2RP-3870
REMEDIATION PLAN
Nash Draw Tank Battery #38
Eddy County, New Mexico

LAI Project No. 16-0108-08

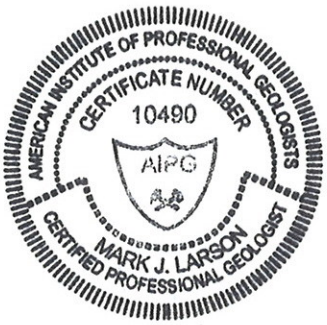
November 2, 2016

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

This document is prepared by Larson & Associates, Inc. (LAI) on behalf of XTO Energy, Inc. (XTO) for submittal to the New Mexico Oil Conservation Division (OCD) District 2 and U.S. Bureau of Land Management (BLM) to present the investigation results and remediation plan for contamination at the Nash Draw Unit tank battery #38 (Site). XTO consolidated production from several tank batteries into a three (3) tank batteries therefore the tank battery is no longer needed and is being remediated. Equipment was removed from the Site in early 2016 to allow for the soil investigation and remediation. On September 7, 2016, XTO submitted the initial C-141 to OCD District 2 and the Site was assigned remediation permit number 2RP-3870. The Site is located in Unit N (SE/4, SW/4), Section 13, Township 23 South, Range 29 East in Eddy County, New Mexico. The geodetic position is North 32.298611° and West -103.938889°. Figure 1 presents a topographic map. Figure 2 presents an aerial map.

1.1 Setting

The setting is as follows:

- Elevation is approximately 3,000 feet above mean sea level (AMSL);
- Topography slopes west - northwest;
- The nearest surface water feature is a playa lake (Salt Lake) located about 0.8 mile northwest 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 New Mexico Office of the State Engineer (NMOSE) records a well is located about 0.6 miles south in Unit J, Section 24, Township 23 South, Range 29 East, with groundwater reported at about 54 feet below ground surface (bgs).

1.2 Remediation Action Levels

Remediation action levels (RRAL) were calculated for benzene, BTEX and TPH based on the following criteria established by the New Mexico Oil Conservation Division (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	>1,000 Horizontal Feet	0

The following RRAL apply to the release for ranking score: **10**

- Benzene 10 mg/Kg
- BTEX 50 mg/Kg
- TPH 1,000 mg/Kg

1.3 Investigation Soil Samples

Investigation soil samples were collected on June 22, 2016. LAI personnel used a Terraprobe® direct-push rig to collect soil samples at five (5) locations (DP-08-01 through DP-08-05) between ground surface and approximately four (4) feet bgs. A background sample (DP-08-BG) was collected at about 1 foot bgs about 50 feet west of the Site. Additional samples were collected with a backhoe (September 29, 2016) to define the vertical extent of impact. The samples were tested for headspace vapors with a calibrated photoionization detector (PID) and all were less than 100 parts per million (ppm). Permian Basin Environmental Lab (PBEL) located in Midland, Texas, analyzed the samples for total petroleum hydrocarbons (TPH) including gasoline (GRO), diesel (DRO) and oil (ORO) range organics by EPA SW-846 Method 8015 and chloride by method 300. The background sample was analyzed for chloride. Table 1 presents the investigation sample laboratory analytical data summary. Figure 3 presents a Site drawing and sample locations. Appendix A presents the laboratory reports.

Referring to Table 1, the RRAL for TPH was exceeded in samples from locations DP-08-02 and DP-08-03. Chloride was 542 mg/Kg in the deepest sample from boring DP-08-01 at 9 feet bgs. The background chloride concentration is 130 mg/Kg.

2.0 REMEDIATION PLAN

XTO proposes to excavate soil from the area approximately 20 x 25 feet based on field observations, around DP-08-01 to approximately 4 feet bgs. Samples will be collected from the excavation sidewalls for laboratory analysis (BTEX and TPH) to determine if concentrations are below the RRAL. Additional soil will be removed as necessary to achieve the RRAL. A 20 mil thickness liner will be placed in the bottom of the excavation and filled to surface with clean soil.

Soil will be excavated from the area approximately 20 x 20 feet based on field observations, around DP-08-02 to approximately 2 feet bgs. Additional soil will be removed as necessary based on visual observations for hydrocarbon staining and odor. The excavation will be filled to surface with clean soil.

Soil will be excavated from the area approximately 20 x 20 feet based on field observations, around DP-08-03 to approximately 1 foot bgs. Additional soil will be removed as necessary based on visual observations for hydrocarbon staining and odor. The excavation will be filled to surface with clean soil.

Contaminated soil will be disposed at and clean soil acquired from Lea Land Landfill, LLC. The surface will be restored to BLM requirements following remediation. A final report will be submitted to OCD District 2 and BLM upon completion of remediation. Figure 4 presents the approximate locations for the remediation areas. Appendix B presents the initial C-141.

Tables

Table 1
2RP-3870
Investigation Soil Sample Analytical Data Summary
XTO Energy, Inc., Nash Draw Tank Battery 38
Unit N (SE/4, SW/4), Section 13, Township 23 South, Range 29 East
Eddy County, New Mexico
N32.298611° W-103.938889°

Location	Depth (Feet)	Collection Date	Status	C6 - C12 (mg/Kg)	>C12 - C28 (mg/Kg)	>C28 - C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
OCD RRAL:							**1,000**	
DP-08 -BG	0 - 1	6/22/2016	In-Situ	41.7	<26.3	<26.3	41.7	130
DP-08-01	0 - 1	6/22/2016	In-Situ	40.7	<27.2	<27.2	<27.2	**3,130**
	1 - 2	6/22/2016	In-Situ	--	--	--	--	**2,920**
	2 - 3	6/22/2016	In-Situ	--	--	--	--	**5,220**
	3 - 4	6/22/2016	In-Situ	--	--	--	--	**3,790**
	6	9/29/2016	In-Situ	--	--	--	--	**1,850**
	8	9/29/2016	In-Situ	--	--	--	--	**410**
	9	9/29/2016	In-Situ	--	--	--	--	**542**
DP-08-02	0 - 1	6/22/2016	In-Situ	402	7,000	1,300	**8,702**	120
	1 - 2	6/22/2016	In-Situ	237	5,020	954	**6,220**	--
	2 - 3	6/22/2016	In-Situ	36.6	156	36.0	228.6	--
DP-08-03	0 - 1	6/22/2016	In-Situ	<278	3,970	932	**4,902**	161
	1 - 2	6/22/2016	In-Situ	37.7	43.5	<27.2	**81.2**	--
DP-08-04	0 - 1	6/22/2016	In-Situ	41	32.2	<26.6	**73.2**	11.4
DP-08-05	0 - 1	6/22/2016	In-Situ	39.2	<27.2	<27.2	**39.2**	14.2
	1 - 2	6/22/2016	In-Situ	--	--	--	--	--
	2 - 3	6/22/2016	In-Situ	--	--	--	--	--
	3 - 4	6/22/2016	In-Situ	--	--	--	--	--

Notes: laboratory analysis performed by Permian Basin Environmental Lab, Midland, Texas, by EPA SW-846 method 8015M (TPH) and 300.0 (chloride)
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 guidence document (August 13, 1993)

FIGURES

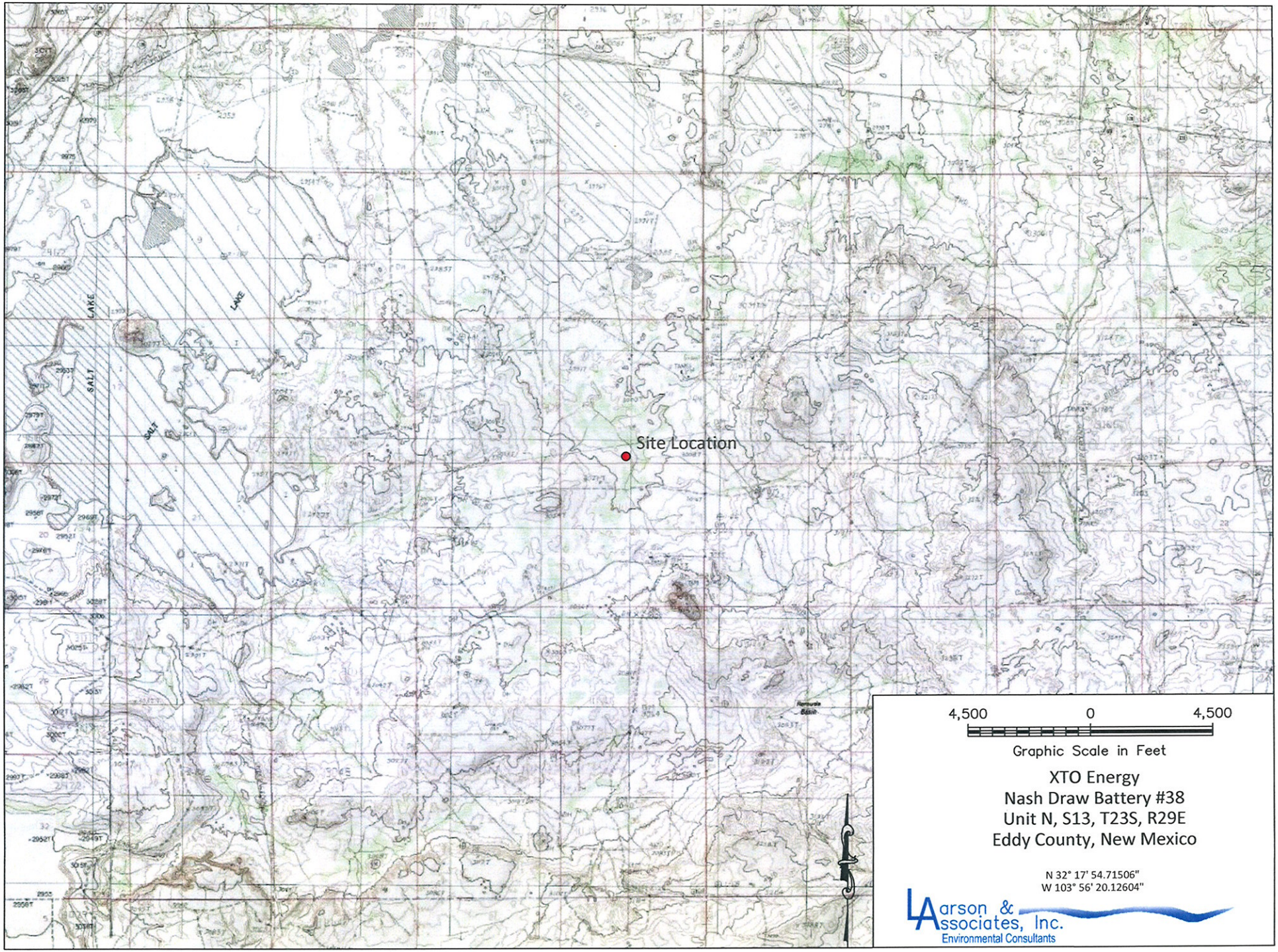

Figure 1 - Topographic Map

11" x 8.5"

Figure 2 - Aerial Map

11" x 8.5"

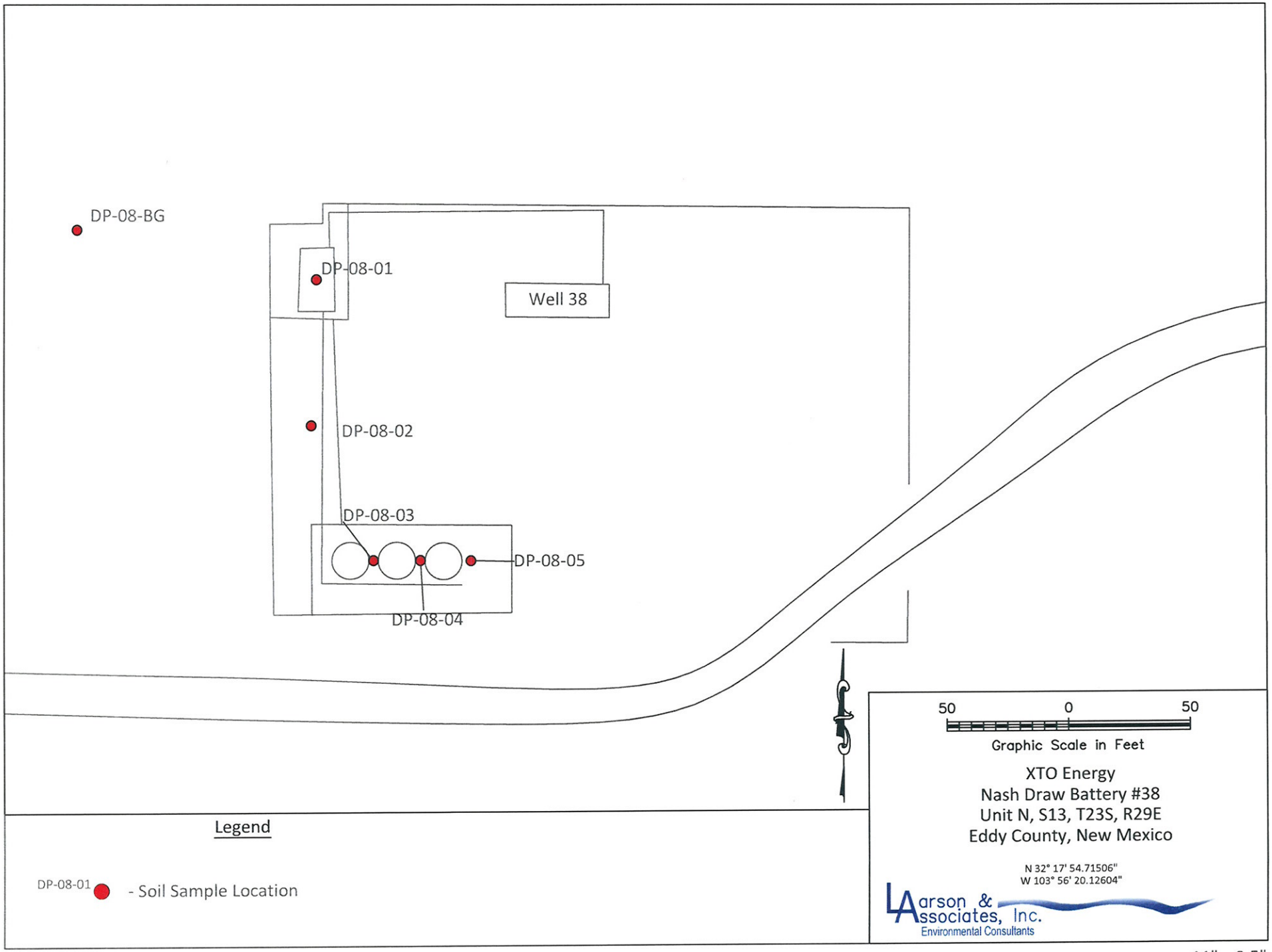

Figure 3 - Site Map Showing Soil Sample Locations

11" x 8.5"

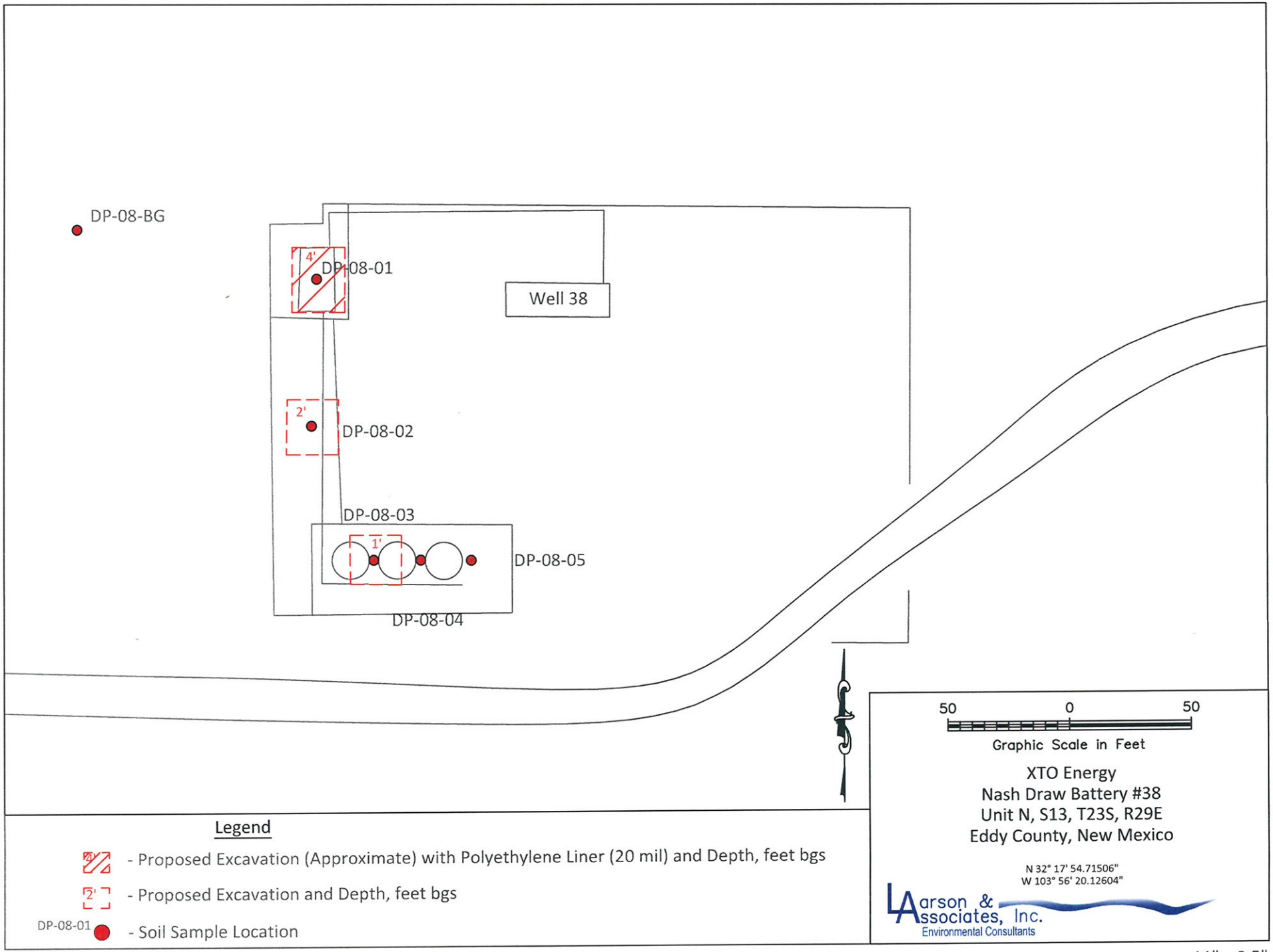

Figure 4 - Site Map Showing Soil Sample Locations, Proposed Excavation Area and Depth

11" x 8.5"

APPENDIX A

Laboratory Reports

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 #38
Project Number: 16-0108-08
Location: New Mexico

Lab Order Number: 6F26007

NELAP ACCREDITED TNI LABORATORY

NELAP/TCEQ # T104704156-13-3

Report Date: 07/09/16

Larson & Associates, Inc.	Project: Nash Draw #38	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 16-0108-08	
Midland TX, 79710	Project Manager: Mark Larson	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DP-08-01 (0-1)	6F26007-01	Soil	06/22/16 09:00	06-24-2016 16:30
DP-8-02 (0-1)	6F26007-05	Soil	06/22/16 09:15	06-24-2016 16:30
DP-08-02 (1-2)	6F26007-06	Soil	06/22/16 09:15	06-24-2016 16:30
DP-08-02 (2-3)	6F26007-07	Soil	06/22/16 09:15	06-24-2016 16:30
DP-08-03 (0-1)	6F26007-08	Soil	06/22/16 09:20	06-24-2016 16:30
DP-08-03 (1-2)	6F26007-09	Soil	06/22/16 09:20	06-24-2016 16:30
DP-08-04 (0-1)	6F26007-10	Soil	06/22/16 09:30	06-24-2016 16:30
DP-08-05 (0-1)	6F26007-11	Soil	06/22/16 09:35	06-24-2016 16:30
DP-08-BG (0-1)	6F26007-15	Soil	06/22/16 09:40	06-24-2016 16:30

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

Project: Nash Draw #38
Project Number: 16-0108-08
Project Manager: Mark Larson

Fax: (432) 687-0456

DP-08-01 (0-1)

6F26007-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**3130**	27.2	mg/kg dry	25	P6F2913	06/28/16	06/28/16	EPA 300.0	
% Moisture	**8.0**	0.1	%	1	P6F2901	06/29/16	06/29/16	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	**40.7**	27.2	mg/kg dry	1	P6F2907	06/26/16	06/27/16	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P6F2907	06/26/16	06/27/16	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P6F2907	06/26/16	06/27/16	TPH 8015M	
Surrogate: 1-Chlorooctane		*98.2 %*	*70-130*		*P6F2907*	*06/26/16*	*06/27/16*	*TPH 8015M*	
Surrogate: o-Terphenyl		*105 %*	*70-130*		*P6F2907*	*06/26/16*	*06/27/16*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**40.7**	27.2	mg/kg dry	1	[CALC]	06/26/16	06/27/16	calc	

Larson & Associates, Inc.	Project: Nash Draw #38	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 16-0108-08	
Midland TX, 79710	Project Manager: Mark Larson	

DP-8-02 (0-1)

6F26007-05 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**120**	1.10	mg/kg dry	1	P6F2913	06/28/16	06/28/16	EPA 300.0	
% Moisture	**9.0**	0.1	%	1	P6F2901	06/29/16	06/29/16	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	**402**	275	mg/kg dry	10	P6F2907	06/26/16	06/27/16	TPH 8015M	
>C12-C28	**7000**	275	mg/kg dry	10	P6F2907	06/26/16	06/27/16	TPH 8015M	
>C28-C35	**1300**	275	mg/kg dry	10	P6F2907	06/26/16	06/27/16	TPH 8015M	
Surrogate: 1-Chlorooctane		*80.1 %*	*70-130*		*P6F2907*	*06/26/16*	*06/27/16*	*TPH 8015M*	
Surrogate: o-Terphenyl		*90.2 %*	*70-130*		*P6F2907*	*06/26/16*	*06/27/16*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**8710**	275	mg/kg dry	10	[CALC]	06/26/16	06/27/16	calc	

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

Project: Nash Draw #38
Project Number: 16-0108-08
Project Manager: Mark Larson

Fax: (432) 687-0456

DP-08-02 (1-2)

6F26007-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
% Moisture	**11.0**	0.1	%	1	P6G0501	07/05/16	07/05/16	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	**237**	140	mg/kg dry	5	P6G0707	07/01/16	07/02/16	TPH 8015M	
>C12-C28	**5020**	140	mg/kg dry	5	P6G0707	07/01/16	07/02/16	TPH 8015M	
>C28-C35	**954**	140	mg/kg dry	5	P6G0707	07/01/16	07/02/16	TPH 8015M	
Surrogate: 1-Chlorooctane		*128 %*	*70-130*		*P6G0707*	*07/01/16*	*07/02/16*	*TPH 8015M*	
Surrogate: o-Terphenyl		*142 %*	*70-130*		*P6G0707*	*07/01/16*	*07/02/16*	*TPH 8015M*	*S-GC*
Total Petroleum Hydrocarbon C6-C35	**6220**	140	mg/kg dry	5	[CALC]	07/01/16	07/02/16	calc	

Larson & Associates, Inc.	Project: Nash Draw #38	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 16-0108-08	
Midland TX, 79710	Project Manager: Mark Larson	

DP-08-02 (2-3)

6F26007-07 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
General Chemistry Parameters by EPA / Standard Methods									
% Moisture	**11.0**	0.1	%	1	P6G0501	07/05/16	07/05/16	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	**36.6**	28.1	mg/kg dry	1	P6G0705	07/01/16	07/02/16	TPH 8015M	
>C12-C28	**156**	28.1	mg/kg dry	1	P6G0705	07/01/16	07/02/16	TPH 8015M	
>C28-C35	**36.0**	28.1	mg/kg dry	1	P6G0705	07/01/16	07/02/16	TPH 8015M	
Surrogate: 1-Chlorooctane		*94.0 %*	*70-130*		*P6G0705*	*07/01/16*	*07/02/16*	*TPH 8015M*	
Surrogate: o-Terphenyl		*104 %*	*70-130*		*P6G0705*	*07/01/16*	*07/02/16*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**228**	28.1	mg/kg dry	1	[CALC]	07/01/16	07/02/16	calc	

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DP-08-03 (0-1)

6F26007-08 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**161**	1.11	mg/kg dry	1	P6F2913	06/28/16	06/28/16	EPA 300.0	
% Moisture	**10.0**	0.1	%	1	P6F2901	06/29/16	06/29/16	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	278	mg/kg dry	10	P6F2907	06/26/16	06/27/16	TPH 8015M	
>C12-C28	**3970**	278	mg/kg dry	10	P6F2907	06/26/16	06/27/16	TPH 8015M	
>C28-C35	**932**	278	mg/kg dry	10	P6F2907	06/26/16	06/27/16	TPH 8015M	
Surrogate: 1-Chlorooctane		*84.4 %*	*70-130*		*P6F2907*	*06/26/16*	*06/27/16*	*TPH 8015M*	
Surrogate: o-Terphenyl		*90.2 %*	*70-130*		*P6F2907*	*06/26/16*	*06/27/16*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**4900**	278	mg/kg dry	10	[CALC]	06/26/16	06/27/16	calc	

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P.O. Box 50685	Project Number: 16-0108-08	
Midland TX, 79710	Project Manager: Mark Larson	

DP-08-03 (1-2)

6F26007-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
% Moisture	**8.0**	0.1	%	1	P6G0501	07/05/16	07/05/16	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	**37.7**	27.2	mg/kg dry	1	P6G0705	07/01/16	07/02/16	TPH 8015M	
>C12-C28	**43.5**	27.2	mg/kg dry	1	P6G0705	07/01/16	07/02/16	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P6G0705	07/01/16	07/02/16	TPH 8015M	
Surrogate: 1-Chlorooctane		*91.2 %*	*70-130*		*P6G0705*	*07/01/16*	*07/02/16*	*TPH 8015M*	
Surrogate: o-Terphenyl		*98.6 %*	*70-130*		*P6G0705*	*07/01/16*	*07/02/16*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**81.2**	27.2	mg/kg dry	1	[CALC]	07/01/16	07/02/16	calc	

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Project Number: 16-0108-08
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DP-08-04 (0-1)

6F26007-10 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**11.4**	1.06	mg/kg dry	1	P6F2913	06/28/16	06/28/16	EPA 300.0	
% Moisture	**6.0**	0.1	%	1	P6F2901	06/29/16	06/29/16	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	**41.0**	26.6	mg/kg dry	1	P6F2907	06/26/16	06/27/16	TPH 8015M	
>C12-C28	**32.2**	26.6	mg/kg dry	1	P6F2907	06/26/16	06/27/16	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P6F2907	06/26/16	06/27/16	TPH 8015M	
Surrogate: 1-Chlorooctane		*92.2 %*	*70-130*		*P6F2907*	*06/26/16*	*06/27/16*	*TPH 8015M*	
Surrogate: o-Terphenyl		*96.9 %*	*70-130*		*P6F2907*	*06/26/16*	*06/27/16*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**73.3**	26.6	mg/kg dry	1	[CALC]	06/26/16	06/27/16	calc	

DP-08-05 (0-1)

6F26007-11 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**14.2**	1.09	mg/kg dry	1	P6F2913	06/28/16	06/28/16	EPA 300.0	
% Moisture	**8.0**	0.1	%	1	P6F2901	06/29/16	06/29/16	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	**39.2**	27.2	mg/kg dry	1	P6F2907	06/26/16	06/27/16	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P6F2907	06/26/16	06/27/16	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P6F2907	06/26/16	06/27/16	TPH 8015M	
Surrogate: 1-Chlorooctane		*99.7 %*	*70-130*		*P6F2907*	*06/26/16*	*06/27/16*	*TPH 8015M*	
Surrogate: o-Terphenyl		*105 %*	*70-130*		*P6F2907*	*06/26/16*	*06/27/16*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**39.2**	27.2	mg/kg dry	1	[CALC]	06/26/16	06/27/16	calc	

Larson & Associates, Inc.	Project: Nash Draw #38	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 16-0108-08	
Midland TX, 79710	Project Manager: Mark Larson	

DP-08-BG (0-1)

6F26007-15 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**130**	1.05	mg/kg dry	1	P6F2913	06/28/16	06/29/16	EPA 300.0	
% Moisture	**5.0**	0.1	%	1	P6F2901	06/29/16	06/29/16	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	**41.7**	26.3	mg/kg dry	1	P6F2907	06/26/16	06/27/16	TPH 8015M	
>C12-C28	ND	26.3	mg/kg dry	1	P6F2907	06/26/16	06/27/16	TPH 8015M	
>C28-C35	ND	26.3	mg/kg dry	1	P6F2907	06/26/16	06/27/16	TPH 8015M	
Surrogate: 1-Chlorooctane		*88.3 %*	*70-130*		*P6F2907*	*06/26/16*	*06/27/16*	*TPH 8015M*	
Surrogate: o-Terphenyl		*94.4 %*	*70-130*		*P6F2907*	*06/26/16*	*06/27/16*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**41.7**	26.3	mg/kg dry	1	[CALC]	06/26/16	06/27/16	calc	

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

Project: Nash Draw #38
Project Number: 16-0108-08
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 P6F2901 - * DEFAULT PREP *****										
Blank (P6F2901-BLK1)				Prepared & Analyzed: 06/29/16						
% Moisture	ND	0.1	%							
Duplicate (P6F2901-DUP1)	Source: 6F26010-37			Prepared & Analyzed: 06/29/16						
% Moisture	3.0	0.1	%		3.0			0.00	20	
Duplicate (P6F2901-DUP2)	Source: 6F26008-08			Prepared & Analyzed: 06/29/16						
% Moisture	11.0	0.1	%		12.0			8.70	20	
Duplicate (P6F2901-DUP3)	Source: 6F26008-12			Prepared & Analyzed: 06/29/16						
% Moisture	7.0	0.1	%		7.0			0.00	20	
Batch P6F2913 - * DEFAULT PREP *****										
Blank (P6F2913-BLK1)				Prepared & Analyzed: 06/28/16						
Chloride	ND	1.00	mg/kg wet							
LCS (P6F2913-BS1)				Prepared & Analyzed: 06/28/16						
Chloride	177	1.00	mg/kg wet	200		88.7	80-120			
LCS Dup (P6F2913-BSD1)				Prepared & Analyzed: 06/28/16						
Chloride	178	1.00	mg/kg wet	200		88.8	80-120	0.0789	20	
Duplicate (P6F2913-DUP1)	Source: 6F26005-05			Prepared & Analyzed: 06/28/16						
Chloride	569	29.8	mg/kg dry		554			2.65	20	
Duplicate (P6F2913-DUP2)	Source: 6F26006-21			Prepared & Analyzed: 06/28/16						
Chloride	1110	10.9	mg/kg dry		1110			0.548	20	

Larson & Associates, Inc.
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Midland TX, 79710

Project: Nash Draw #38
Project Number: 16-0108-08
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 P6F2913 - * DEFAULT PREP *** **										
Matrix Spike (P6F2913-MS1)		**Source: 6F26005-05**		Prepared & Analyzed: 06/28/16						
Chloride	11000	29.8	mg/kg dry	9520	554	110	80-120			
Batch P6G0501 - * DEFAULT PREP *** **										
Blank (P6G0501-BLK1)				Prepared & Analyzed: 07/05/16						
% Moisture	ND	0.1	%							
Duplicate (P6G0501-DUP1)		**Source: 6F26006-06**		Prepared & Analyzed: 07/05/16						
% Moisture	13.0	0.1	%		13.0			0.00	20	
Duplicate (P6G0501-DUP2)		**Source: 6F26009-23**		Prepared & Analyzed: 07/05/16						
% Moisture	14.0	0.1	%		17.0			19.4	20	
Duplicate (P6G0501-DUP3)		**Source: 6G01003-01**		Prepared & Analyzed: 07/05/16						
% Moisture	6.0	0.1	%		5.0			18.2	20	
Duplicate (P6G0501-DUP4)		**Source: 6G01008-02**		Prepared & Analyzed: 07/05/16						
% Moisture	13.0	0.1	%		12.0			8.00	20	

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

Project: Nash Draw #38
Project Number: 16-0108-08
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 P6F2907 - TX 1005										
Blank (P6F2907-BLK1)				Prepared & Analyzed: 06/26/16						
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	*101*		"	*100*		*101*	*70-130*			
Surrogate: o-Terphenyl	*52.3*		"	*50.0*		*105*	*70-130*			
LCS (P6F2907-BS1)				Prepared & Analyzed: 06/26/16						
C6-C12	882	25.0	mg/kg wet	1000		88.2	75-125			
>C12-C28	1050	25.0	"	1000		105	75-125			
Surrogate: 1-Chlorooctane	*116*		"	*100*		*116*	*70-130*			
Surrogate: o-Terphenyl	*49.5*		"	*50.0*		*99.1*	*70-130*			
LCS Dup (P6F2907-BSD1)				Prepared & Analyzed: 06/26/16						
C6-C12	941	25.0	mg/kg wet	1000		94.1	75-125	6.44	20	
>C12-C28	1130	25.0	"	1000		113	75-125	6.88	20	
Surrogate: 1-Chlorooctane	*116*		"	*100*		*116*	*70-130*			
Surrogate: o-Terphenyl	*53.0*		"	*50.0*		*106*	*70-130*			
Matrix Spike (P6F2907-MS1)	**Source: 6F26005-21**			Prepared: 06/26/16 Analyzed: 06/27/16						
C6-C12	891	26.0	mg/kg dry	1040	30.2	82.6	75-125			
>C12-C28	1090	26.0	"	1040	63.7	98.5	75-125			
Surrogate: 1-Chlorooctane	*125*		"	*104*		*120*	*70-130*			
Surrogate: o-Terphenyl	*55.0*		"	*52.1*		*106*	*70-130*			
Matrix Spike Dup (P6F2907-MSD1)	**Source: 6F26005-21**			Prepared: 06/26/16 Analyzed: 06/27/16						
C6-C12	894	26.0	mg/kg dry	1040	30.2	82.9	75-125	0.399	20	
>C12-C28	1110	26.0	"	1040	63.7	100	75-125	1.61	20	
Surrogate: 1-Chlorooctane	*123*		"	*104*		*118*	*70-130*			
Surrogate: o-Terphenyl	*47.9*		"	*52.1*		*92.0*	*70-130*			

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 P6G0705 - TX 1005										
Blank (P6G0705-BLK1)				Prepared & Analyzed: 07/01/16						
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	*101*		"	*100*		*101*	*70-130*			
Surrogate: o-Terphenyl	*52.7*		"	*50.0*		*105*	*70-130*			
LCS (P6G0705-BS1)				Prepared & Analyzed: 07/01/16						
C6-C12	834	25.0	mg/kg wet	1000		83.4	75-125			
>C12-C28	965	25.0	"	1000		96.5	75-125			
Surrogate: 1-Chlorooctane	*119*		"	*100*		*119*	*70-130*			
Surrogate: o-Terphenyl	*44.6*		"	*50.0*		*89.2*	*70-130*			
LCS Dup (P6G0705-BSD1)				Prepared & Analyzed: 07/01/16						
C6-C12	890	25.0	mg/kg wet	1000		89.0	75-125	6.60	20	
>C12-C28	1010	25.0	"	1000		101	75-125	4.68	20	
Surrogate: 1-Chlorooctane	*110*		"	*100*		*110*	*70-130*			
Surrogate: o-Terphenyl	*47.4*		"	*50.0*		*94.8*	*70-130*			
Duplicate (P6G0705-DUP1)	**Source: 6F26005-03**			Prepared: 07/01/16 Analyzed: 07/02/16						
C6-C12	32.4	30.5	mg/kg dry		47.3			37.2	20	
>C12-C28	386	30.5	"		271			35.1	20	
Surrogate: 1-Chlorooctane	*167*		"	*183*		*91.5*	*70-130*			
Surrogate: o-Terphenyl	*92.8*		"	*91.5*		*102*	*70-130*			
Batch P6G0707 - TX 1005										
Blank (P6G0707-BLK1)				Prepared: 07/01/16 Analyzed: 07/02/16						
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	*99.2*		"	*100*		*99.2*	*70-130*			
Surrogate: o-Terphenyl	*51.6*		"	*50.0*		*103*	*70-130*			

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

Project: Nash Draw #38
Project Number: 16-0108-08
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 P6G0707 - TX 1005										
LCS (P6G0707-BS1)				Prepared: 07/01/16 Analyzed: 07/02/16						
C6-C12	920	25.0	mg/kg wet	1000		92.0	75-125			
>C12-C28	1070	25.0	"	1000		107	75-125			
Surrogate: 1-Chlorooctane	*117*		"	*100*		*117*	*70-130*			
Surrogate: o-Terphenyl	*49.1*		"	*50.0*		*98.2*	*70-130*			
LCS Dup (P6G0707-BSD1)				Prepared: 07/01/16 Analyzed: 07/02/16						
C6-C12	945	25.0	mg/kg wet	1000		94.5	75-125	2.61	20	
>C12-C28	1100	25.0	"	1000		110	75-125	3.25	20	
Surrogate: 1-Chlorooctane	*131*		"	*100*		*131*	*70-130*			*S-GC*
Surrogate: o-Terphenyl	*57.8*		"	*50.0*		*116*	*70-130*			

Notes and Definitions

S-GC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
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: 7/9/2016

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-CUSTOD

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

Data Reported to:

DATE: 6-24-16 PAGE 1 OF 2

PO #: LAB WORK ORDER #: 6F26007

PROJECT LOCATION OR NAME: NASH DRAW #38

LAI PROJECT #: 16-0108-08 COLLECTOR: TW

TRRP report? ☐ Yes ☒ No

TIME ZONE: Time zone/State: NM

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

6F26007

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 ☐	8015D	FIELD NOTES
DP-08-01 (0-1)	-01	6/22/16	9:00	S	1				X				X	X													X			
(1-2)	-02																											X		
(2-3)	-03																													
(3-4)	-04																													
DP-08-02 (0-1)	-05		9:15										X	X													X			
(1-2)	-06																											X		
(2-3)	-07																													
DP-08-03 (0-1)	-08		9:20										X	X													X			
(1-2)	-09																											X		
DP-08-04 (0-1)	-10		9:30										X	X													X			
DP-08-05 (0-1)	-11		9:35										X	X													X			
(1-2)	-12																											X		
(2-3)	-13																													
(3-4)	-14																													
DP-08-BG (0-1)	-15		9:40										X	X													X			
TOTAL																														

RELINQUISHED BY:(Signature) DATE/TIME 6/24/16 4:30 RECEIVED BY: (Signature)

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

RELINQUISHED BY:(Signature) DATE/TIME 16:30 6/24/16 RECEIVED BY: (Signature) Marissa Martin

TURN AROUND TIME
NORMAL ☐
1 DAY ☐
2 DAY ☐
OTHER ☒ 3 day

LABORATORY USE ONLY:
RECEIVING TEMP: 4-0 THERM #:
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL #
☐ HAND DELIVERED

CHAIN-OF-CUSTOD

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

DATE: 6/24/16 PAGE 2 OF 2
PO #: _____ LAB WORK ORDER #: 6F26007
PROJECT LOCATION OR NAME: NASH DRAW #38
LAI PROJECT #: 16-0108-08 COLLECTOR: TW
Data Reported to:

TRRP report? ☐ Yes ☑ No
TIME ZONE: Time zone/State: NM
S=SOIL P=PAINT W=WATER SL=SLUDGE A=AIR OT=OTHER
6F26007

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES: BTEX ☐ MTBE ☐	TPH 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 ☐	CHLORIDES ☐ ANIONS ☐ ALKALINITY ☐	HOLD	FIELD NOTES
DP-08-B6(1-2)	-16	6/22/16	9:40	S	1				X				X	X														X	

TOTAL

RELINQUISHED BY:(Signature) DATE/TIME 4:30 6/24/16 RECEIVED BY: (Signature)
RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)
RELINQUISHED BY:(Signature) DATE/TIME 16:30 6/24/16 RECEIVED BY: (Signature) Marissa Martin

TURN AROUND TIME
NORMAL ☐
1 DAY ☐
2 DAY ☐
OTHER ☑
3 day

LABORATORY USE ONLY:
RECEIVING TEMP: 16-0 THERM #: _____
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL # _____
☐ HAND DELIVERED

PBELAB

1400 Rankin Hwy
Midland, Tx 79701
Phone: 432-686-7235

SUMMARY REPORT

Larson & Associates, Inc.		Project:	Nash Draw #38
P.O. Box 50685		Project Number:	16-0108-08
Midland TX, 79710		Project Manager:	Mark Larson
SAMPLED:	06/22/16	**REPORTED:**	06/29/16 19:51
RECEIVED:	06-24-201		

LAB #		6F26007-01	6F26007-05	6F26007-08	6F26007-10	6F26007-11	6F26007-15
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	DP-08-01 (0-1)	DP-8-02 (0-1)	DP-08-03 (0-1)	DP-08-04 (0-1)	DP-08-05 (0-1)	DP-08-BG (0-1)
General Chemistry Parameters by EPA / Standard Methods (Soil)							
Chloride	1.00 mg/kg dry	3130	120	161	11.4	14.2	130
% Moisture	0.1 %	8.0	9.0	10.0	6.0	8.0	5.0
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M (Soil)							
C6-C12	25.0 mg/kg dry	40.7	402	<278	41.0	39.2	41.7
>C12-C28	25.0 mg/kg dry	<27.2	7000	3970	32.2	<27.2	<26.3
>C28-C35	25.0 mg/kg dry	<27.2	1300	932	<26.6	<27.2	<26.3
1-Chlorooctane	130 [surr]	98.2%	80.1%	84.4%	92.2%	99.7%	88.3%
o-Terphenyl	130 [surr]	105%	90.2%	90.2%	96.9%	105%	94.4%
Total Petroleum Hydrocarbon C6-C35	26.3 mg/kg dry	-	-	-	-	-	41.7
Total Petroleum Hydrocarbon C6-C35	26.6 mg/kg dry	-	-	-	73.3	-	-
Total Petroleum Hydrocarbon C6-C35	27.2 mg/kg dry	40.7	-	-	-	39.2	-
Total Petroleum Hydrocarbon C6-C35	275 mg/kg dry	-	8710	-	-	-	-
Total Petroleum Hydrocarbon C6-C35	278 mg/kg dry	-	-	4900	-	-	-

Special Notes

DRAFT REPORT

Brent Barron

DRAFT REPORT
DATA SUBJECT TO CHANGE

CHAIN-OF-CUSTODY

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

Data Reported to:

DATE: 6-24-16 PAGE 1 OF 2

PO #: LAB WORK ORDER #: 6F26007

PROJECT LOCATION OR NAME: NASH DRAW #38

LAI PROJECT #: 16-0108-08 COLLECTOR: TW

TRRP report? ☐ Yes ☒ No

TIME ZONE: Time zone/State: NM

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

6F26007

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 ☐	H&P	FIELD NOTES
DP-08-01 (0-1)	-01	6/22/16	9:00	S	1				X				X	X													X		
(1-2)	-02																										X		
(2-3)	-03																												
(3-4)	-04																												
DP-08-02 (0-1)	-05		9:15										X	X													X		
(1-2)	-06																										X		
(2-3)	-07																												
DP-08-03 (0-1)	-08		9:20										X	X													X		
(1-2)	-09																										X		
DP-08-04 (0-1)	-10		9:30										X	X													X		
DP-08-05 (0-1)	-11		9:35										X	X													X		
(1-2)	-12																										X		
(2-3)	-13																												
(3-4)	-14																												
DP-08-BG (0-1)	-15		9:40										X	X													X		
TOTAL																													

RELINQUISHED BY:(Signature) DATE/TIME 6/24/16 4:30 RECEIVED BY: (Signature)

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

RELINQUISHED BY:(Signature) DATE/TIME 16:30 6/24/16 RECEIVED BY: (Signature) Marissa Martin

TURN AROUND TIME

NORMAL ☐
1 DAY ☐
2 DAY ☐
OTHER ☒ 3 Day

LABORATORY USE ONLY:

RECEIVING TEMP: 4.0 THERM #:

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:

DATE: 6/24/16 PAGE 2 OF 2
PO #: LAB WORK ORDER #: 6FZ6007
PROJECT LOCATION OR NAME: NASH DRAW #38
LAI PROJECT #: 16-0108-08 COLLECTOR: TW

TRRP report? ☐ Yes ☑ No
TIME ZONE: Time zone/State: NM
S=SOIL W=WATER A=AIR P=PAINT SL=SLUDGE OT=OTHER
6FZ6007

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 ☐	CHLORIDES ☐ ANIONS ☐ ALKALINITY ☐	HOLD	FIELD NOTES
DP-08-B6(1-2)	-16	6/22/16	9:40	S	1				X				X	X															X	

TOTAL

RELINQUISHED BY:(Signature) DATE/TIME 4:30 6/24/16 RECEIVED BY: (Signature)
RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)
RELINQUISHED BY:(Signature) DATE/TIME 16:30 6/24/16 RECEIVED BY: (Signature) Marissa Martin

TURN AROUND TIME
NORMAL ☐
1 DAY ☐
2 DAY ☐
OTHER ☑ 3 day

LABORATORY USE ONLY:
RECEIVING TEMP: 16.0 THERM #:
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL #
☐ 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: XTO Nash Draw Site #38
Project Number: 16-0108-08
Location: New Mexico

Lab Order Number: 6I30006

NELAP/TCEQ # T104704156-16-6

Report Date: 11/07/16

Larson & Associates, Inc.	Project: XTO Nash Draw Site #38	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 16-0108-08	
Midland TX, 79710	Project Manager: Mark Larson	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DP-08-01, 6'	6I30006-01	Soil	09/29/16 12:58	09-30-2016 08:30
DP-08-01, 8'	6I30006-02	Soil	09/29/16 13:03	09-30-2016 08:30
DP-08-01, 9'	6I30006-03	Soil	09/29/16 13:14	09-30-2016 08:30

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

Project: XTO Nash Draw Site #38
Project Number: 16-0108-08
Project Manager: Mark Larson

Fax: (432) 687-0456

DP-08-01, 6'

6I30006-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**1850**	29.1	mg/kg dry	25	P6J0306	10/03/16	10/04/16	EPA 300.0	
% Moisture	**14.0**	0.1	%	1	P6J0304	10/03/16	10/03/16	% calculation	

Larson & Associates, Inc.	Project: XTO Nash Draw Site #38	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 16-0108-08	
Midland TX, 79710	Project Manager: Mark Larson	

DP-08-01, 8'

6I30006-02 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**410**	29.1	mg/kg dry	25	P6J0306	10/03/16	10/04/16	EPA 300.0	
% Moisture	**17.0**	0.1	%	1	P6J0304	10/03/16	10/03/16	% calculation	

Larson & Associates, Inc.	Project: XTO Nash Draw Site #38	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 16-0108-08	
Midland TX, 79710	Project Manager: Mark Larson	

DP-08-01, 9'

6I30006-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**542**	29.1	mg/kg dry	25	P6J0306	10/03/16	10/04/16	EPA 300.0	
% Moisture	**17.0**	0.1	%	1	P6J0304	10/03/16	10/03/16	% calculation	

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

Project: XTO Nash Draw Site #38
Project Number: 16-0108-08
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 P6J0304 - * DEFAULT PREP *** **										
Blank (P6J0304-BLK1)				Prepared & Analyzed: 10/03/16						
% Moisture	ND	0.1	%							
Duplicate (P6J0304-DUP1)		Source: 6I30004-04		Prepared & Analyzed: 10/03/16						
% Moisture	12.0	0.1	%		12.0			0.00	20	
Duplicate (P6J0304-DUP2)		Source: 6I30006-03		Prepared & Analyzed: 10/03/16						
% Moisture	16.0	0.1	%		17.0			6.06	20	
Batch P6J0306 - * DEFAULT PREP *** **										
Blank (P6J0306-BLK1)				Prepared & Analyzed: 10/03/16						
Chloride	ND	1.00	mg/kg wet							
LCS (P6J0306-BS1)				Prepared & Analyzed: 10/03/16						
Chloride	421	1.00	mg/kg wet	400		105	80-120			
LCS Dup (P6J0306-BSD1)				Prepared & Analyzed: 10/03/16						
Chloride	425	1.00	mg/kg wet	400		106	80-120	0.887	20	
Duplicate (P6J0306-DUP1)		Source: 6I29006-28		Prepared & Analyzed: 10/03/16						
Chloride	2050	10.5	mg/kg dry		1990			2.93	20	
Duplicate (P6J0306-DUP2)		Source: 6I30005-05		Prepared: 10/03/16 Analyzed: 10/04/16						
Chloride	2610	52.1	mg/kg dry		2590			1.10	20	
Matrix Spike (P6J0306-MS1)		Source: 6I29006-28		Prepared & Analyzed: 10/03/16						
Chloride	2630	10.5	mg/kg dry	789	1990	80.5	80-120			

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

Project: XTO Nash Draw Site #38
Project Number: 16-0108-08
Project Manager: Mark Larson

Fax: (432) 687-0456

Notes and Definitions

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: Brent Barron Date: 11/7/2016

Brent Barron, Laboratory Director/Technical Director

6130006

C4

Page 8 of 8

Larson & Associates, Inc.
Environmental Consultants

205
507 N. Marienfeld, Ste. 200
Midland, TX 79701
432-687-0901

Data Reported to: Mark Larson

DATE: 9-30-2016 PAGE 1 OF 1

PO #: LAB WORK ORDER #:

PROJECT LOCATION OR NAME: XTO Nash Unow Bty #38

LAI PROJECT #: 16-0108-08 COLLECTOR: JM

TRRP report? ☐ Yes ☑ No

TIME ZONE: Time zone/State: Mtn/NM

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

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES	FIELD NOTES
DP-01, 6'		9/29/2016	12:58	S	1				X		300	
DP-01, 8'			13:03		1							
DP-01, 9'			13:14		1							

ANALYSES: BTEX ☐ MTBE ☐ TRPH 418.1 ☐ TPH 1006 ☐ TPH 1006 ☐ GASOLINE MOD 8015 ☐ DIESEL - MOD 8015 ☐ VOC 8260 ☐ SVOC 8270 ☐ PAH 8270 ☐ HOLOPAH ☐ 8081 PESTICIDES ☐ 8082 PCBS ☐ 8151 HERBICIDES ☐ TCLP - METALS (RCRA) ☐ TCLP VOC ☐ TCLP - PEST ☐ HERB ☐ Semi-VOC ☐ TOTAL METALS (RCRA) ☐ OTHER LIST ☐ LEAD - TOTAL ☐ O.W. 200.8 ☐ TCLP ☐ RCI ☐ TOX ☐ FLASHPOINT ☐ TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐ pH ☐ HEXAVALENT CHROMIUM ☐ EXPLOSIVES ☐ PECHLORATE ☐ CHLORIDE ☐ ANIONS ☐ ALKALINITY ☐

TOTAL

RELINQUISHED BY:(Signature) David Moreno DATE/TIME 9/30/2016 08:30 RECEIVED BY: (Signature)

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

RELINQUISHED BY:(Signature) DATE/TIME 9-30-16 8:30 RECEIVED BY: (Signature)

PBELab

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

LABORATORY USE ONLY:
RECEIVING TEMP: 2.0 THERM #:
CUSTODY SEALS - ☐ BROKEN ☑ INTACT ☐ NOT USED
☐ CARRIER BILL #
☑ HAND DELIVERED

APPENDIX B

Initial C-141

NM OIL CONSERVATION
ARTESIA DISTRICT
SEP 07 2016
RECEIVED

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

nAB1625257659

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: XTO Energy, Inc. 5380	Contact: Dudley McMinn
Address: 500 W. Illinois Ave., Suite 100, Midland, TX 70701	Telephone No.: (432) 682-8873
Facility Name: Nash Draw Unit Battery #38	Facility Type: Tank Battery (Equipment Removed)

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-015-29737

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County: Eddy
N	13	23S	29E	330	South	2450	West	

Latitude 32.298611 Longitude -103.938889

NATURE OF RELEASE

Type of Release: Crude Oil/Produced Water	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? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.* 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.

Signature:

Printed Name: Luke Williams

Title: EH&S Coordinator

E-mail Address: Luke_Williams@xtoenergy.com

Date: 09-07-2016 Phone: (432) 683-8873

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: 9/8/16 Expiration Date: N/A

Conditions of Approval: Attached ☐

Remediation per O.C.D. Rules & Guidelines
SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 10/9/16

2RP-3890

* Attach Additional Sheets If Necessary