8
	2 - 3	6/22/2016	In-Situ	<28.1	75.6	<28.1	75.6
	3 - 4	6/22/2016	In-Situ	64.1	32.1	<30.1	96.2
	0 - 1	6/22/2016	In-Situ	994	15,400	3,470	19,864
DP-07-08	1 - 2	6/22/2016	In-Situ	36.2	408	72.6	516.8
	2 - 3	6/22/2016	In-Situ	<30.5	47.7	<30.5	47.7
	3 - 4	6/22/2016	In-Situ	<30.1	<30.1	<30.1	<30.1

Notes: laboratory analysis performed by Permian Basin Environmental Lab, Midland, Texas, by EPA SW-846 method 8015M (TPH)

Depth in feet below ground surface (bgs)

mg/kg: milligrams per kilogram equivalent to parts per million (ppm)

RRAL: Remediation action level calculated from OCD guidance document (August 13, 1993)

**Bold and highlighted exceeds OCD recommended remediation action level (RRAL)**

Table 2

2RP-3874

## Confirmation Soil Sample Analytical Data Summary

XTO Energy, Inc., Nash Draw Tank Battery 19 and 34

Unit J (NE/4, SW/4), Section 12, Township 23 South, Range 29 East

Eddy County, New Mexico

Location	Sidewall	Depth (Feet)	Collection Date	Status	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	>C12 - C28 (mg/Kg)	>C28 - C35 (mg/Kg)	TPH (mg/Kg)
OCD RRAL:										
Dp-07-05	North	2	12/7/2016	In situ	<0.00110	<0.0077	<27.5	<27.5	<27.5	<27.5
	East	2	12/7/2016	In situ	<0.00122	<0.00854	<30.5	<30.5	<30.5	<30.5
	South	2	12/7/2016	Excavated	<0.00118	<0.00824	<29.1	198	68.5	266.5
		2	12/9/2016	Excavated	--	--	<28.1	333	105	438
		2	12/13/2016	In situ	--	--	<29.4	<29.4	<29.4	<29.4
	West	2	12/9/2016	In situ	<0.0012	<0.00842	<30.1	<30.1	<30.1	<30.1

Notes: laboratory analysis performed by Permian Basin Environmental Lab, Midland, Texas, by EPA SW-846 method 8015M (TPH)

Depth in feet below ground surface (bgs)

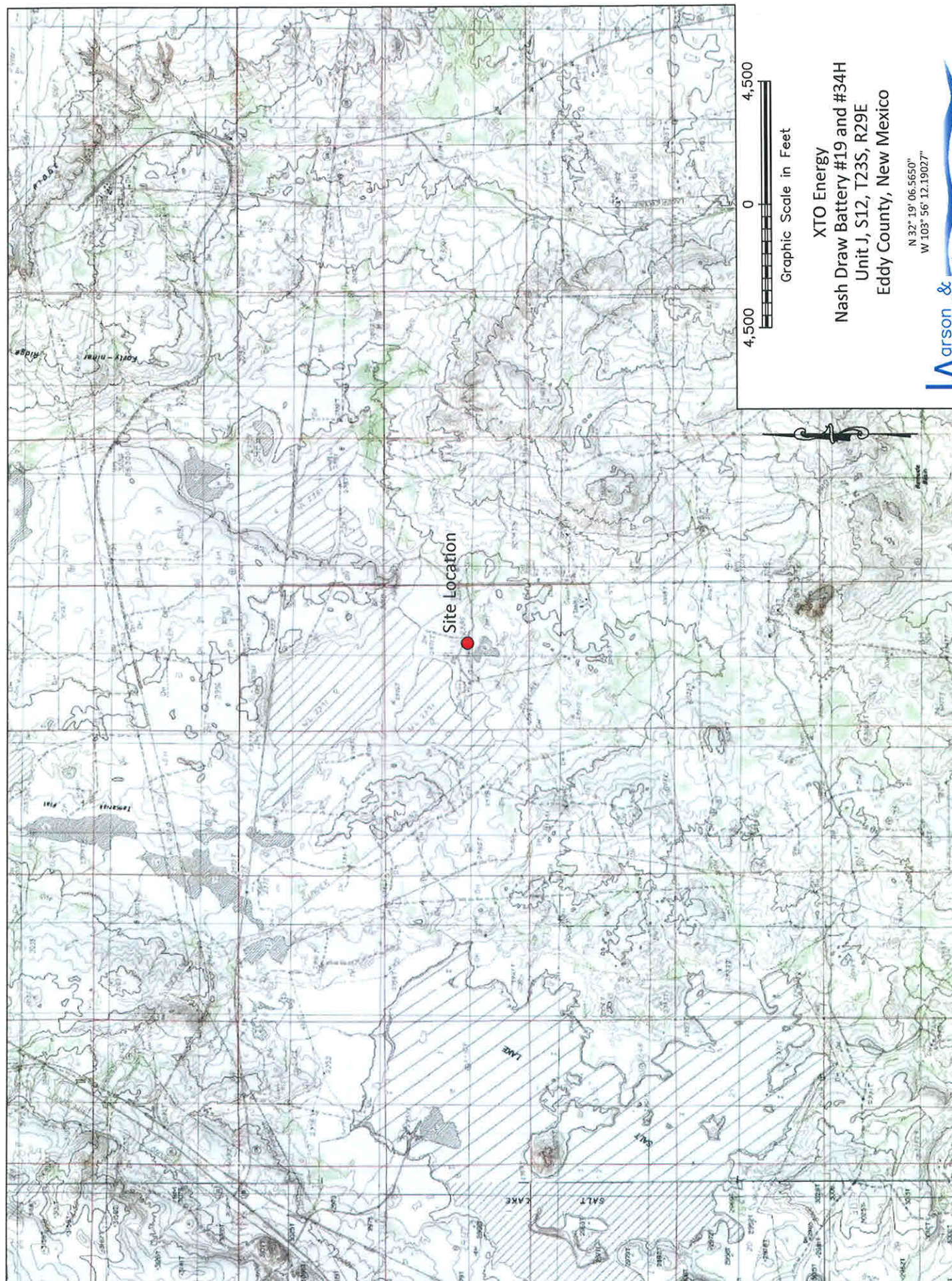
mg/Kg: milligrams per kilogram equivalent to parts per million (ppm)

RRAL: Remediation action level calculated from OCD guidance document (August 13, 1993)

**Bold and highlighted exceeds OCD recommended remediation action level (RRAL)**

## Figures





XTO Energy  
 Nash Draw Battery #19 and #34H  
 Unit J, S12, T23S, R29E  
 Eddy County, New Mexico

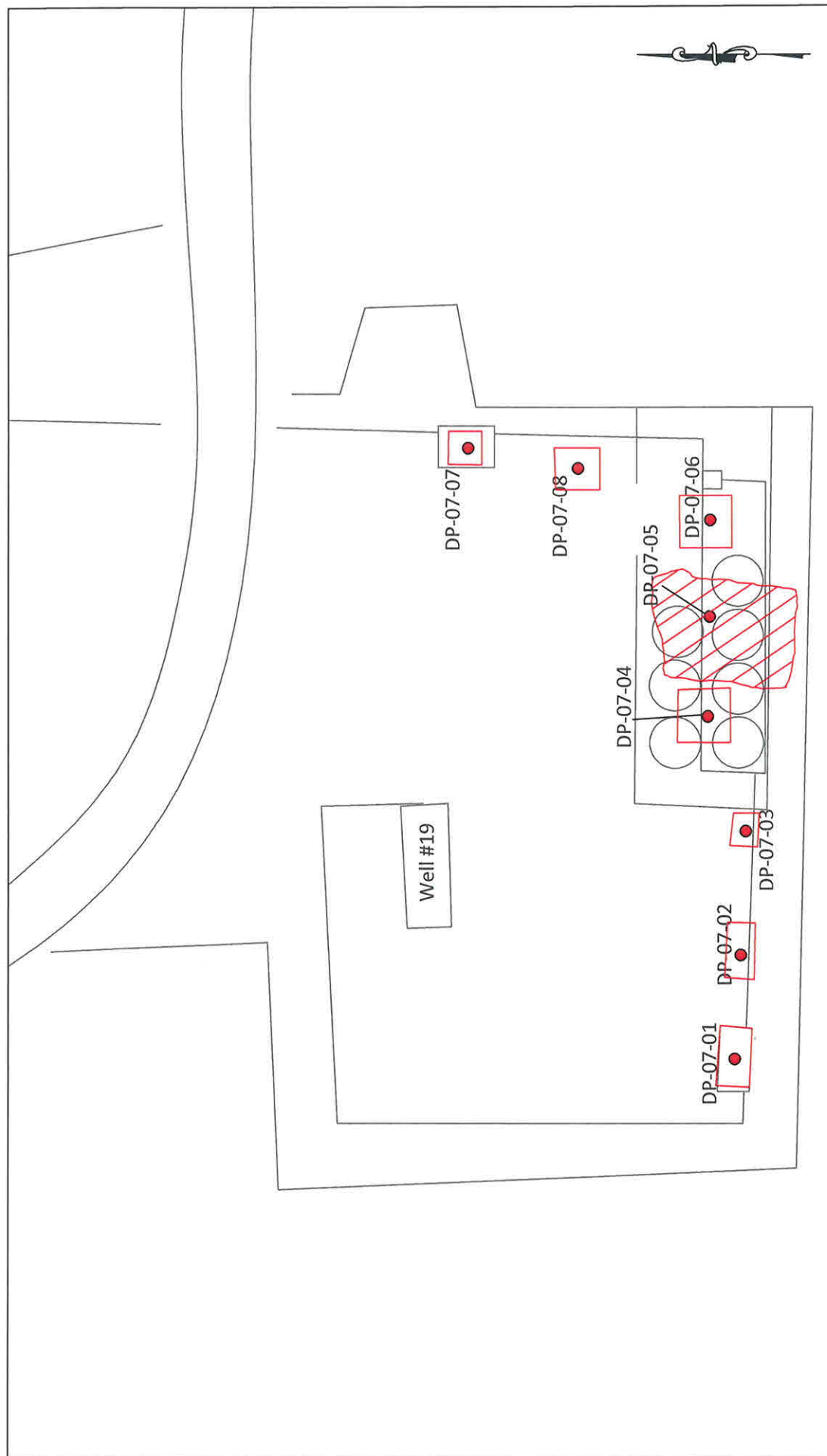
N 32° 19' 06.5650"  
 W 103° 56' 12.19027"

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

Figure 1 - Topographical Map







#### Legend

- - Direct Push Sample Location, June 22, 2016
- - Excavation Area
- ▨ - Excavation Area and 20 Mil Thickness Liner

50 0 50  
Graphic Scale in Feet

XTO Energy  
Nash Draw Battery #19 and #34H  
Unit J, S12, T23S, R29E  
Eddy County, New Mexico

N 32° 19' 06.5650"  
W 103° 56' 12.19027"

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

Figure 3 - Site Map Showing Excavation and Sample Locations

**Appendix A**  
**Remediation Plan Approval**

**From:** Patterson, Heather, EMNRD [Heather.Patterson@state.nm.us]  
**Sent:** Thursday, November 10, 2016 3:06 PM  
**To:** Mark Larson; Bratcher, Mike, EMNRD; Weaver, Crystal, EMNRD; hprice@blm.gov  
**Cc:** McMinn, Dudley; Williams, Luke  
**Subject:** RE: 2RP-3874, Remediation Plan, Nash Draw Tank Battery #19 & #34, November 2, 2016

RE: XTO \* Nash Draw Battery #19 and #34 \* 30-015-27590 \* 2RP-3874

Mark,

Your proposed remediation for the above referenced site is approved.

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

If you have any questions or concerns, and for notification, please contact me.

Heather Patterson  
Environmental Specialist  
NMOCD District II  
Office (575)748-1283 ext.101  
Cell (575)703-0228

---

**From:** Mark Larson [<mailto:Mark@laenvironmental.com>]  
**Sent:** Monday, November 07, 2016 6:38 PM  
**To:** Patterson, Heather, EMNRD; Bratcher, Mike, EMNRD; Weaver, Crystal, EMNRD; [hprice@blm.gov](mailto:hprice@blm.gov)  
**Cc:** McMinn, Dudley; Williams, Luke  
**Subject:** Re: 2RP-3874, Remediation Plan, Nash Draw Tank Battery #19 & #34, November 2, 2016

All,

Please find attached remediation plan for the Nash Draw Tank Battery #19 & #34. The plan was revised to include BTEX in excavation samples, where applicable. Remediation will commence on Tuesday, November 8, 2016, per our verbal discussion and approval yesterday. Please contact Dudley McMinn with XTO at (432) 682-8873 or me if you have questions.

Respectfully,

Mark J. Larson, P.G.  
President/Sr. Project Manager  
507 N. Marienfeld St., Suite 205  
Midland, Texas 79701  
Office – 432-687-0901  
Cell – 432- 556-8656  
Fax – 432-687-0456  
[mark@laenvironmental.com](mailto:mark@laenvironmental.com)

**Appendix B**  
**Laboratory Reports**



**PERMIAN BASIN  
ENVIRONMENTAL LAB, LP  
1400 Rankin Hwy  
Midland, TX 79701**



## Analytical Report

**Prepared for:**

Mark Larson  
Larson & Associates, Inc.  
P.O. Box 50685  
Midland, TX 79710

Project: Nash Draw 19 & 34

Project Number: 16-0108-07

Location: New Mexico

Lab Order Number: 6L07006



NELAP/TCEQ # T104704156-13-3

Report Date: 12/08/16

Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: Nash Draw 19 & 34  
Project Number: 16-0108-07  
Project Manager: Mark Larson

Fax: (432) 687-0456

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DP-07-05-S2	6L07006-01	Soil	12/07/16 10:55	12-07-2016 15:25
DP-07-05-N2	6L07006-02	Soil	12/07/16 10:39	12-07-2016 15:25
DP-07-05-W2	6L07006-03	Soil	12/07/16 11:10	12-07-2016 15:25
DP-07-05-E2	6L07006-04	Soil	12/07/16 10:46	12-07-2016 15:25



Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: Nash Draw 19 & 34  
Project Number: 16-0108-07  
Project Manager: Mark Larson

Fax: (432) 687-0456

**DP-07-05-S2**  
**6L07006-01 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00116	mg/kg dry	1	P6L0807	12/08/16	12/08/16	EPA 8021B	
Toluene	ND	0.00233	mg/kg dry	1	P6L0807	12/08/16	12/08/16	EPA 8021B	
Ethylbenzene	ND	0.00116	mg/kg dry	1	P6L0807	12/08/16	12/08/16	EPA 8021B	
Xylene (p/m)	ND	0.00233	mg/kg dry	1	P6L0807	12/08/16	12/08/16	EPA 8021B	
Xylene (o)	ND	0.00116	mg/kg dry	1	P6L0807	12/08/16	12/08/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		90.9 %	75-125		P6L0807	12/08/16	12/08/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		92.4 %	75-125		P6L0807	12/08/16	12/08/16	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

% Moisture	14.0	0.1	%	1	P6L0805	12/08/16	12/08/16	% calculation	
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**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	29.1	mg/kg dry	1	P6L0804	12/07/16	12/08/16	TPH 8015M	
>C12-C28	198	29.1	mg/kg dry	1	P6L0804	12/07/16	12/08/16	TPH 8015M	
>C28-C35	68.5	29.1	mg/kg dry	1	P6L0804	12/07/16	12/08/16	TPH 8015M	
Surrogate: 1-Chlorooctane		89.9 %	70-130		P6L0804	12/07/16	12/08/16	TPH 8015M	
Surrogate: o-Terphenyl		104 %	70-130		P6L0804	12/07/16	12/08/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	266	29.1	mg/kg dry	1	[CALC]	12/07/16	12/08/16	calc	

Permian Basin Environmental Lab, L.P.

*The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Permian Basin Environmental Lab.*

1400 Rankin HWY Midland, TX 79701 432-686-7235

Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: Nash Draw 19 & 34  
Project Number: 16-0108-07  
Project Manager: Mark Larson

Fax: (432) 687-0456

**DP-07-05-N2**  
**6L07006-02 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00110	mg/kg dry	1	P6L0807	12/08/16	12/08/16	EPA 8021B	
Toluene	ND	0.00220	mg/kg dry	1	P6L0807	12/08/16	12/08/16	EPA 8021B	
Ethylbenzene	ND	0.00110	mg/kg dry	1	P6L0807	12/08/16	12/08/16	EPA 8021B	
Xylene (p/m)	ND	0.00220	mg/kg dry	1	P6L0807	12/08/16	12/08/16	EPA 8021B	
Xylene (o)	ND	0.00110	mg/kg dry	1	P6L0807	12/08/16	12/08/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		97.6 %	75-125		P6L0807	12/08/16	12/08/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		93.3 %	75-125		P6L0807	12/08/16	12/08/16	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

% Moisture	9.0	0.1	%	1	P6L0805	12/08/16	12/08/16	% calculation	
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**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	27.5	mg/kg dry	1	P6L0804	12/07/16	12/08/16	TPH 8015M	
>C12-C28	ND	27.5	mg/kg dry	1	P6L0804	12/07/16	12/08/16	TPH 8015M	
>C28-C35	ND	27.5	mg/kg dry	1	P6L0804	12/07/16	12/08/16	TPH 8015M	
Surrogate: 1-Chlorooctane		87.3 %	70-130		P6L0804	12/07/16	12/08/16	TPH 8015M	
Surrogate: o-Terphenyl		102 %	70-130		P6L0804	12/07/16	12/08/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.5	mg/kg dry	1	[CALC]	12/07/16	12/08/16	calc	

Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: Nash Draw 19 & 34  
Project Number: 16-0108-07  
Project Manager: Mark Larson

Fax: (432) 687-0456

**DP-07-05-W2**  
**6L07006-03 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00120	mg/kg dry	1	P6L0807	12/08/16	12/08/16	EPA 8021B	
Toluene	ND	0.00241	mg/kg dry	1	P6L0807	12/08/16	12/08/16	EPA 8021B	
Ethylbenzene	ND	0.00120	mg/kg dry	1	P6L0807	12/08/16	12/08/16	EPA 8021B	
Xylene (p/m)	ND	0.00241	mg/kg dry	1	P6L0807	12/08/16	12/08/16	EPA 8021B	
Xylene (o)	ND	0.00120	mg/kg dry	1	P6L0807	12/08/16	12/08/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		90.0 %	75-125		P6L0807	12/08/16	12/08/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		96.5 %	75-125		P6L0807	12/08/16	12/08/16	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

% Moisture	17.0	0.1	%	1	P6L0805	12/08/16	12/08/16	% calculation	
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**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	30.1	mg/kg dry	1	P6L0804	12/07/16	12/08/16	TPH 8015M	
>C12-C28	ND	30.1	mg/kg dry	1	P6L0804	12/07/16	12/08/16	TPH 8015M	
>C28-C35	ND	30.1	mg/kg dry	1	P6L0804	12/07/16	12/08/16	TPH 8015M	
Surrogate: 1-Chlorooctane		89.1 %	70-130		P6L0804	12/07/16	12/08/16	TPH 8015M	
Surrogate: o-Terphenyl		106 %	70-130		P6L0804	12/07/16	12/08/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	30.1	mg/kg dry	1	[CALC]	12/07/16	12/08/16	calc	

Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: Nash Draw 19 & 34  
Project Number: 16-0108-07  
Project Manager: Mark Larson

Fax: (432) 687-0456

**DP-07-05-E2**  
**6L07006-04 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Permian Basin Environmental Lab, L.P.</b>									
<b>Organics by GC</b>									
Benzene	ND	0.00122	mg/kg dry	1	P6L0807	12/08/16	12/08/16	EPA 8021B	
Toluene	ND	0.00244	mg/kg dry	1	P6L0807	12/08/16	12/08/16	EPA 8021B	
Ethylbenzene	ND	0.00122	mg/kg dry	1	P6L0807	12/08/16	12/08/16	EPA 8021B	
Xylene (p/m)	ND	0.00244	mg/kg dry	1	P6L0807	12/08/16	12/08/16	EPA 8021B	
Xylene (o)	ND	0.00122	mg/kg dry	1	P6L0807	12/08/16	12/08/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		94.4 %	75-125		P6L0807	12/08/16	12/08/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		85.4 %	75-125		P6L0807	12/08/16	12/08/16	EPA 8021B	
<b>General Chemistry Parameters by EPA / Standard Methods</b>									
% Moisture	18.0	0.1	%	1	P6L0805	12/08/16	12/08/16	% calculation	
<b>Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M</b>									
C6-C12	ND	30.5	mg/kg dry	1	P6L0804	12/07/16	12/08/16	TPH 8015M	
>C12-C28	ND	30.5	mg/kg dry	1	P6L0804	12/07/16	12/08/16	TPH 8015M	
>C28-C35	ND	30.5	mg/kg dry	1	P6L0804	12/07/16	12/08/16	TPH 8015M	
Surrogate: 1-Chlorooctane		90.7 %	70-130		P6L0804	12/07/16	12/08/16	TPH 8015M	
Surrogate: o-Terphenyl		107 %	70-130		P6L0804	12/07/16	12/08/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	30.5	mg/kg dry	1	[CALC]	12/07/16	12/08/16	calc	

Permian Basin Environmental Lab, L.P.

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Permian Basin Environmental Lab.

1400 Rankin HWY Midland, TX 79701 432-686-7235

Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: Nash Draw 19 & 34  
Project Number: 16-0108-07  
Project Manager: Mark Larson

Fax: (432) 687-0456

**Organics by GC - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P6L0807 - General Preparation (GC)**

**Blank (P6L0807-BLK1)**

Prepared & Analyzed: 12/08/16

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	0.0563		"	0.0600		93.9	75-125			
Surrogate: 4-Bromofluorobenzene	0.0623		"	0.0600		104	75-125			

**LCS (P6L0807-BS1)**

Prepared & Analyzed: 12/08/16

Benzene	0.0989	0.00100	mg/kg wet	0.100		98.9	70-130			
Toluene	0.104	0.00200	"	0.100		104	70-130			
Ethylbenzene	0.125	0.00100	"	0.100		125	70-130			
Xylene (p/m)	0.216	0.00200	"	0.200		108	70-130			
Xylene (o)	0.104	0.00100	"	0.100		104	70-130			
Surrogate: 1,4-Difluorobenzene	0.0655		"	0.0600		109	75-125			
Surrogate: 4-Bromofluorobenzene	0.0696		"	0.0600		116	75-125			

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**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch P6L0805 - *** DEFAULT PREP ***</b>										
<b>Blank (P6L0805-BLK1)</b>				Prepared & Analyzed: 12/08/16						
% Moisture	ND	0.1	%							
<b>Duplicate (P6L0805-DUP1)</b>				Source: 6L06005-11 Prepared & Analyzed: 12/08/16						
% Moisture	21.0	0.1	%		20.0			4.88	20	
<b>Duplicate (P6L0805-DUP2)</b>				Source: 6L06011-02 Prepared & Analyzed: 12/08/16						
% Moisture	3.0	0.1	%		3.0			0.00	20	
<b>Duplicate (P6L0805-DUP3)</b>				Source: 6L07005-02 Prepared & Analyzed: 12/08/16						
% Moisture	23.0	0.1	%		22.0			4.44	20	

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Project Number: 16-0108-07  
Project Manager: Mark Larson

Fax: (432) 687-0456

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch P6L0804 - TX 1005</b>										
<b>Blank (P6L0804-BLK1)</b>				Prepared & Analyzed: 12/07/16						
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	97.5		"	100		97.5	70-130			
Surrogate: o-Terphenyl	56.9		"	50.0		114	70-130			
<b>LCS (P6L0804-BS1)</b>				Prepared & Analyzed: 12/07/16						
C6-C12	903	25.0	mg/kg wet	1000		90.3	75-125			
>C12-C28	1100	25.0	"	1000		110	75-125			
Surrogate: 1-Chlorooctane	127		"	100		127	70-130			
Surrogate: o-Terphenyl	62.6		"	50.0		125	70-130			
<b>LCS Dup (P6L0804-BSD1)</b>				Prepared & Analyzed: 12/07/16						
C6-C12	920	25.0	mg/kg wet	1000		92.0	75-125	1.92	20	
>C12-C28	1100	25.0	"	1000		110	75-125	0.238	20	
Surrogate: 1-Chlorooctane	123		"	100		123	70-130			
Surrogate: o-Terphenyl	60.6		"	50.0		121	70-130			



Larson & Associates, Inc.  
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Project Number: 16-0108-07  
Project Manager: Mark Larson

Fax: (432) 687-0456

### Notes and Definitions

BULK Samples received in Bulk soil containers  
DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference  
LCS Laboratory Control Spike  
MS Matrix Spike  
Dup Duplicate

Report Approved By:



Date: 12/8/2016

Brent Barron, Laboratory Director/Technical Director

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If you have received this material in error, please notify us immediately at 432-686-7235.

CHAIN-OF-CUSTOMERS

DATE: 12/7/2016 PAGE 1 OF 1  
PO #: \_\_\_\_\_ LAB WORK ORDER #: \_\_\_\_\_  
PROJECT LOCATION OR NAME: XTO NASH DRAW #19 + 34  
LAI PROJECT #: 16-0108-07 COLLECTOR: JM

DATE: 12/7/2016 PAGE 1 OF 1  
PO #: \_\_\_\_\_ LAB WORK ORDER #: \_\_\_\_\_  
PROJECT LOCATION OR NAME: XTO NASH DRAW #19 + 34  
LAI PROJECT #: 16-0108-07 COLLECTOR: JM

NM	Field	Lab #	Date	Time	Matrix
	Sample I.D.				
# of Containers					
HCl					
HNO <sub>3</sub>					
H <sub>2</sub> SO <sub>4</sub> <input type="checkbox"/> Na					
ICE					
UNPRESERVED					
<b>ANALYSES</b> BTEX <input checked="" type="checkbox"/> MTBE <input type="checkbox"/> TPH 418.1 <input type="checkbox"/> TPH <input type="checkbox"/> GASOLINE MOD 8015 <input type="checkbox"/> DIESEL MOD 8015 <input type="checkbox"/> VOC 8260 <input type="checkbox"/> SVOC 8270 <input type="checkbox"/> PAH <input type="checkbox"/> 8081 PESTICIDES <input type="checkbox"/> 8082 PCBs <input type="checkbox"/> TOLP - METALS (RC) <input type="checkbox"/> TOLP - PEST <input type="checkbox"/> HE <input type="checkbox"/> TOTAL METALS (RC) <input type="checkbox"/> LEAD - TOTAL <input type="checkbox"/> D <input type="checkbox"/> RCI <input type="checkbox"/> TOX <input type="checkbox"/> FLA <input type="checkbox"/> TDS <input type="checkbox"/> TSS <input type="checkbox"/> % MC <input type="checkbox"/> PH <input type="checkbox"/> HEXAVALENT <input type="checkbox"/> EXPLOSIVES <input type="checkbox"/> PE <input type="checkbox"/> CHLORIDE <input type="checkbox"/> ANIO <input type="checkbox"/>					
FIELD NOTES					

[illegible]

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RECEIVED BY: (Signature) \_\_\_\_\_  
DATE/TIME \_\_\_\_\_  
TURN AROUND TIME \_\_\_\_\_  
LABORATORY USE ONLY: \_\_\_\_\_

RECEIVED BY: (Signature) \_\_\_\_\_ DATE/TIME \_\_\_\_\_  
 RECEIVING TEMP: \_\_\_\_\_ THERM #: \_\_\_\_\_

RELINQUISHED BY: (Signature) \_\_\_\_\_  
DATE/TIME \_\_\_\_\_  
RECEIVED BY: (Signature) \_\_\_\_\_  
DAY ☒ 2 DAY ☐  
CARRIED BY: # \_\_\_\_\_  
OTHERS BY: \_\_\_\_\_

10/16 10:23 RUSH	<input type="checkbox"/> HAND DELIVERED
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**PERMIAN BASIN  
ENVIRONMENTAL LAB, LP  
1400 Rankin Hwy  
Midland, TX 79701**



## Analytical Report

**Prepared for:**

Mark Larson  
Larson & Associates, Inc.  
P.O. Box 50685  
Midland, TX 79710

Project: Nash Draw 19 & 34

Project Number: 16-0108-07

Location: New Mexico

Lab Order Number: 6L12001



NELAP/TCEQ # T104704156-13-3

Report Date: 12/12/16

Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: Nash Draw 19 & 34  
Project Number: 16-0108-07  
Project Manager: Mark Larson

Fax: (432) 687-0456

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DP-07-05-S2	6L12001-01	Soil	12/09/16 14:50	12-12-2016 09:41

Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: Nash Draw 19 & 34  
Project Number: 16-0108-07  
Project Manager: Mark Larson

Fax: (432) 687-0456

**DP-07-05-S2**

**6L12001-01 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

% Moisture	11.0	0.1	%	1	P6L1203	12/12/16	12/12/16	% calculation	
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**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	28.1	mg/kg dry	1	P6L1205	12/12/16	12/12/16	TPH 8015M	
>C12-C28	333	28.1	mg/kg dry	1	P6L1205	12/12/16	12/12/16	TPH 8015M	
>C28-C35	105	28.1	mg/kg dry	1	P6L1205	12/12/16	12/12/16	TPH 8015M	
Surrogate: 1-Chlorooctane		59.5 %	70-130		P6L1205	12/12/16	12/12/16	TPH 8015M	S-GC
Surrogate: o-Terphenyl		71.0 %	70-130		P6L1205	12/12/16	12/12/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	438	28.1	mg/kg dry	1	[CALC]	12/12/16	12/12/16	calc	

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Project Number: 16-0108-07  
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**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

**Batch P6L1203 - \*\*\* DEFAULT PREP \*\*\***

**Blank (P6L1203-BLK1)**

Prepared & Analyzed: 12/12/16

% Moisture	ND	0.1	%
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**Duplicate (P6L1203-DUP1)**

Source: 6L12001-01

Prepared & Analyzed: 12/12/16

% Moisture	10.0	0.1	%	11.0	9.52	20
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Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: Nash Draw 19 & 34  
Project Number: 16-0108-07  
Project Manager: Mark Larson

Fax: (432) 687-0456

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch P6L1205 - TX 1005</b>										
<b>Blank (P6L1205-BLK1)</b>				Prepared & Analyzed: 12/12/16						
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	51.5		"	50.0		103	70-130			
Surrogate: o-Terphenyl	29.5		"	25.0		118	70-130			
<b>LCS (P6L1205-BS1)</b>				Prepared & Analyzed: 12/12/16						
C6-C12	1080	25.0	mg/kg wet	1000		108	75-125			
>C12-C28	958	25.0	"	1000		95.8	75-125			
Surrogate: 1-Chlorooctane	70.0		"	100		70.0	70-130			
Surrogate: o-Terphenyl	31.6		"	50.0		63.1	70-130			S-GC
<b>LCS Dup (P6L1205-BSD1)</b>				Prepared & Analyzed: 12/12/16						
C6-C12	1100	25.0	mg/kg wet	1000		110	75-125	2.09	20	
>C12-C28	963	25.0	"	1000		96.3	75-125	0.564	20	
Surrogate: 1-Chlorooctane	77.9		"	100		77.9	70-130			
Surrogate: o-Terphenyl	35.0		"	50.0		69.9	70-130			S-GC



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P.O. Box 50685  
Midland TX, 79710

Project: Nash Draw 19 & 34  
Project Number: 16-0108-07  
Project Manager: Mark Larson

Fax: (432) 687-0456

### Notes and Definitions

S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.

BULK Samples received in Bulk soil containers

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported


dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By: 

Date: 12/12/2016

Brent Barron, Laboratory Director/Technical Director

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If you have received this material in error, please notify us immediately at 432-686-7235.

CHAIN-OF-CUSTODY

507 N. Marientfeld, Ste. 200  
Midland, TX 79701  
432-687-0901

DATE: 12/12/2016 PAGE 1 OF 1  
PO #: \_\_\_\_\_ LAB WORK ORDER #:  
PROJECT LOCATION OR NAME: X10 NASH DRAW BATTERY #19 + 34  
LAI PROJECT # 16-0108-07 COLLECTOR: JM

COLLECTOR: Jm

TRRP report?		S=SOIL W=WATER A=AIR		P=PAINT SL=SLUDGE OT=OTHER		TIME ZONE: Time zone/State:		Field Sample I.D.		Lab #		Date		Time		Matrix		# of Containers		PRESERVATION		ANALYSES		TURN AROUND TIME		LABORATORY USE ONLY:	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																											
DP-07-05-82												12/9		2:50		S		1		HCl HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> <input type="checkbox"/> NaOH <input type="checkbox"/> ICE UNPRESERVED		BTX <input type="checkbox"/> MTBE <input type="checkbox"/> TPH 418.1 <input type="checkbox"/> TPH 1005 <input type="checkbox"/> TPH 1006 <input type="checkbox"/> GASOLINE MOD 8015 <input checked="" type="checkbox"/> <b>ORO</b> <input checked="" type="checkbox"/> DIESEL - MOD 8015 <input checked="" type="checkbox"/> VOC 8260 <input type="checkbox"/> SVOC 8270 <input type="checkbox"/> PAH 8270 <input type="checkbox"/> HOLDPAH <input type="checkbox"/> 8081 PESTICIDES <input type="checkbox"/> 8151 HERBICIDES <input type="checkbox"/> 8082 PESTICIDES <input type="checkbox"/> TCIP - METALS (RCRA) <input type="checkbox"/> TCIP VOC <input type="checkbox"/> TCIP - PEST <input type="checkbox"/> HERB <input type="checkbox"/> Semi-VOC <input type="checkbox"/> TOTAL METALS (RCRA) <input type="checkbox"/> OTHER LIST <input type="checkbox"/> LEAD - TOTAL <input type="checkbox"/> D.W. 200.8 <input type="checkbox"/> TCIP <input type="checkbox"/> RCI <input type="checkbox"/> TOX <input type="checkbox"/> FLASHPOINT <input type="checkbox"/> TDS <input type="checkbox"/> TSS <input type="checkbox"/> % MOISTURE <input type="checkbox"/> CYANIDE <input type="checkbox"/> pH <input type="checkbox"/> HEXAVALENT CHROMIUM <input type="checkbox"/> EXPLOSIVES <input type="checkbox"/> PECTHLORATE <input type="checkbox"/> CHLORIDE <input type="checkbox"/> ANIONS <input type="checkbox"/> ALKALINITY <input type="checkbox"/>		1 DAY <input type="checkbox"/> 2 DAY <input type="checkbox"/> OTHER <input checked="" type="checkbox"/> <b>Rush</b>		RECEIVING TEMP: -8.0 THERM #: CUSTODY SEALS - <input type="checkbox"/> BROKEN <input checked="" type="checkbox"/> INTACT <input type="checkbox"/> NOT USED <input type="checkbox"/> CARRIER BILL # <input checked="" type="checkbox"/> HAND DELIVERED	

**PERMIAN BASIN  
ENVIRONMENTAL LAB, LP  
1400 Rankin Hwy  
Midland, TX 79701**

***PBELAB***

## Analytical Report

**Prepared for:**

Mark Larson  
Larson & Associates, Inc.  
P.O. Box 50685  
Midland, TX 79710

Project: Nash Draw 19 & 34

Project Number: 16-0108-07

Location: New Mexico

Lab Order Number: 6L13012



NELAP/TCEQ # T104704156-13-3

Report Date: 12/14/16

Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: Nash Draw 19 & 34  
Project Number: 16-0108-07  
Project Manager: Mark Larson

Fax: (432) 687-0456

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DP-07-05-S2	6L13012-01	Soil	12/13/16 13:30	12-13-2016 16:52

Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: Nash Draw 19 & 34  
Project Number: 16-0108-07  
Project Manager: Mark Larson

Fax: (432) 687-0456

**DP-07-05-S2**  
**6L13012-01 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

% Moisture	15.0	0.1	%	1	P6L1401	12/14/16	12/14/16	% calculation
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**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	29.4	mg/kg dry	1	P6L1403	12/14/16	12/14/16	TPH 8015M
>C12-C28	ND	29.4	mg/kg dry	1	P6L1403	12/14/16	12/14/16	TPH 8015M
>C28-C35	ND	29.4	mg/kg dry	1	P6L1403	12/14/16	12/14/16	TPH 8015M
Surrogate: 1-Chlorooctane		103 %	70-130		P6L1403	12/14/16	12/14/16	TPH 8015M
Surrogate: o-Terphenyl		100 %	70-130		P6L1403	12/14/16	12/14/16	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	29.4	mg/kg dry	1	[CALC]	12/14/16	12/14/16	calc

Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: Nash Draw 19 & 34  
Project Number: 16-0108-07  
Project Manager: Mark Larson

Fax: (432) 687-0456

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

**Batch P6L1401 - \*\*\* DEFAULT PREP \*\*\***

**Blank (P6L1401-BLK1)**

Prepared & Analyzed: 12/14/16

% Moisture	ND	0.1	%
------------	----	-----	---

**Duplicate (P6L1401-DUP1)**

Source: 6L13012-01

Prepared & Analyzed: 12/14/16

% Moisture	15.0	0.1	%	15.0	0.00	20
------------	------	-----	---	------	------	----

Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: Nash Draw 19 & 34  
Project Number: 16-0108-07  
Project Manager: Mark Larson

Fax: (432) 687-0456

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

**Batch P6L1403 - TX 1005**

**Blank (P6L1403-BLK1)**

Prepared & Analyzed: 12/14/16

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	116		"	100		116	70-130			
Surrogate: o-Terphenyl	57.9		"	50.0		116	70-130			

**LCS (P6L1403-BS1)**

Prepared & Analyzed: 12/14/16

C6-C12	1090	25.0	mg/kg wet	1000		109	75-125			
>C12-C28	1170	25.0	"	1000		117	75-125			
Surrogate: 1-Chlorooctane	107		"	100		107	70-130			
Surrogate: o-Terphenyl	51.0		"	50.0		102	70-130			

**LCS Dup (P6L1403-BSD1)**

Prepared & Analyzed: 12/14/16

C6-C12	990	25.0	mg/kg wet	1000		99.0	75-125	9.61	20	
>C12-C28	1200	25.0	"	1000		120	75-125	2.52	20	
Surrogate: 1-Chlorooctane	116		"	100		116	70-130			
Surrogate: o-Terphenyl	55.4		"	50.0		111	70-130			


Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: Nash Draw 19 & 34  
Project Number: 16-0108-07  
Project Manager: Mark Larson

Fax: (432) 687-0456

### Notes and Definitions

BULK Samples received in Bulk soil containers  
DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference  
LCS Laboratory Control Spike  
MS Matrix Spike  
Dup Duplicate

Report Approved By: 

Date: 12/14/2016

Brent Barron, Laboratory Director/Technical Director

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-686-7235.



CHAIN-OF-CUSTODY

507 N. Marientfeld, Ste. 200  
Midland, TX 79701  
432-687-0901

DATE: 12/13/2016 PAGE 1 OF 1  
PO #: \_\_\_\_\_ LAB WORK ORDER #: \_\_\_\_\_  
PROJECT LOCATION OR NAME: XTD NASH DRAW BATTERY #19 + #34  
LAI PROJECT #: 16-0108-07 COLLECTOR: MG

PAGE 1 OF 1

Page 7 of 7

TRRP report?		S=SOIL W=WATER A=AIR		P=PAINT SL=SLUDGE OT=OTHER		TIME ZONE: Time zone/State:		Field Sample I.D.		Lab #		Date		Time		Matrix		# of Containers		PRESERVATION		ANALYSES		TURN AROUND TIME		LABORATORY USE ONLY:					
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																						BTX <input type="checkbox"/> MTBE <input type="checkbox"/> TRPH 418 1 <input type="checkbox"/> TPH 1005 <input type="checkbox"/> TPH 1006 <input type="checkbox"/> GASOLINE MOD 8015 <input checked="" type="checkbox"/> <b>ORO</b> <input checked="" type="checkbox"/> DIESEL - MOD 8015 <input checked="" type="checkbox"/> VOC 8260 <input type="checkbox"/> SVOC 8270 <input type="checkbox"/> PAH 8270 <input type="checkbox"/> HOLDPAH <input type="checkbox"/> 8081 PESTICIDES <input type="checkbox"/> 8151 HERBICIDES <input type="checkbox"/> 8082 PCBs <input type="checkbox"/> TCLP - METALS (RCRA) <input type="checkbox"/> TCLP VOC <input type="checkbox"/> TCLP - PEST <input type="checkbox"/> HERB <input type="checkbox"/> Semi-VOC <input type="checkbox"/> TOTAL METALS (RCRA) <input type="checkbox"/> OTHER LIST <input type="checkbox"/> LEAD - TOTAL <input type="checkbox"/> D.W. 200.8 <input type="checkbox"/> TCLP <input type="checkbox"/> RO <input type="checkbox"/> TOX <input type="checkbox"/> FLASHPOINT <input type="checkbox"/> TDS <input type="checkbox"/> TSS <input type="checkbox"/> % MOISTURE <input type="checkbox"/> pH <input type="checkbox"/> HEXAVALENT CHROMIUM <input type="checkbox"/> EXPLOSIVES <input type="checkbox"/> PEOCHLORATE <input type="checkbox"/> CHLORIDE <input type="checkbox"/> ANIONS <input type="checkbox"/> ALKALINITY <input type="checkbox"/>		NORMAL <input type="checkbox"/> 1 DAY <input checked="" type="checkbox"/> 2 DAY <input type="checkbox"/> OTHER <input type="checkbox"/>		RECEIVING TEMP: <u>15.5</u> THERM #: _____ CUSTODY SEALS - <input type="checkbox"/> BROKEN <input checked="" type="checkbox"/> INTACT <input type="checkbox"/> NOT USED <input type="checkbox"/> CARRIER BILL # _____ <input checked="" type="checkbox"/> HAND DELIVERED					
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME		RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME		RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME		RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME	
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RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME																									

## **Appendix C**

### **Photographs**



Location Sign



Location Viewing Southeast Prior to Remediation, February 3, 2016





Location Viewing Northeast Prior to Remediation, February 3, 2016



Location Viewing Southwest Prior to Remediation, February 3, 2016





Excavation at DP-07-01 Viewing West, December 5, 2016



Excavation at DP-07-02 Viewing West, December 5, 2016





Excavation at DP-07-03 Viewing East, December 5, 2016



Initial Excavation at DP-07-03 and DP-07-05 Viewing East, December 5, 2016





Expanded Excavation at DP-07-05 Viewing Southwest, December 9, 2016



Excavation at DP-07-06 Viewing West, December 9, 2016





Excavation at DP-07-08 Viewing South, December 9, 2016



Excavation at DP-07-07 Viewing South, December 9, 2016





Liner Installed in Excavation (4 feet) Viewing South, December 15, 2016



Completed Remediation Viewing Southwest, December 16, 2016



Completed Remediation Viewing East, December 16, 2016

**Appendix D**  
**Waste Manifests**



# LEA LAND DISPOSAL SITE NEW MEXICO

MILE MARKER #64 US HWY 62/180 • 30 MILES EAST OF CARLSBAD, NM • PHONE (575) 887-4048

## LEA LAND, LLC

1300 WEST MAIN STREET • OKLAHOMA CITY, OK 73106 • PHONE (405) 236-4257

### NON-HAZARDOUS WASTE MANIFEST

NO

116407

1. PAGE \_\_\_ OF \_\_\_

2. TRAILER NO.

G

3. COMPANY NAME

4. ADDRESS

5. PICK-UP DATE

E

PHONE NO.

CITY

STATE

ZIP

6. TNRCC I.D. NO.

N

7. NAME OR DESCRIPTION OF WASTE SHIPPED:

8. CONTAINERS  
No. Type

9. TOTAL  
QUANTITY

10. UNIT  
Wt/Vol.

11. TEXAS  
WASTE ID #

E

a.

b.

c.

R

d.

A

12. COMMENTS OR SPECIAL INSTRUCTIONS:

13. WASTE PROFILE NO.

T

14.

#### IN CASE OF EMERGENCY OR SPILL, CONTACT

NAME

PHONE NO.

24-HOUR EMERGENCY NO.

O

15. **GENERATOR'S CERTIFICATION:** I Hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations, and are the same materials previously approved by LEA LAND, LLC

R

PRINTED/TYPED NAME

SIGNATURE

DATE

T

16.

#### TRANSPORTER (1)

NAME:

TEXAS I.D. NO.

IN CASE OF EMERGENCY CONTACT:

EMERGENCY PHONE:

R

18. **TRANSPORTER (1):** Acknowledgment of receipt of material

PRINTED/TYPED NAME

SIGNATURE

DATE

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P

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L

S

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Lea Land, LLC

ADDRESS:

Mile Marker 64, U.S. Hwy 62/180,  
30 Miles East of Carlsbad, NM

PHONE:

575-887-4048

PERMIT NO.

WM-01-035 - New Mexico

20. COMMENTS

21. **DISPOSAL FACILITY'S CERTIFICATION:** I Hereby certify that the above described wastes were delivered to this facility, that the facility is authorized and permitted to receive such wastes.

AUTHORIZED SIGNATURE

CELL NO.

DATE

TIME

GENERATOR: COPIES 1 & 6

DISPOSAL SITE: COPIES 2 & 3

TRANSPORTERS: COPIES 4 & 5

COPY 4



# LEA LAND DISPOSAL SITE NEW MEXICO

MILE MARKER #64 US HWY 62/180 • 30 MILES EAST OF CARLSBAD, NM • PHONE (575) 887-4048

## LEA LAND, LLC

1300 WEST MAIN STREET • OKLAHOMA CITY, OK 73106 • PHONE (405) 236-4257

### NON-HAZARDOUS WASTE MANIFEST

NO **116408**

1. PAGE    OF   

2. TRAILER NO.   

G

3. COMPANY NAME

4. ADDRESS

5. PICK-UP DATE

PHONE NO.

CITY

STATE

ZIP

6. TNRCC I.D. NO.

E

7. NAME OR DESCRIPTION OF WASTE SHIPPED:

8. CONTAINERS  
No. Type

9. TOTAL  
QUANTITY

10. UNIT  
Wt/Vol.

11. TEXAS  
WASTE ID #

N

a.

b.

E

c.

R

d.

A

12. COMMENTS OR SPECIAL INSTRUCTIONS:

13. WASTE PROFILE NO.

T

14.

#### IN CASE OF EMERGENCY OR SPILL, CONTACT

NAME

PHONE NO.

24-HOUR EMERGENCY NO.

O

15. **GENERATOR'S CERTIFICATION:** I Hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations, and are the same materials previously approved by LEA LAND, LLC

R

PRINTED/TYPED NAME

SIGNATURE

DATE

T

16.

#### TRANSPORTER (1)

NAME:

TEXAS I.D. NO.

IN CASE OF EMERGENCY CONTACT:

EMERGENCY PHONE:

R

18. **TRANSPORTER (1):** Acknowledgment of receipt of material

PRINTED/TYPED NAME

SIGNATURE

DATE

D

F

PERMIT NO.

WM-01-035 - New Mexico

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21. **DISPOSAL FACILITY'S CERTIFICATION:** I Hereby certify that the above described wastes were delivered to this facility, that the facility is authorized and permitted to receive such wastes.

AUTHORIZED SIGNATURE

CELL NO.

DATE

TIME

GENERATOR: COPIES 1 & 6

DISPOSAL SITE: COPIES 2 & 3

TRANSPORTERS: COPIES 4 & 5

COPY 4



# LEA LAND DISPOSAL SITE NEW MEXICO

MILE MARKER #64 US HWY 62/180 • 30 MILES EAST OF CARLSBAD, NM • PHONE (575) 887-4048

## LEA LAND, LLC

1300 WEST MAIN STREET • OKLAHOMA CITY, OK 73106 • PHONE (405) 236-4257

### NON-HAZARDOUS WASTE MANIFEST

NO

116409

1. PAGE \_\_\_ OF \_\_\_

2. TRAILER NO.

006

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3. COMPANY NAME

PHONE NO.

4. ADDRESS

CITY

STATE

ZIP

5. PICK-UP DATE

6. TNRC I.D. NO.

7. NAME OR DESCRIPTION OF WASTE SHIPPED:

8. CONTAINERS

No.

Type

9. TOTAL

QUANTITY

10. UNIT

Wt/Vol.

11. TEXAS

WASTE ID #

a.

b.

c.

d.

12. COMMENTS OR SPECIAL INSTRUCTIONS:

13. WASTE PROFILE NO.

A

14.

### IN CASE OF EMERGENCY OR SPILL, CONTACT

NAME

PHONE NO

24-HOUR EMERGENCY NO.

T

15. **GENERATOR'S CERTIFICATION:** I Hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations, and are the same materials previously approved by LEA LAND, LLC

R

PRINTED/TYPED NAME

SIGNATURE

DATE

T

16.

### TRANSPORTER (1)

NAME:

TEXAS I.D. NO.

IN CASE OF EMERGENCY CONTACT:

EMERGENCY PHONE:

18. **TRANSPORTER (1):** Acknowledgment of receipt of material

PRINTED/TYPED NAME

SIGNATURE

DATE

17.

### TRANSPORTER (2)

NAME:

TEXAS I.D. NO.

IN CASE OF EMERGENCY CONTACT:

EMERGENCY PHONE:

19. **TRANSPORTER (2):** Acknowledgment of receipt of material

PRINTED/TYPED NAME

SIGNATURE

DATE

D

Lea Land, LLC

ADDRESS:

Mile Marker 64, U.S. Hwy 62/180,  
30 Miles East of Carlsbad, NM

PHONE:

575-887-4048

PERMIT NO.

WM-01-035 - New Mexico

20. COMMENTS

21. **DISPOSAL FACILITY'S CERTIFICATION:** I Hereby certify that the above described wastes were delivered to this facility, that the facility is authorized and permitted to receive such wastes.

AUTHORIZED SIGNATURE

CELL NO.

DATE

TIME

GENERATOR: COPIES 1 & 6

DISPOSAL SITE: COPIES 2 & 3

TRANSPORTERS: COPIES 4 & 5

COPY 4



MILE MARKER #64 US HWY 62/180 • 30 MILES EAST OF CARLSBAD, NM • PHONE (575) 887-4048

1300 WEST MAIN STREET • OKLAHOMA CITY, OK 73106 • PHONE (405) 236-4257

NO 116410

1. PAGE OF

2. TRAILER NO.

GENERATOR: COPIES 1 & 6

DISPOSAL SITE: COPIES 2 &amp; 3

TRANSPORTERS: COPIES 4 &amp; 5



# LEA LAND DISPOSAL SITE NEW MEXICO

MILE MARKER #64 US HWY 62/180 • 30 MILES EAST OF CARLSBAD, NM • PHONE (575) 887-4048

## LEA LAND, LLC

1300 WEST MAIN STREET • OKLAHOMA CITY, OK 73106 • PHONE (405) 236-4257

### NON-HAZARDOUS WASTE MANIFEST

NO

116415

1. PAGE \_\_\_ OF \_\_\_

2. TRAILER NO. 211

G  
E  
N  
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R

3. COMPANY NAME

PHONE NO.

4. ADDRESS

CITY

STATE

ZIP

5. PICK-UP DATE

6. TNRCC I.D. NO.

7. NAME OR DESCRIPTION OF WASTE SHIPPED:

a.

b.

c.

d.

8. CONTAINERS  
No. Type

9. TOTAL  
QUANTITY

10. UNIT  
Wt/Vol.

11. TEXAS  
WASTE ID #

12. COMMENTS OR SPECIAL INSTRUCTIONS:

13. WASTE PROFILE NO.

A

14.

#### IN CASE OF EMERGENCY OR SPILL, CONTACT

NAME

PHONE NO

24-HOUR EMERGENCY NO.

T

15. **GENERATOR'S CERTIFICATION:** I Hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations, and are the same materials previously approved by LEA LAND, LLC

O

PRINTED/TYPED NAME

SIGNATURE

DATE

R

16. **TRANSPORTER (1)**

NAME:

TEXAS I.D. NO.

IN CASE OF EMERGENCY CONTACT:

EMERGENCY PHONE:

18. **TRANSPORTER (1):** Acknowledgment of receipt of material

PRINTED/TYPED NAME

SIGNATURE

DATE

17. **TRANSPORTER (2)**

NAME:

TEXAS I.D. NO.

IN CASE OF EMERGENCY CONTACT:

EMERGENCY PHONE:

19. **TRANSPORTER (2):** Acknowledgment of receipt of material

PRINTED/TYPED NAME

SIGNATURE

DATE

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Lea Land, LLC

ADDRESS:

Mile Marker 64, U.S. Hwy 62/180,  
30 Miles East of Carlsbad, NM

PHONE:

575-887-4048

PERMIT NO.

WM-01-035 - New Mexico

20. COMMENTS

21. **DISPOSAL FACILITY'S CERTIFICATION:** I Hereby certify that the above described wastes were delivered to this facility, that the facility is authorized and permitted to receive such wastes.

AUTHORIZED SIGNATURE

CELL NO.

DATE

TIME



# LEA LAND DISPOSAL SITE NEW MEXICO

MILE MARKER #64 US HWY 62/180 • 30 MILES EAST OF CARLSBAD, NM • PHONE (575) 887-4048

## LEA LAND, LLC

1300 WEST MAIN STREET • OKLAHOMA CITY, OK 73106 • PHONE (405) 236-4257

### NON-HAZARDOUS WASTE MANIFEST

NO

116440

1. PAGE \_\_\_ OF \_\_\_

2. TRAILER NO. 12

G

3. COMPANY NAME

4. ADDRESS

5. PICK-UP DATE

PHONE NO.

CITY

STATE

ZIP

6. TNRCC I.D. NO.

E

7. NAME OR DESCRIPTION OF WASTE SHIPPED:

8. CONTAINERS

9. TOTAL

10. UNIT

11. TEXAS

No.

Type

QUANTITY

Wt/Vol.

WASTE ID #

N

a.

b.

E

c.

R

d.

12. COMMENTS OR SPECIAL INSTRUCTIONS:

13. WASTE PROFILE NO.

A

14.

### IN CASE OF EMERGENCY OR SPILL, CONTACT

T

NAME

PHONE NO

24-HOUR EMERGENCY NO.

O

15. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations, and are the same materials previously approved by LEA LAND, LLC

R

PRINTED/TYPED NAME

SIGNATURE

DATE

T

16. **TRANSPORTER (1)**

17. **TRANSPORTER (2)**

NAME:

NAME:

TEXAS I.D. NO.

TEXAS I.D. NO.

IN CASE OF EMERGENCY CONTACT:

IN CASE OF EMERGENCY CONTACT:

EMERGENCY PHONE:

EMERGENCY PHONE:

18. **TRANSPORTER (1):** Acknowledgment of receipt of material

19. **TRANSPORTER (2):** Acknowledgment of receipt of material

PRINTED/TYPED NAME Isabel Garcia

PRINTED/TYPED NAME \_\_\_\_\_

SIGNATURE Isabel Garcia DATE \_\_\_\_\_

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

D

Lea Land, LLC

ADDRESS:

Mile Marker 64, U.S. Hwy 62/180,  
30 Miles East of Carlsbad, NM

PHONE:

575-887-4048

F

PERMIT NO.

WM-01-035 - New Mexico

20. COMMENTS

S

21. **DISPOSAL FACILITY'S CERTIFICATION:** I hereby certify that the above described wastes were delivered to this facility, that the facility is authorized and permitted to receive such wastes.

I

AUTHORIZED SIGNATURE

CELL NO.

DATE

TIME



# LEA LAND DISPOSAL SITE NEW MEXICO

MILE MARKER #64 US HWY 62/180 • 30 MILES EAST OF CARLSBAD, NM • PHONE (575) 887-4048

## LEA LAND, LLC

1300 WEST MAIN STREET • OKLAHOMA CITY, OK 73106 • PHONE (405) 236-4257

### NON-HAZARDOUS WASTE MANIFEST

NO

118441

1. PAGE \_\_\_ OF \_\_\_

2. TRAILER NO.

1006

G

3. COMPANY NAME

4. ADDRESS

5. PICK-UP DATE

PHONE NO.

CITY

STATE

ZIP

6. TNRCC I.D. NO.

E

7. NAME OR DESCRIPTION OF WASTE SHIPPED:

8. CONTAINERS  
No. Type

9. TOTAL  
QUANTITY

10. UNIT  
Wt/Vol.

11. TEXAS  
WASTE ID #

N

a.

E

c.

R

d.

12. COMMENTS OR SPECIAL INSTRUCTIONS:

13. WASTE PROFILE NO.

A

14.

#### IN CASE OF EMERGENCY OR SPILL, CONTACT

NAME

PHONE NO

24-HOUR EMERGENCY NO.

T

O

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R

PRINTED/TYPED NAME

SIGNATURE

DATE

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16.

#### TRANSPORTER (1)

NAME:

TEXAS I.D. NO.

IN CASE OF EMERGENCY CONTACT:

EMERGENCY PHONE:

R

18. **TRANSPORTER (1):** Acknowledgment of receipt of material

PRINTED/TYPED NAME

SIGNATURE

DATE

D

F

PERMIT NO.

WM-01-035 - New Mexico

ADDRESS:

Mile Marker 64, U.S. Hwy 62/180,  
30 Miles East of Carlsbad, NM

PHONE:

575-887-4048

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21. **DISPOSAL FACILITY'S CERTIFICATION:** I hereby certify that the above described wastes were delivered to this facility, that the facility is authorized and permitted to receive such wastes.

AUTHORIZED SIGNATURE

CELL NO.

DATE

TIME

GENERATOR: COPIES 1 & 6

DISPOSAL SITE: COPIES 2 & 3

TRANSPORTERS: COPIES 4 & 5

COPY 4



MILE MARKER #64 US HWY 62/180 • 30 MILES EAST OF CARLSBAD, NM • PHONE (575) 887-4048

1300 WEST MAIN STREET • OKLAHOMA CITY, OK 73106 • PHONE (405) 236-4257

## 2. TRAILER NO.

GENERATOR: COPIES 1 & 6



MILE MARKER #64 US HWY 62/180 • 30 MILES EAST OF CARLSBAD, NM • PHONE (575) 887-4048

1300 WEST MAIN STREET • OKLAHOMA CITY, OK 73106 • PHONE (405) 236-4257

## 2. TRAILER NO.

DISPOSAL



MILE MARKER #64 US HWY 62/180 • 30 MILES EAST OF CARLSBAD, NM • PHONE (575) 887-4048

1300 WEST MAIN STREET • OKLAHOMA CITY, OK 73106 • PHONE (405) 236-4257

1. PAGE <u>    </u> OF <u>    </u>	2. TRAILER NO. <u>    </u>
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DISPOLSATY



# LEA LAND DISPOSAL SITE NEW MEXICO

MILE MARKER #64 US HWY 62/180 • 30 MILES EAST OF CARLSBAD, NM • PHONE (575) 887-4048

## LEA LAND, LLC

1300 WEST MAIN STREET • OKLAHOMA CITY, OK 73106 • PHONE (405) 236-4257

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012

### NON-HAZARDOUS WASTE MANIFEST

NO 116462

1. PAGE OF

2. TRAILER NO.

G

3. COMPANY NAME

4. ADDRESS

5. PICK-UP DATE

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PHONE NO.

CITY

STATE

ZIP

6. TNRCC I.D. NO.

N

7. NAME OR DESCRIPTION OF WASTE SHIPPED:

8. CONTAINERS  
No. Type

9. TOTAL  
QUANTITY

10. UNIT  
Wt/Vol.

11. TEXAS  
WASTE ID #

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12. COMMENTS OR SPECIAL INSTRUCTIONS:

13. WASTE PROFILE NO.

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14.

### IN CASE OF EMERGENCY OR SPILL, CONTACT

NAME

PHONE NO.

24-HOUR EMERGENCY NO.

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15. **GENERATOR'S CERTIFICATION:** I Hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations, and are the same materials previously approved by LEA LAND, LLC

R

PRINTED/TYPED NAME

SIGNATURE

DATE

T

16.

### TRANSPORTER (1)

17.

### TRANSPORTER (2)

NAME:

NAME:

TEXAS I.D. NO.

TEXAS I.D. NO.

IN CASE OF EMERGENCY CONTACT:

IN CASE OF EMERGENCY CONTACT:

EMERGENCY PHONE:

EMERGENCY PHONE:

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18. **TRANSPORTER (1):** Acknowledgment of receipt of material

19. **TRANSPORTER (2):** Acknowledgment of receipt of material

PRINTED/TYPED NAME

PRINTED/TYPED NAME

SIGNATURE

DATE

SIGNATURE

DATE

D

Lea Land, LLC

ADDRESS:

Mile Marker 64, U.S. Hwy 62/180,  
30 Miles East of Carlsbad, NM

PHONE:

575-887-4048

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PERMIT NO.

WM-01-035 - New Mexico

20. COMMENTS

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21. **DISPOSAL FACILITY'S CERTIFICATION:** I Hereby certify that the above described wastes were delivered to this facility, that the facility is authorized and permitted to receive such wastes.

AUTHORIZED SIGNATURE

CELL NO.

DATE

TIME

GENERATOR: COPIES 1 & 6

DISPOSAL SITE: COPIES 2 & 3

TRANSPORTERS: COPIES 4 & 5

COPY 4



# LEA LAND DISPOSAL SITE NEW MEXICO

MILE MARKER #64 US HWY 62/180 • 30 MILES EAST OF CARLSBAD, NM • PHONE (575) 887-4048

## LEA LAND, LLC

1300 WEST MAIN STREET • OKLAHOMA CITY, OK 73106 • PHONE (405) 236-4257

### NON-HAZARDOUS WASTE MANIFEST

NO 116463

1. PAGE OF

2. TRAILER NO. #1000

G E N E R A T O R	3. COMPANY NAME	4. ADDRESS	5. PICK-UP DATE			
	PHONE NO.	CITY STATE ZIP	6. TNRCC I.D. NO.			
N E C E S S A R Y	7. NAME OR DESCRIPTION OF WASTE SHIPPED:		8. CONTAINERS No. Type	9. TOTAL QUANTITY	10. UNIT Wt/Vol.	11. TEXAS WASTE ID #
	a.					
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A U T H O R I Z E D	12. COMMENTS OR SPECIAL INSTRUCTIONS:		13. WASTE PROFILE NO.			
	14. IN CASE OF EMERGENCY OR SPILL, CONTACT					
O F F I C E	NAME		PHONE NO.		24-HOUR EMERGENCY NO.	
	15. GENERATOR'S CERTIFICATION: I Hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations, and are the same materials previously approved by LEA LAND, LLC					
T R A N S P O R T E R S	PRINTED/TYPED NAME		SIGNATURE		DATE	
	16. TRANSPORTER (1)		17. TRANSPORTER (2)			
D I S C O L D S I T E	NAME:		NAME:			
	TEXAS I.D. NO.		TEXAS I.D. NO.			
	IN CASE OF EMERGENCY CONTACT:		IN CASE OF EMERGENCY CONTACT:			
	EMERGENCY PHONE:		EMERGENCY PHONE:			
L Y	18. TRANSPORTER (1): Acknowledgment of receipt of material		19. TRANSPORTER (2): Acknowledgment of receipt of material			
	PRINTED/TYPED NAME		PRINTED/TYPED NAME			
	SIGNATURE		SIGNATURE			
	DATE		DATE			
D I S C O L D S I T E	Lea Land, LLC		ADDRESS:		PHONE:	
			Mile Marker 64, U.S. Hwy 62/180, 30 Miles East of Carlsbad, NM		575-887-4048	
	PERMIT NO.		20. COMMENTS			
	WM-01-035 - New Mexico					
L Y	21. DISPOSAL FACILITY'S CERTIFICATION: I Hereby certify that the above described wastes were delivered to this facility, that the facility is authorized and permitted to receive such wastes.					
	AUTHORIZED SIGNATURE		CELL NO.		DATE	TIME
					9:15	

GENERATOR: COPIES 1 & 6

DISPOSAL SITE: COPIES 2 & 3

TRANSPORTERS: COPIES 4 & 5

COPY 4



# LEA LAND DISPOSAL SITE NEW MEXICO

MILE MARKER #64 US HWY 62/180 • 30 MILES EAST OF CARLSBAD, NM • PHONE (575) 887-4048

## LEA LAND, LLC

1300 WEST MAIN STREET • OKLAHOMA CITY, OK 73106 • PHONE (405) 236-4257

### NON-HAZARDOUS WASTE MANIFEST

NO **116493**

1. PAGE    OF   

2. TRAILER NO.   

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3. COMPANY NAME

4. ADDRESS

5. PICK-UP DATE

PHONE NO.

CITY

STATE

ZIP

6. TNRCC I.D. NO.

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7. NAME OR DESCRIPTION OF WASTE SHIPPED:

8. CONTAINERS  
No. Type

9. TOTAL  
QUANTITY

10. UNIT  
Wt/Vol.

11. TEXAS  
WASTE ID #

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12. COMMENTS OR SPECIAL INSTRUCTIONS:

13. WASTE PROFILE NO.

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#### IN CASE OF EMERGENCY OR SPILL, CONTACT

NAME

PHONE NO.

24-HOUR EMERGENCY NO.

O

15. **GENERATOR'S CERTIFICATION:** I Hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations, and are the same materials previously approved by LEA LAND, LLC

R

PRINTED/TYPED NAME

SIGNATURE

DATE

T

16.

#### TRANSPORTER (1)

NAME:

TEXAS I.D. NO.

IN CASE OF EMERGENCY CONTACT:

EMERGENCY PHONE:

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18. **TRANSPORTER (1):** Acknowledgment of receipt of material

PRINTED/TYPED NAME 629423 931213 7/1

SIGNATURE 629423 931213 7/1

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Lea Land, LLC

ADDRESS:

Mile Marker 64, U.S. Hwy 62/180,  
30 Miles East of Carlsbad, NM

PHONE:

575-887-4048

PERMIT NO.

WM-01-035 - New Mexico

20. COMMENTS

21. **DISPOSAL FACILITY'S CERTIFICATION:** I Hereby certify that the above described wastes were delivered to this facility, that the facility is authorized and permitted to receive such wastes.

AUTHORIZED SIGNATURE

CELL NO.

DATE

TIME

## **Appendix E**

### **Initial and Final C-141**

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

**NM OIL CONSERVATION**  
ARTESIA DISTRICT  
State of New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised August 8, 2011

SEP 07 2016

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

RECEIVED

**Release Notification and Corrective Action**

**NAB 1625328642**

<b>OPERATOR</b>		<input checked="" type="checkbox"/> Initial Report	<input type="checkbox"/> Final Report
Name of Company: XTO Energy, Inc. <b>5380</b>		Contact: Dudley McMinn	
Address: 500 W. Illinois Ave., Suite 100, Midland, TX 70701		Telephone No.: (432) 682-8873	
Facility Name: Nash Draw Unit Battery #19 & #34		Facility Type: Tank Battery (Equipment Removed)	
Surface Owner: Federal		Mineral Owner: Federal	API No. 30-015-27590

**LOCATION OF RELEASE**

Unit Letter J	Section 12	Township 23S	Range 29E	Feet from the 2202	North/South Line South	Feet from the 2201	East/West Line East	County: Eddy
------------------	---------------	-----------------	--------------	-----------------------	---------------------------	-----------------------	------------------------	--------------

Latitude 32.316944 Longitude -103.936667

**NATURE OF RELEASE**

Type of Release: Crude Oil	Volume of Release: Unknown	Volume Recovered: None
Source of Release: Spills	Date and Hour of Occurrence Unknown	Date and Hour of Discovery 07-09-2016
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

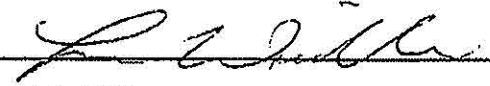

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\* Hydrocarbons in soil due to historic use of tank battery reported in soil samples by laboratory following removal of tanks and equipment. Will remediate to OCD and BLM requirements.

Describe Area Affected and Cleanup Action Taken.\*

Affected soil to be excavated, treated onsite treatment or disposed offsite at OCD approved facility. Refer to attached analytical data summary.

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.

<b>OIL CONSERVATION DIVISION</b>	
Signature: 	Approved by Environmental Specialist: 
Printed Name: Luke Williams	Approval Date: <u>9/8/16</u> Expiration Date: <u>N/A</u>
Title: EH&S Coordinator	Conditions of Approval: Remediation per O.C.D. Rules & Guidelines Attached <input type="checkbox"/>
E-mail Address: Luke.Williams@xtoenergy.com	<b>SUBMIT REMEDIATION PROPOSAL NO</b>
Date: 09-07-2016 Phone: (432) 683-8873	<b>LATER THAN: 10/19/16</b>

\* Attach Additional Sheets If Necessary

2RP-3874

**Patterson, Heather, EMNRD**

---

**From:** Mark Larson <Mark@laenvironmental.com>  
**Sent:** Wednesday, September 07, 2016 4:54 PM  
**To:** Patterson, Heather, EMNRD  
**Cc:** McMinn, Dudley; Williams, Luke  
**Subject:** Re: Initial C-141s for XTO Energy, Inc., Nash Draw Unit Tank Batteries (8), Eddy County, New Mexico  
**Attachments:** Initial C-141, XTO Energy, Inc., Nash Draw unit Battery 1 & 6, September 7, 2016.pdf; Initial C-141, XTO Energy, Inc., Nash Draw Unit Battery 10, September 7, 2016.pdf; Initial C-141, XTO Energy, Inc., Nash Draw Unit Battery 9, September 7, 2016.pdf; Initial C-141, XTO Energy, Inc., Nash Draw Unit Battery 15 & 33, September 7, 2016.pdf; Initial C-141, XTO Energy, Inc., Nash Draw Unit Battery 24, September 7, 2016.pdf; Initial C-141, XTO Energy, Inc., Nash Draw Unit Battery 36, September 7, 2016.pdf; Initial C-141, XTO Energy, Inc., Nash Draw Unit Battery 19 & 34, September 7, 2016.pdf; Initial C-141, XTO Energy, Inc., Nash Draw Unit Battery 38, September 7, 2016.pdf

Dear Heather,

The attached C-141s and supporting documentation are submitted on behalf of XTO Energy, Inc., for eight (8) tank batteries located in the Nash Draw Unit, Eddy County, New Mexico. Please contact Dudley McMinn with XTO Energy, Inc. at (432) 682-8873 or me if you have questions.

Respectfully,

Mark J. Larson

---

**From:** Mark Larson  
**Sent:** Wednesday, September 07, 2016 10:59 AM  
**To:** 'heather.patterson@state.nm.us'  
**Cc:** 'McMinn, Dudley'; 'Luke\_Williams@xtoenergy.com'  
**Subject:** Re: Meeting Confirmation

Dear Heather,

This message is to confirm our meeting at your office on September 15, 2016 at 10:00 AM (Mountain Time). Please contact me if you have questions. See you then!

Respectfully,

Mark J. Larson, P.G.  
President/Sr. Project Manager  
507 N. Marienfeld St., Suite 205  
Midland, Texas 79701  
(432) 687-0901 ( O )  
(432) 556-8656 ( C )



[www.LAEnvironmental.com](http://www.LAEnvironmental.com)

"Serving the Permian Basin Since 2000"



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

State of New Mexico  
Energy Minerals and Natural Resources

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

Form C-141  
Revised August 8, 2011

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

### Release Notification and Corrective Action

#### OPERATOR

☐ Initial Report ☒ Final Report

Name of Company: XTO Energy, Inc.	Contact: Dudley McMinn
Address: 500 W. Illinois Ave., Suite 100, Midland, TX 70701	Telephone No.: (432) 682-8873
Facility Name: Nash Draw Unit Battery #19 & #34	Facility Type: Tank Battery (Equipment Removed)

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-015-27590
------------------------	------------------------	----------------------

#### LOCATION OF RELEASE

Unit Letter J	Section 12	Township 23S	Range 29E	Feet from the 2202	North/South Line South	Feet from the 2201	East/West Line East	County: Eddy
------------------	---------------	-----------------	--------------	-----------------------	---------------------------	-----------------------	------------------------	--------------

Latitude 32.316944 Longitude -103.936667

#### NATURE OF RELEASE

Type of Release: Crude Oil	Volume of Release: Unknown	Volume Recovered: None
Source of Release: Spills	Date and Hour of Occurrence Unknown	Date and Hour of Discovery 07-09-2016
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\* Hydrocarbons in soil due to historic use of tank battery reported in soil samples by laboratory following removal of tanks and equipment. Will remediate to OCD and BLM requirements.

Describe Area Affected and Cleanup Action Taken.\* Soil was excavated to 1 foot in area of DP-07-01, DP-07-04 and DP-07-06 over areas measuring approximately 10 x 10 feet (DP-07-03) and 20 x 20 feet (DP-07-04 and DP-07-06). Soil was excavated at DP-07-02, DP-07-07 and DP-07-08 to approximately 2 feet bgs over areas measuring about 10 x 20 feet (DP-07-01, 10 x 10 feet (DP-07-07) and 15 x 15 feet (DP-08). Soil was excavated to approximately 4 feet bgs from the area around DP-07-05 measuring about 35 x 45 feet. Laboratory results of confirmation soil samples from the excavation sidewalls confirmed BTEX and TPH below the RRLs. A 20-mil thickness liner poly liner was placed in the bottom of the excavation at DP-07-05 at about 4 feet bgs. All excavations were backfilled with caliche. Approximately 614 cubic yards of contaminated soil was disposed at Lea Land Landfill, LLC.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

#### OIL CONSERVATION DIVISION

Signature:	Approved by Environmental Specialist: <i>Bradford Billings</i>		
Printed Name: Luke Williams			
Title: EH&S Coordinator	Approval Date: 11/19/2019	Expiration Date:	
E-mail Address: Luke_Williams@xtoenergy.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: 03-27-2017	Phone: (432) 683-8873		