2RP-3976 and 2RP-4235
DELINEATION REPORT AND REMEDIATION PLAN
Nash Draw #42 CTB Crude Oil and Produced Water Spills

Eddy County, New Mexico

Latitude: N32° 18' 23.14277"
Longitude: W103° 55' 29.89976"

LAI Project No. 17-0124-01

June 30, 2017

Prepared for:

XTO Energy, Inc.
500 W. Illinois Ave., Suite 100
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Prepared by:

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Table of Contents

Tables

Figures

Appendices

1.0 INTRODUCTION

This remediation plan is prepared 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, for crude oil and produced water spills at the Nash Draw 42 Consolidated Tank Battery (Site). The legal description is Unit E (SW/4, NW/4), Section 18, Township 23 South, Range 30 East, in Eddy County, New Mexico. The geodetic position is north 32° 18' 23.14277" and west 103° 55' 29.89976". Figure 1 presents a location and topographic map. Figure 2 presents an aerial photograph.

1.1 Background

On October 27, 2016, XTO reported a crude oil spill after a rod line failed at the free water knockout (FWKO) causing the FWKO to dome out and a 210 barrel (bbl) tank to overflow. Approximately 124.7 bbl of crude oil was released with approximately 121 bbl recovered. XTO personnel discovered the release on October 28, 2016. Verbal notification was provided to the OCD District 2 and BLM, on October 28, 2016. The initial C-141 was submitted on November 3, 2016 and approved by OCD District 2 on November 4, 2016, and was assigned remediation permit 2RP-3976 with conditions.

On June 14, 2017, XTO reported a produced water oil spill after a fiberglass line failed causing a release of approximately 456.13 bbl of produced water and 9.31 bbl of crude oil. Approximately 450.8 bbl of produced water and 9.2 bbl of crude oil were recovered. Verbal notification was provided to the OCD District 2 and BLM, on June 14, 2017. The initial C-141 was submitted on June 19, 2017 and approved by OCD District 2 on June 20, 2017, and was assigned remediation permit 2RP-4253 with conditions.

The first spill (October 27, 2016) occurred in an unlined area east of the lined tank battery where the firewall was removed. The spill covered the unlined area measuring about 3,978 square feet and flowed west into the lined containment of the tank battery which was covered with a layer of pea sized gravel. XTO contracted a roust-a-bout crew and hydrovac truck to remove the oil contaminated pea gravel. The liner was pressure washed and inspected for integrity. The contaminated pea gravel was disposed at an OCD approved landfill. The wash water was recovered using the hydrovac truck and disposed in an OCD permitted Class II disposal well.

The second spill (June 14, 2017) occurred inside the lined containment and flowed east the firewall was removed. The spill covered the area of the previous release and flowed north onto the unlined area

1.2 Physical Setting

The physical setting is as follows:

- The surface elevation is approximately 3,020 feet above mean sea level (AMSL);
- Topography slopes toward the south-southeast;
- The nearest surface water feature is a playa lake (Salt Lake) located about 0.75 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 1.5 miles south in Unit J, Section 24, Township 23 South, Range 29 East with groundwater reported at about 54 feet below ground surface (bgs).

1.3 Remediation Action Levels

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	>1000 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

2.0 SPILL DELINEATION

On March 13 – 14, 2017, LAI personnel used direct push technology (DPT) to collect soil samples at twelve (12) locations (DP-1 through DP-12). Soil samples were collected in one foot increments (i.e., 0 to 1, 1 to 2, 2 to 3 feet, etc.) to approximately one (1) foot bgs at location DP-1, 2 feet bgs at locations DP-5 and DP-9, six (6) feet bgs at locations DP-2, DP-4, DP-8, and DP-11, seven (7) feet bgs at location DP-6 and eight (8) feet bgs at locations DP-3, DP-7, DP-10 and DP-12. The samples were screened for organic vapors using the ambient temperature headspace method and reported vapor concentrations above 100 parts per million (ppm) in the following samples:

- DP-2, 0 to 1 foot (1,380 ppm)
- DP-2, 1 to 2 feet (232.3 ppm)
- DP-3, 0 to 1 foot (1,236 ppm)
- DP-3, 3 to 4 feet (141.3 ppm)
- DP-3, 4 to 5 feet (198.3 ppm)
- DP-3, 7 to 8 feet (231.2 ppm)
- DP-3, 4 to 5 feet (198.3 ppm)
- DP-4, 0 to 1 foot (1,250 ppm)
- DP-4, 1 to 2 feet (118.6 ppm)
- DP-6, 0 to 1 foot (1,155 ppm)
- DP-6, 1 to 2 feet (1,836 ppm)
- DP-6, 2 to 3 feet (1,622 ppm)
- DP-6, 3 to 4 feet (1,328 ppm)
- DP-6, 4 to 5 feet (841.9 ppm)
- DP-8, 0 to 1 foot (1,104 ppm)
- DP-8, 1 to 2 feet (1,334 ppm)
- DP-8, 2 to 3 feet (115.8 ppm)
- DP-10, 0 to 1 foot (116.7 ppm)
- DP-10, 1 to 2 feet (590.5 ppm)
- DP-10, 4 to 5 feet (367.4 ppm)
- DP-11, 5 to 6 feet (101.3 ppm)
- DP-12, 7 to 8 feet (103 ppm)

Laboratory samples were collected in 4 ounce jars that were hand delivered under preservation and chain of custody to Permian Basin Environmental Laboratory (PBEL), a National Laboratory Accreditation Program (NELAP) certified laboratory, located in Midland, Texas. PBEL analyzed samples exhibiting headspace readings above 100 ppm for benzene, toluene, ethylbenzene, xylenes (BTEX) by EPA SW-846 Method 8021B. The laboratory analyzed samples for total petroleum hydrocarbons (TPH) by SW-846 Method 8015M, including gasoline range organics (C6 – C12), diesel range organics (>C12 – C28) and oil range organics (>C28 – C35) and chloride by Method 300. Table 1 presents the delineation soil sample analytical data summary. Figure 3 present the DPT sample locations and approximate spill area. Appendix A presents the laboratory report. Appendix B presents photographs.

Benzene exceeded the RRAL (10 mg/Kg) in soil samples DP-6, 1 to 2 feet (18.9 mg/Kg). BTEX exceeded the RRAL (50 mg/Kg) in soil samples DP-2, 0 to 1 foot (147.75 mg/Kg), DP-3, 0 to 1 foot (140.53 mg/Kg), DP-6, 0 to 1 foot (230.27 mg/Kg), DP-6, 1 to 2 feet (439.6 mg/Kg), DP-6, 2 to 3 feet (254.36 mg/Kg) and DP-8, 0 to 1 foot (110.56 mg/Kg). TPH exceeded the RRAL (1,000 mg/Kg) in the following soil samples:

- DP-2, 0 to 1 foot (25,400 mg/Kg)
- DP-3, 0 to 1 foot (17,800 mg/Kg)
- DP-4, 0 to 1 foot (6,900 mg/Kg)
- DP-6, 0 to 1 foot (31,700 mg/Kg)
- DP-6, 1 to 2 feet (30,800 mg/Kg)
- DP-6, 2 to 3 feet (25,100 mg/Kg)
- DP-6, 3 to 4 feet (3,720 mg/Kg)
- DP-7, 0 to 1 foot (4,160 mg/Kg)
- DP-8, 0 to 1 foot (23,100 mg/Kg)
- DP-8, 1 to 2 feet (21,300 mg/Kg)
- DP-10, 0 to 1 foot (37,000 mg/Kg)

Chloride was below 250 mg/Kg in all samples except DP-11, 5 to 6 feet (702 mg/Kg) and may be contributed to sample contamination from surface material.

3.0 REMEDIATION PLAN

XTO proposes remediate both spills concurrently. Soil will be excavated from the unlined area of the spill, including the new spill area, to a depth of approximately 1 foot bgs. Additional soil will be excavated between about 2 and 4 feet bgs from the area between sample locations DP-6 and DP-8, as shown on Figure 4. Confirmation samples will be collected from the bottom of the excavation from the new spill area and sample locations DP-2, DP-3, DP-4, DP-6, DP-8 and DP-10. The samples will be analyzed for BTEX, TPH and chloride by Methods 8021B, 8015 and 300, respectively. The contaminated soil will disposed at an OCD approved landfill. The area will be backfilled with clean material following OCD approval. The entire area including the tank battery will be lined with a spray-in liner. A report will be submitted to the OCD District 2 and BLM upon completion of the remediation. Appendix C presents the initial C-141.

Tables

Table 1
2RP-1486
Assessment Soil Sample Analytical Data Summary
XTO Energy, Inc., Nash Draw #42 CTB Crude Oil Spill
UL N (SE/4, SW/4), S-8, T-26 South, R-31 East
N32° 18' 23.14277" W103° 55' 29.89976"
Eddy County, New Mexico

Sample	Depth (Feet)	Collection Date	Status	PID (ppm)	Benzene (mg/Kg)	BTEX (mg/Kg)	GRO (mg/Kg)	DRO (mg/Kg)	ORO (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
OCD RRAL:					**10**	**50**				**1,000**	***250**
DP-1	0 - 1	03/14/2017	In-situ	1.8	--	--	<27.5	<27.5	<27.5	<27.5	17.4
DP-2	0 - 1	03/14/2017	In-situ	1,380	4.75	**147.75**	5,730	16,900	2,760	**25,400**	62.9
	1 - 2	03/14/2017	In-situ	232.3	0.00702	0.1863	72.9	614	102	788.9	53.9
	2 - 3	03/14/2017	In-situ	16.3	--	--	<28.7	<28.7	<28.7	<28.7	33.9
	3 - 4	03/14/2017	In-situ	2.9	--	--	--	--	--	--	--
	4 - 5	03/14/2017	In-situ	1.8	--	--	--	--	--	--	--
	5 - 6	03/14/2017	In-situ	1.8	<0.00116	<0.00794	<29.1	<29.1	<29.1	<29.1	<1.16
DP-3	0 - 1	03/14/2017	In-situ	1,236	5.23	**140.53**	5,380	10,800	1,650	**17,800**	10.5
	1 - 2	03/14/2017	In-situ	90.2	0.0127	0.1708	<30.1	112	<301.	112	11.6
	2 - 3	03/14/2017	In-situ	29.2	--	--	<29.4	<29.4	<29.4	<29.4	12.4
	3 - 4	03/14/2017	In-situ	141.3	--	--	<29.1	<29.1	<29.1	<29.1	9.45
	4 - 5	03/14/2017	In-situ	198.3	--	--	--	--	--	--	--
	5 - 6	03/14/2017	In-situ	13.6	--	--	--	--	--	--	--
	6 - 7	03/14/2017	In-situ	25	--	--	--	--	--	--	--
	7 - 8	03/14/2017	In-situ	231.2	<0.00116	<0.00794	<29.1	<29.1	<29.1	<29.1	8.31
DP-4	0 - 1	03/14/2017	In-situ	1,250	0.807	10.86	999	5,060	844	**6,900**	43.4
	1 - 2	03/14/2017	In-situ	118.6	0.0056	0.0056	<29.8	<29.8	<29.8	<29.8	33.9
	2 - 3	03/14/2017	In-situ	39.4	--	--	<28.4	<28.4	<28.4	<28.4	22.1
	3 - 4	03/14/2017	In-situ	12.5	--	--	--	--	--	--	--
	4 - 5	03/14/2017	In-situ	26.8	--	--	--	--	--	--	--
	5 - 6	03/14/2017	In-situ	53.5	<0.00112	<0.00786	<28.1	<28.1	<28.1	<28.1	106
DP-5	0 - 1	03/14/2017	In-situ	2.2	--	--	<27.5	<27.5	<27.5	<27.5	12.5

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Eddy County, New Mexico

Sample	Depth (Feet)	Collection Date	Status	PID (ppm)	Benzene (mg/Kg)	BTEX (mg/Kg)	GRO (mg/Kg)	DRO (mg/Kg)	ORO (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
OCD RRAL:					10	50				1,000	*250
	1 - 2	03/14/2017	In-situ	3.7	--	--	<27.8	<27.8	<27.8	<27.8	9.41
DP-6	0 - 1	03/13/2017	In-situ	1,155	8.87	**230.27**	7,900	20,400	3,330	**31,700**	145
	1 - 2	03/13/2017	In-situ	1,836	**18.9**	**439.6**	12,800	15,200	2,780	**30,800**	9.57
	2 - 3	03/13/2017	In-situ	1,622	9.16	**254.36**	10,500	12,300	2,240	**25,100**	9.72
	3 - 4	03/13/2017	In-situ	1,328	0.54	19.414	1,160	2,210	358	**3,720**	8.75
	4 - 5	03/13/2017	In-situ	841.9	<0.00115	0.05052	95.2	363	60.2	518.4	8.86
	5 - 6	03/13/2017	In-situ	11.5	<0.00115	<0.04945	<28.7	129	47.3	176.3	<1.16
	6 - 7	03/13/2017	In-situ	54	<0.00114	<0.00796	<28.4	<28.4	<28.4	<28.4	<1.14
DP-7	0 - 1	03/13/2017	In-situ	4.1	--	--	239	3,300	625	**4,160**	22.4
	1 - 2	03/13/2017	In-situ	1.9	--	--	<29.1	78.8	<29.1	78.8	19.3
	2 - 3	03/13/2017	In-situ	1.9	--	--	--	--	--	--	--
	3 - 4	03/13/2017	In-situ	4.2	--	--	--	--	--	--	--
	4 - 5	03/13/2017	In-situ	4.7	--	--	--	--	--	--	--
	5 - 6	03/13/2017	In-situ	12.2	--	--	--	--	--	--	--
	6 - 7	03/13/2017	In-situ	5.6	--	--	--	--	--	--	--
	7 - 8	03/13/2017	In-situ	39.5	<0.00111	<0.00777	<27.8	<27.8	<27.8	<27.8	137
DP-8	0 - 1	03/13/2017	In-situ	1,104	4.16	**110.56**	7,320	13,600	2,190	**23,100**	32.1
	1 - 2	03/13/2017	In-situ	1,334	1.42	28.47	8,260	11,100	1,910	**21,300**	13.5
	2 - 3	03/13/2017	In-situ	115.8		--	38	238	58	334	6.29
	3 - 4	03/13/2017	In-situ	43.1	--	--	--	--	--	--	--
	4 - 5	03/13/2017	In-situ	86.2	--	--	--	--	--	--	--
	5 - 6	03/13/2017	In-situ	8.5	<0.00111	<0.00777	<27.8	<27.8	<27.8	<27.8	<1.11

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OCD RRAL:					10	50				1,000	*250
DP-9	0 - 1	03/13/2017	In-situ	5.6	--	--	<27.2	<27.2	<27.2	<27.2	16.0
	1 - 2	03/13/2017	In-situ	4.5	--	--	<28.1	<28.1	<28.1	<28.1	9.15
DP-10	0 - 1	03/13/2017	In-situ	116.7	1.53	49.730	10,400	22,900	3,720	**37,000**	7.34
	1 - 2	03/13/2017	In-situ	590.5	0.195	4.571	152	531	<144	683	7.48
	2 - 3	03/13/2017	In-situ	48.7	--	--	<29.4	<29.4	<29.4	<29.4	5.28
	3 - 4	03/13/2017	In-situ	24	--	--	--	--	--	--	--
	4 - 5	03/13/2017	In-situ	367.4	--	--	--	--	--	--	--
	5 - 6	03/13/2017	In-situ	12.7	--	--	--	--	--	--	--
	6 - 7	03/13/2017	In-situ	20.3	--	--	--	--	--	--	--
	7 - 8	03/13/2017	In-situ	3.4	<0.00111	<0.00777	44.5	<27.8	<27.8	44.5	174
DP-11	0 - 1	03/13/2017	In-situ	11.2	--	--	<27.8	<27.8	<27.8	<27.8	14.8
	1 - 2	03/13/2017	In-situ	6.4	--	--	<29.4	<29.4	<29.4	<29.4	162
	2 - 3	03/13/2017	In-situ	6.4	--	--	--	--	--	--	--
	3 - 4	03/13/2017	In-situ	1.8	--	--	--	--	--	--	--
	4 - 5	03/13/2017	In-situ	4.2	--	--	--	--	--	--	--
	5 - 6	03/13/2017	In-situ	101.3	--	--	<27.8	156	50.3	206.3	702
DP-12	0 - 1	03/13/2017	In-situ	2.5	--	--	<27.2	122	45.1	167.1	104
	1 - 2	03/13/2017	In-situ	4.7	--	--	<28.1	49.1	<28.1	49.1	145
	2 - 3	03/13/2017	In-situ	21.9	--	--	--	--	--	--	--
	3 - 4	03/13/2017	In-situ	15.2	--	--	--	--	--	--	--
	4 - 5	03/13/2017	In-situ	7	--	--	--	--	--	--	--
	5 - 6	03/13/2017	In-situ	4.9	--	--	--	--	--	--	--
	6 - 7	03/13/2017	In-situ	27.6	--	--	--	--	--	--	--

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Sample	Depth (Feet)	Collection Date	Status	PID (ppm)	Benzene (mg/Kg)	BTEX (mg/Kg)	GRO (mg/Kg)	DRO (mg/Kg)	ORO (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
OCD RRAL:					**10**	**50**				**1,000**	***250**
	7 - 8	03/13/2017	In-situ	103	<0.00112	<0.0079	<28.1	<28.1	<28.1	<28.1	72.7

Notes: analysis performed by Permian Basin Environmental Lab, Midland, Texas, by EPA SW-846 method 8021B (BTEX) and 8015M (TPH)
Depth in inches below ground surface (bgs)
mg/Kg: milligrams per kilogram equivalent to parts per million (ppm)
*: OCD delineation limit
P: Laboratory results pending
Bold and highlighted denotes analyte detected at concentration above the OCD Recommended Remediation Action Level (RRAL)

Figures

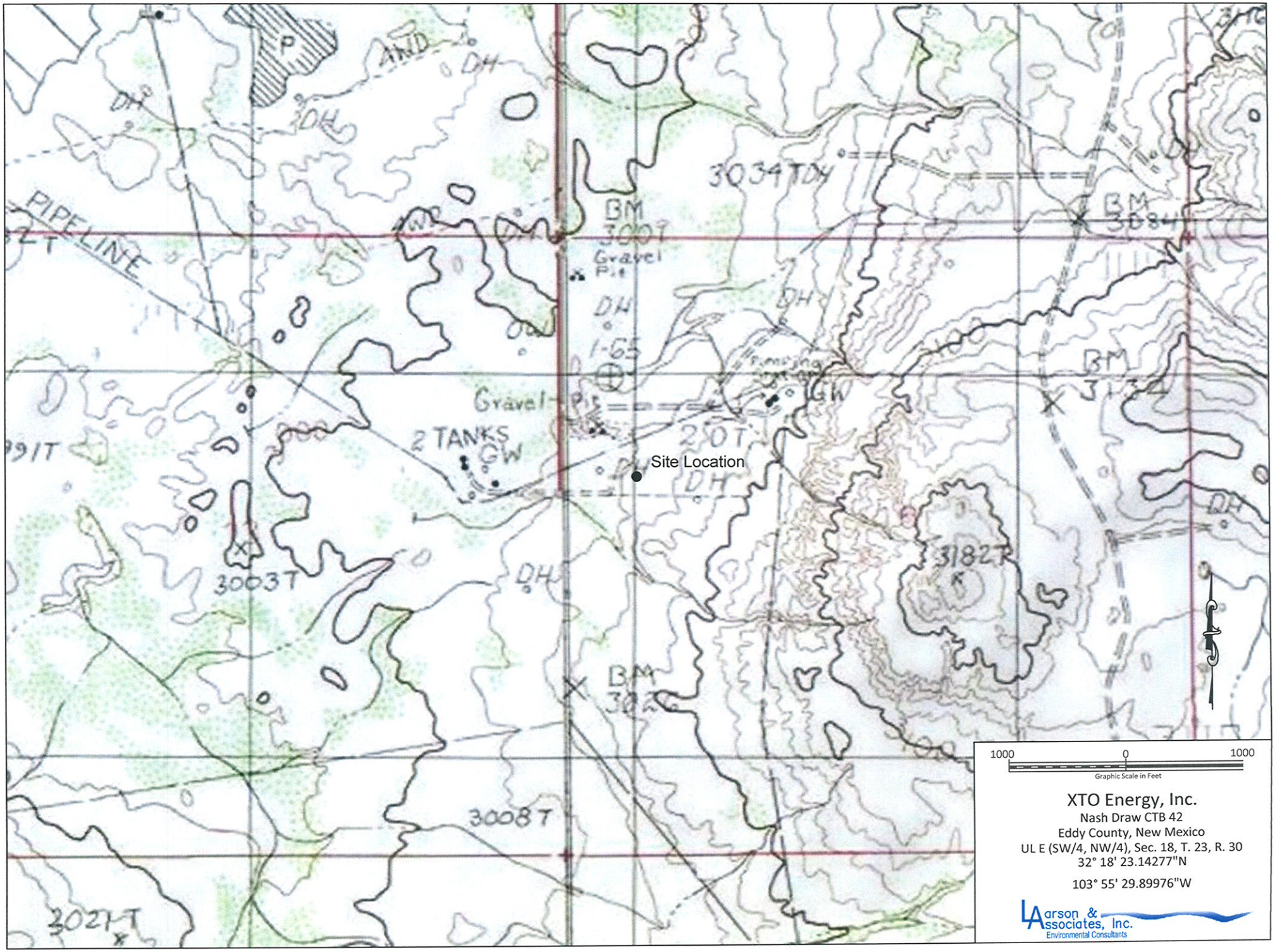

Figure 1 - Topographic Map

Figure 2 - Site Map Showing Direct Push Sample Locations

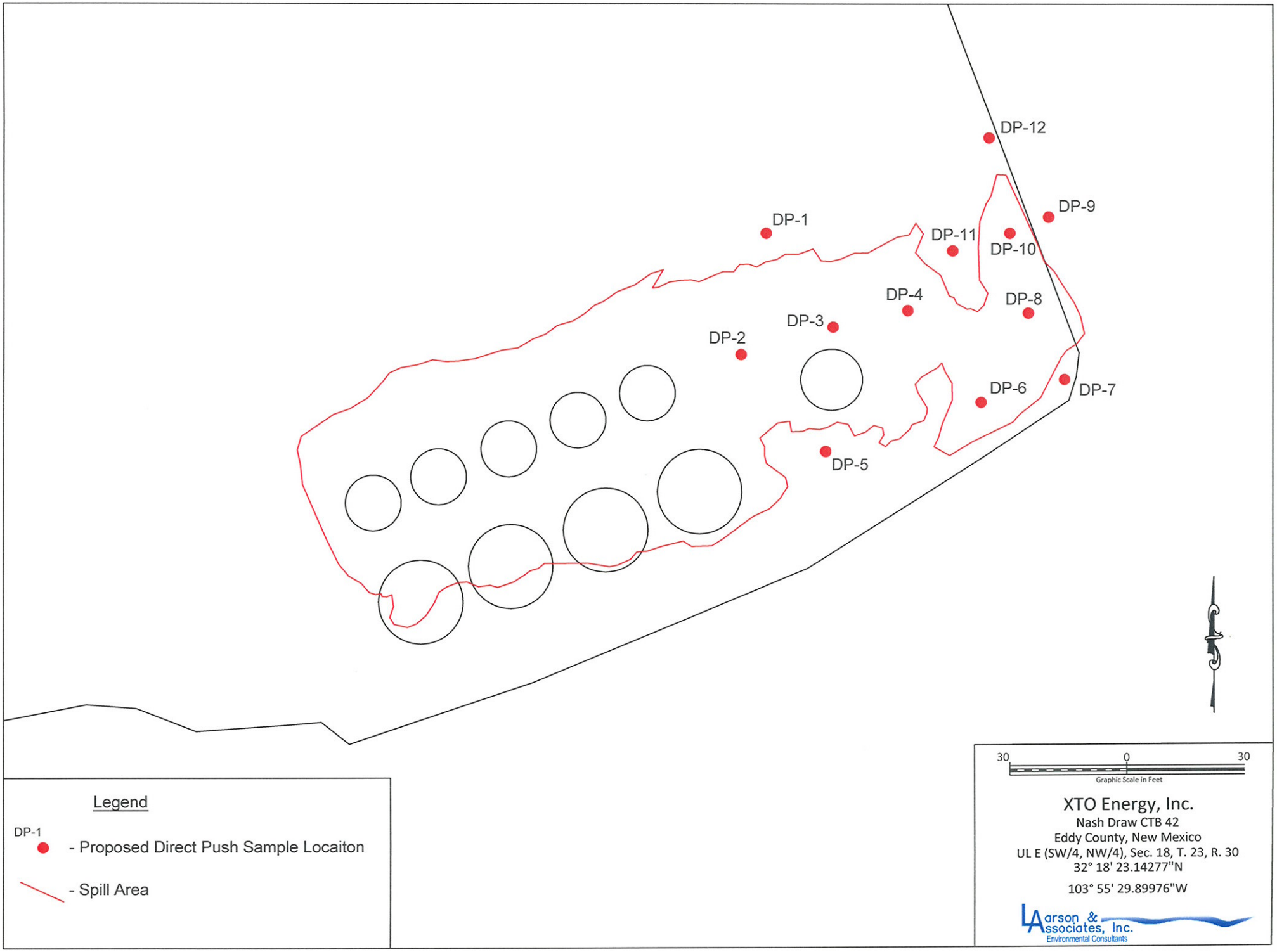

Figure 3 - Site Map

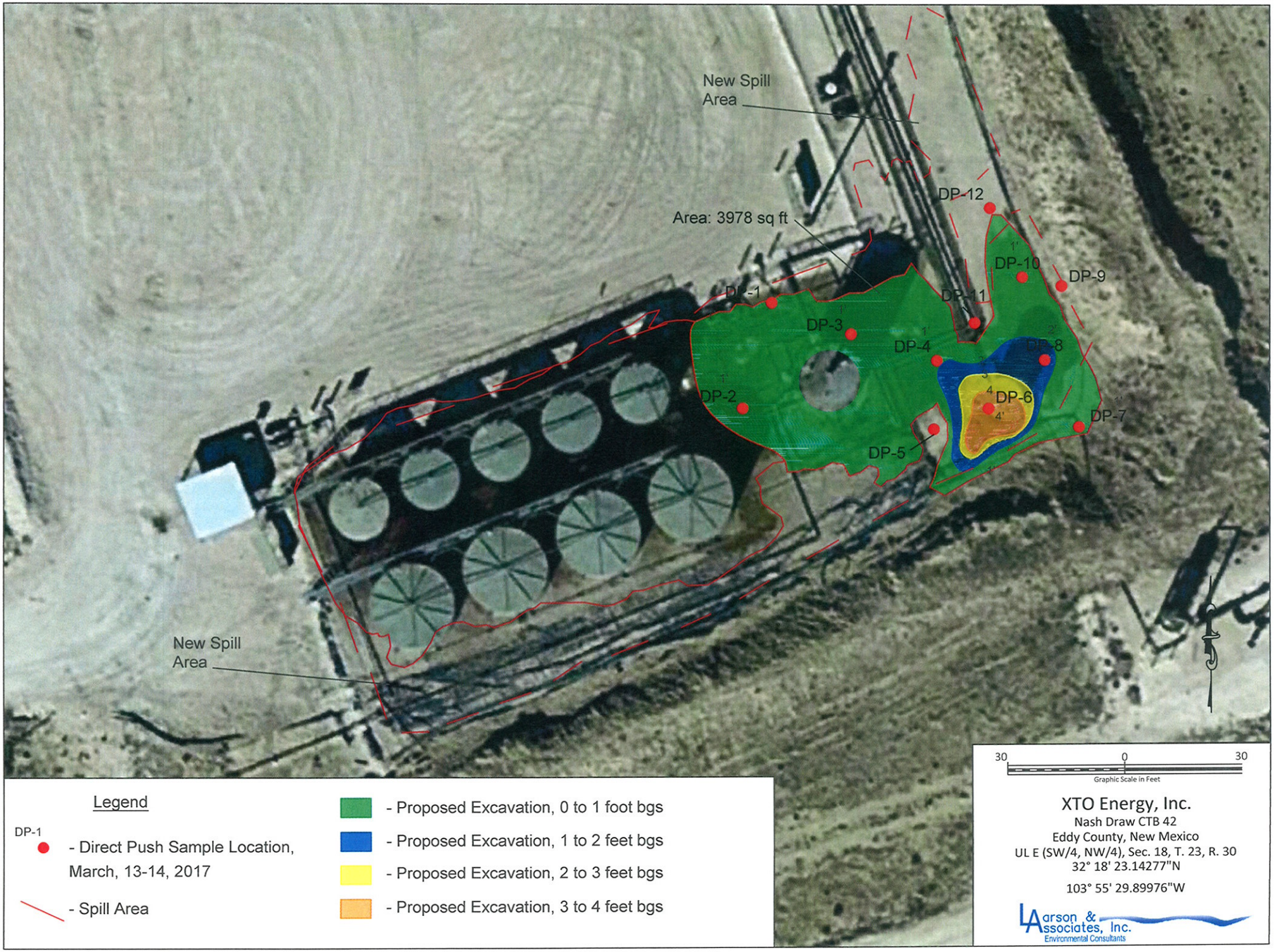

Figure 4- Site Map and Proposed Soil Excavation

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: XTO Nash Draw Battery 42
Project Number: 17-0124-01
Location:

Lab Order Number: 7C15005

NELAP ACCREDITED TNI LABORATORY

NELAP/TCEQ # T104704156-16-6

Report Date: 04/04/17

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

Project: XTO Nash Draw Battery 42
Project Number: 17-0124-01
Project Manager: Mark Larson

Fax: (432) 687-0456

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DP-12 (0-1)	7C15005-01	Soil	03/13/17 11:25	03-15-2017 14:30
DP-12 (1-2)	7C15005-02	Soil	03/13/17 11:25	03-15-2017 14:30
DP-12 (7-8)	7C15005-08	Soil	03/13/17 11:35	03-15-2017 14:30
DP-11 (0-1)	7C15005-09	Soil	03/13/17 12:05	03-15-2017 14:30
DP-11 (1-2)	7C15005-10	Soil	03/13/17 12:05	03-15-2017 14:30
DP-11 (5-6)	7C15005-14	Soil	03/13/17 12:10	03-15-2017 14:30
DP-10 (0-1)	7C15005-15	Soil	03/13/17 11:45	03-15-2017 14:30
DP-10 (1-2)	7C15005-16	Soil	03/13/17 11:45	03-15-2017 14:30
DP-10 (2-3)	7C15005-17	Soil	03/13/17 11:45	03-15-2017 14:30
DP-10 (7-8)	7C15005-22	Soil	03/13/17 11:55	03-15-2017 14:30
DP-9 (0-1)	7C15005-23	Soil	03/13/17 12:50	03-15-2017 14:30
DP-9 (1-2)	7C15005-24	Soil	03/13/17 12:50	03-15-2017 14:30
DP-8 (0-1)	7C15005-25	Soil	03/13/17 12:20	03-15-2017 14:30
DP-8 (1-2)	7C15005-26	Soil	03/13/17 12:20	03-15-2017 14:30
DP-8 (2-3)	7C15005-27	Soil	03/13/17 12:20	03-15-2017 14:30
DP-8 (3-4)	7C15005-28	Soil	03/13/17 12:20	03-15-2017 14:30
DP-8 (4-5)	7C15005-29	Soil	03/13/17 12:25	03-15-2017 14:30
DP-8 (5-6)	7C15005-30	Soil	03/13/17 12:25	03-15-2017 14:30
DP-7 (0-1)	7C15005-31	Soil	03/13/17 12:35	03-15-2017 14:30
DP-7 (1-2)	7C15005-32	Soil	03/13/17 12:35	03-15-2017 14:30
DP-7 (7-8)	7C15005-38	Soil	03/13/17 12:40	03-15-2017 14:30
DP-6 (0-1)	7C15005-39	Soil	03/13/17 13:45	03-15-2017 14:30
DP-6 (1-2)	7C15005-40	Soil	03/13/17 13:45	03-15-2017 14:30
DP-6 (2-3)	7C15005-41	Soil	03/13/17 13:45	03-15-2017 14:30
DP-6 (3-4)	7C15005-42	Soil	03/13/17 13:45	03-15-2017 14:30
DP-6 (4-5)	7C15005-43	Soil	03/13/17 13:50	03-15-2017 14:30
DP-6 (5-6)	7C15005-44	Soil	03/13/17 13:50	03-15-2017 14:30
DP-6 (6-7)	7C15005-45	Soil	03/13/17 13:50	03-15-2017 14:30
DP-5 (0-1)	7C15005-46	Soil	03/14/17 13:40	03-15-2017 14:30
DP-5 (1-2)	7C15005-47	Soil	03/14/17 13:40	03-15-2017 14:30
DP-4 (0-1)	7C15005-48	Soil	03/14/17 12:25	03-15-2017 14:30
DP-4 (1-2)	7C15005-49	Soil	03/14/17 12:25	03-15-2017 14:30
DP-4 (2-3)	7C15005-50	Soil	03/14/17 12:25	03-15-2017 14:30
DP-4 (3-4)	7C15005-51	Soil	03/14/17 12:25	03-15-2017 14:30

Larson & Associates, Inc.	Project: XTO Nash Draw Battery 42	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 17-0124-01	
Midland TX, 79710	Project Manager: Mark Larson	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DP-4 (4-5)	7C15005-52	Soil	03/14/17 12:30	03-15-2017 14:30
DP-4 (5-6)	7C15005-53	Soil	03/14/17 12:30	03-15-2017 14:30
DP-3 (0-1)	7C15005-54	Soil	03/14/17 12:05	03-15-2017 14:30
DP-3 (1-2)	7C15005-55	Soil	03/14/17 12:05	03-15-2017 14:30
DP-3 (2-3)	7C15005-56	Soil	03/14/17 12:05	03-15-2017 14:30
DP-3 (3-4)	7C15005-57	Soil	03/14/17 12:05	03-15-2017 14:30
DP-3 (7-8)	7C15005-61	Soil	03/14/17 12:15	03-15-2017 14:30
DP-2 (0-1)	7C15005-62	Soil	03/14/17 12:45	03-15-2017 14:30
DP-2 (1-2)	7C15005-63	Soil	03/14/17 12:45	03-15-2017 14:30
DP-2 (2-3)	7C15005-64	Soil	03/14/17 12:45	03-15-2017 14:30
DP-2 (5-6)	7C15005-67	Soil	03/14/17 12:50	03-15-2017 14:30
DP-1 (0-1)	7C15005-68	Soil	03/14/17 13:55	03-15-2017 14:30

Additional analysis were added March 24.

Larson & Associates, Inc.	Project: XTO Nash Draw Battery 42	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 17-0124-01	
Midland TX, 79710	Project Manager: Mark Larson	

DP-12 (0-1)

7C15005-01 (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	104	10.9	mg/kg dry	10	P7C1604	03/16/17	03/20/17	EPA 300.0	
% Moisture	8.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.2	mg/kg dry	1	P7C1704	03/16/17	03/16/17	TPH 8015M	
>C12-C28	122	27.2	mg/kg dry	1	P7C1704	03/16/17	03/16/17	TPH 8015M	
>C28-C35	45.1	27.2	mg/kg dry	1	P7C1704	03/16/17	03/16/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*68.1 %*	*70-130*		*P7C1704*	*03/16/17*	*03/16/17*	*TPH 8015M*	*S-GC*
Surrogate: o-Terphenyl		*79.0 %*	*70-130*		*P7C1704*	*03/16/17*	*03/16/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	167	27.2	mg/kg dry	1	[CALC]	03/16/17	03/16/17	calc	

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710	Project: XTO Nash Draw Battery 42 Project Number: 17-0124-01 Project Manager: Mark Larson	Fax: (432) 687-0456

DP-12 (1-2)

7C15005-02 (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	145	1.12	mg/kg dry	1	P7C1604	03/16/17	03/20/17	EPA 300.0	
% Moisture	11.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	28.1	mg/kg dry	1	P7C1704	03/16/17	03/16/17	TPH 8015M	
>C12-C28	49.1	28.1	mg/kg dry	1	P7C1704	03/16/17	03/16/17	TPH 8015M	
>C28-C35	ND	28.1	mg/kg dry	1	P7C1704	03/16/17	03/16/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*74.4 %*	*70-130*		*P7C1704*	*03/16/17*	*03/16/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*86.8 %*	*70-130*		*P7C1704*	*03/16/17*	*03/16/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	49.1	28.1	mg/kg dry	1	[CALC]	03/16/17	03/16/17	calc	

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DP-12 (7-8)

7C15005-08 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00112	mg/kg dry	1	P7C1710	03/16/17	03/16/17	EPA 8021B	
Toluene	ND	0.00225	mg/kg dry	1	P7C1710	03/16/17	03/16/17	EPA 8021B	
Ethylbenzene	ND	0.00112	mg/kg dry	1	P7C1710	03/16/17	03/16/17	EPA 8021B	
Xylene (p/m)	ND	0.00225	mg/kg dry	1	P7C1710	03/16/17	03/16/17	EPA 8021B	
Xylene (o)	ND	0.00112	mg/kg dry	1	P7C1710	03/16/17	03/16/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*105 %*	*75-125*		*P7C1710*	*03/16/17*	*03/16/17*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*109 %*	*75-125*		*P7C1710*	*03/16/17*	*03/16/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	72.7	1.12	mg/kg dry	1	P7C1604	03/16/17	03/20/17	EPA 300.0	
% Moisture	11.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	28.1	mg/kg dry	1	P7C1704	03/16/17	03/17/17	TPH 8015M	
>C12-C28	ND	28.1	mg/kg dry	1	P7C1704	03/16/17	03/17/17	TPH 8015M	
>C28-C35	ND	28.1	mg/kg dry	1	P7C1704	03/16/17	03/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*78.6 %*	*70-130*		*P7C1704*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*91.9 %*	*70-130*		*P7C1704*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	28.1	mg/kg dry	1	[CALC]	03/16/17	03/17/17	calc	

Larson & Associates, Inc.	Project: XTO Nash Draw Battery 42	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 17-0124-01	
Midland TX, 79710	Project Manager: Mark Larson	

DP-11 (0-1)

7C15005-09 (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									
Chloride	14.8	1.11	mg/kg dry	1	P7C1604	03/16/17	03/20/17	EPA 300.0	
% Moisture	10.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.8	mg/kg dry	1	P7C1704	03/16/17	03/17/17	TPH 8015M	
>C12-C28	ND	27.8	mg/kg dry	1	P7C1704	03/16/17	03/17/17	TPH 8015M	
>C28-C35	ND	27.8	mg/kg dry	1	P7C1704	03/16/17	03/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*84.3 %*	*70-130*		*P7C1704*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*100 %*	*70-130*		*P7C1704*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	27.8	mg/kg dry	1	[CALC]	03/16/17	03/17/17	calc	

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710	Project: XTO Nash Draw Battery 42 Project Number: 17-0124-01 Project Manager: Mark Larson	Fax: (432) 687-0456

DP-11 (1-2)

7C15005-10 (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	162	1.18	mg/kg dry	1	P7C1608	03/16/17	03/20/17	EPA 300.0	
% Moisture	15.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	29.4	mg/kg dry	1	P7C1704	03/16/17	03/17/17	TPH 8015M	
>C12-C28	ND	29.4	mg/kg dry	1	P7C1704	03/16/17	03/17/17	TPH 8015M	
>C28-C35	ND	29.4	mg/kg dry	1	P7C1704	03/16/17	03/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*65.6 %*	*70-130*		*P7C1704*	*03/16/17*	*03/17/17*	*TPH 8015M*	*S-GC*
Surrogate: o-Terphenyl		*80.4 %*	*70-130*		*P7C1704*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	29.4	mg/kg dry	1	[CALC]	03/16/17	03/17/17	calc	

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710	Project: XTO Nash Draw Battery 42 Project Number: 17-0124-01 Project Manager: Mark Larson	Fax: (432) 687-0456

DP-11 (5-6)

7C15005-14 (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	702	1.11	mg/kg dry	1	P7C2804	03/28/17	03/28/17	EPA 300.0	
% Moisture	10.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.8	mg/kg dry	1	P7C2711	03/24/17	03/25/17	TPH 8015M	
>C12-C28	156	27.8	mg/kg dry	1	P7C2711	03/24/17	03/25/17	TPH 8015M	
>C28-C35	50.3	27.8	mg/kg dry	1	P7C2711	03/24/17	03/25/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*105 %*	*70-130*		*P7C2711*	*03/24/17*	*03/25/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*112 %*	*70-130*		*P7C2711*	*03/24/17*	*03/25/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	206	27.8	mg/kg dry	1	[CALC]	03/24/17	03/25/17	calc	

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DP-10 (0-1)

7C15005-15 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	1.53	0.110	mg/kg dry	100	P7C1710	03/16/17	03/17/17	EPA 8021B	
Toluene	16.4	0.220	mg/kg dry	100	P7C1710	03/16/17	03/17/17	EPA 8021B	
Ethylbenzene	5.90	0.110	mg/kg dry	100	P7C1710	03/16/17	03/17/17	EPA 8021B	
Xylene (p/m)	18.4	0.220	mg/kg dry	100	P7C1710	03/16/17	03/17/17	EPA 8021B	
Xylene (o)	7.50	0.110	mg/kg dry	100	P7C1710	03/16/17	03/17/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*104 %*	*75-125*		*P7C1710*	*03/16/17*	*03/17/17*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*78.8 %*	*75-125*		*P7C1710*	*03/16/17*	*03/17/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	7.34	1.10	mg/kg dry	1	P7C1604	03/16/17	03/20/17	EPA 300.0	
% Moisture	9.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	10400	137	mg/kg dry	5	P7C1704	03/16/17	03/17/17	TPH 8015M	
>C12-C28	22900	137	mg/kg dry	5	P7C1704	03/16/17	03/17/17	TPH 8015M	
>C28-C35	3720	137	mg/kg dry	5	P7C1704	03/16/17	03/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*92.7 %*	*70-130*		*P7C1704*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*82.6 %*	*70-130*		*P7C1704*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	37000	137	mg/kg dry	5	[CALC]	03/16/17	03/17/17	calc	

Larson & Associates, Inc.	Project: XTO Nash Draw Battery 42	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 17-0124-01	
Midland TX, 79710	Project Manager: Mark Larson	

DP-10 (1-2)

7C15005-16 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	0.195	0.0230	mg/kg dry	20	P7C1710	03/16/17	03/16/17	EPA 8021B	
Toluene	1.34	0.0460	mg/kg dry	20	P7C1710	03/16/17	03/16/17	EPA 8021B	
Ethylbenzene	0.543	0.0230	mg/kg dry	20	P7C1710	03/16/17	03/16/17	EPA 8021B	
Xylene (p/m)	1.77	0.0460	mg/kg dry	20	P7C1710	03/16/17	03/16/17	EPA 8021B	
Xylene (o)	0.723	0.0230	mg/kg dry	20	P7C1710	03/16/17	03/16/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*95.4 %*	*75-125*		*P7C1710*	*03/16/17*	*03/16/17*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*114 %*	*75-125*		*P7C1710*	*03/16/17*	*03/16/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	7.48	1.15	mg/kg dry	1	P7C1604	03/16/17	03/20/17	EPA 300.0	
% Moisture	13.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	152	144	mg/kg dry	5	P7C1704	03/16/17	03/17/17	TPH 8015M	
>C12-C28	531	144	mg/kg dry	5	P7C1704	03/16/17	03/17/17	TPH 8015M	
>C28-C35	ND	144	mg/kg dry	5	P7C1704	03/16/17	03/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*66.2 %*	*70-130*		*P7C1704*	*03/16/17*	*03/17/17*	*TPH 8015M*	*S-GC*
Surrogate: o-Terphenyl		*79.6 %*	*70-130*		*P7C1704*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	683	144	mg/kg dry	5	[CALC]	03/16/17	03/17/17	calc	

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710	Project: XTO Nash Draw Battery 42 Project Number: 17-0124-01 Project Manager: Mark Larson	Fax: (432) 687-0456

DP-10 (2-3)

7C15005-17 (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	5.28	1.18	mg/kg dry	1	P7C1604	03/16/17	03/20/17	EPA 300.0	
% Moisture	15.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	29.4	mg/kg dry	1	P7C1704	03/16/17	03/17/17	TPH 8015M	
>C12-C28	ND	29.4	mg/kg dry	1	P7C1704	03/16/17	03/17/17	TPH 8015M	
>C28-C35	ND	29.4	mg/kg dry	1	P7C1704	03/16/17	03/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*70.1 %*	*70-130*		*P7C1704*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*85.5 %*	*70-130*		*P7C1704*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	29.4	mg/kg dry	1	[CALC]	03/16/17	03/17/17	calc	

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P.O. Box 50685	Project Number: 17-0124-01	
Midland TX, 79710	Project Manager: Mark Larson	

DP-10 (7-8)

7C15005-22 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00111	mg/kg dry	1	P7C2802	03/27/17	03/27/17	EPA 8021B	
Toluene	ND	0.00222	mg/kg dry	1	P7C2802	03/27/17	03/27/17	EPA 8021B	
Ethylbenzene	ND	0.00111	mg/kg dry	1	P7C2802	03/27/17	03/27/17	EPA 8021B	
Xylene (p/m)	ND	0.00222	mg/kg dry	1	P7C2802	03/27/17	03/27/17	EPA 8021B	
Xylene (o)	ND	0.00111	mg/kg dry	1	P7C2802	03/27/17	03/27/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*114 %*	*75-125*		*P7C2802*	*03/27/17*	*03/27/17*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*95.1 %*	*75-125*		*P7C2802*	*03/27/17*	*03/27/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	174	1.11	mg/kg dry	1	P7C2804	03/28/17	03/28/17	EPA 300.0	
% Moisture	10.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	44.5	27.8	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TPH 8015M	
>C12-C28	ND	27.8	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TPH 8015M	
>C28-C35	ND	27.8	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*97.6 %*	*70-130*		*P7C2807*	*03/23/17*	*03/27/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*118 %*	*70-130*		*P7C2807*	*03/23/17*	*03/27/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	44.5	27.8	mg/kg dry	1	[CALC]	03/23/17	03/27/17	calc	

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P.O. Box 50685	Project Number: 17-0124-01	
Midland TX, 79710	Project Manager: Mark Larson	

DP-9 (0-1)

7C15005-23 (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	16.0	1.09	mg/kg dry	1	P7C1604	03/16/17	03/20/17	EPA 300.0	
% Moisture	8.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.2	mg/kg dry	1	P7C1704	03/16/17	03/17/17	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P7C1704	03/16/17	03/17/17	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P7C1704	03/16/17	03/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*64.3 %*	*70-130*		*P7C1704*	*03/16/17*	*03/17/17*	*TPH 8015M*	*S-GC*
Surrogate: o-Terphenyl		*82.7 %*	*70-130*		*P7C1704*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	03/16/17	03/17/17	calc	

Larson & Associates, Inc. P.O Box 50685 Midland TX, 79710	Project: XTO Nash Draw Battery 42 Project Number: 17-0124-01 Project Manager: Mark Larson	Fax: (432) 687-0456

DP-9 (1-2)

7C15005-24 (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	9.15	1.12	mg/kg dry	1	P7C1604	03/16/17	03/20/17	EPA 300.0	
% Moisture	11.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	28.1	mg/kg dry	1	P7C1704	03/16/17	03/17/17	TPH 8015M	
>C12-C28	ND	28.1	mg/kg dry	1	P7C1704	03/16/17	03/17/17	TPH 8015M	
>C28-C35	ND	28.1	mg/kg dry	1	P7C1704	03/16/17	03/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*67.1 %*	*70-130*		*P7C1704*	*03/16/17*	*03/17/17*	*TPH 8015M*	*S-GC*
Surrogate: o-Terphenyl		*82.3 %*	*70-130*		*P7C1704*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	28.1	mg/kg dry	1	[CALC]	03/16/17	03/17/17	calc	

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710	Project: XTO Nash Draw Battery 42 Project Number: 17-0124-01 Project Manager: Mark Larson	Fax: (432) 687-0456

DP-8 (0-1)

7C15005-25 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	4.16	0.118	mg/kg dry	100	P7C1710	03/16/17	03/17/17	EPA 8021B	
Toluene	40.4	0.235	mg/kg dry	100	P7C1710	03/16/17	03/17/17	EPA 8021B	
Ethylbenzene	14.2	0.118	mg/kg dry	100	P7C1710	03/16/17	03/17/17	EPA 8021B	
Xylene (p/m)	34.3	0.235	mg/kg dry	100	P7C1710	03/16/17	03/17/17	EPA 8021B	
Xylene (o)	17.5	0.118	mg/kg dry	100	P7C1710	03/16/17	03/17/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*94.3 %*	*75-125*		*P7C1710*	*03/16/17*	*03/17/17*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*89.7 %*	*75-125*		*P7C1710*	*03/16/17*	*03/17/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	32.1	1.18	mg/kg dry	1	P7C1604	03/16/17	03/20/17	EPA 300.0	
% Moisture	15.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	7320	147	mg/kg dry	5	P7C1704	03/16/17	03/17/17	TPH 8015M	
>C12-C28	13600	147	mg/kg dry	5	P7C1704	03/16/17	03/17/17	TPH 8015M	
>C28-C35	2190	147	mg/kg dry	5	P7C1704	03/16/17	03/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*94.4 %*	*70-130*		*P7C1704*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*88.5 %*	*70-130*		*P7C1704*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	23100	147	mg/kg dry	5	[CALC]	03/16/17	03/17/17	calc	

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DP-8 (0-1)

7C15005-25RE1 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	1.09	0.294	mg/kg dry	250	P7C2705	03/24/17	03/25/17	EPA 8021B	
Toluene	20.9	0.588	mg/kg dry	250	P7C2705	03/24/17	03/25/17	EPA 8021B	
Ethylbenzene	9.57	0.294	mg/kg dry	250	P7C2705	03/24/17	03/25/17	EPA 8021B	
Xylene (p/m)	26.3	0.588	mg/kg dry	250	P7C2705	03/24/17	03/25/17	EPA 8021B	
Xylene (o)	10.3	0.294	mg/kg dry	250	P7C2705	03/24/17	03/25/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*98.8 %*	*75-125*		*P7C2705*	*03/24/17*	*03/25/17*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*98.5 %*	*75-125*		*P7C2705*	*03/24/17*	*03/25/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	23.0	1.18	mg/kg dry	1	P7C2704	03/27/17	03/29/17	EPA 300.0	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	4500	147	mg/kg dry	5	P7C2807	03/16/17	03/27/17	TPH 8015M	
>C12-C28	8830	147	mg/kg dry	5	P7C2807	03/16/17	03/27/17	TPH 8015M	
>C28-C35	1540	147	mg/kg dry	5	P7C2807	03/16/17	03/27/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*101 %*	*70-130*		*P7C2807*	*03/16/17*	*03/27/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*101 %*	*70-130*		*P7C2807*	*03/16/17*	*03/27/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	14900	147	mg/kg dry	5	[CALC]	03/16/17	03/27/17	calc	

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DP-8 (1-2)

7C15005-26 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	1.42	0.0238	mg/kg dry	20	P7C1710	03/16/17	03/16/17	EPA 8021B	
Toluene	7.86	0.0476	mg/kg dry	20	P7C1710	03/16/17	03/16/17	EPA 8021B	
Ethylbenzene	3.90	0.0238	mg/kg dry	20	P7C1710	03/16/17	03/16/17	EPA 8021B	
Xylene (p/m)	9.84	0.0476	mg/kg dry	20	P7C1710	03/16/17	03/16/17	EPA 8021B	
Xylene (o)	5.45	0.0238	mg/kg dry	20	P7C1710	03/16/17	03/16/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*86.6 %*	*75-125*		*P7C1710*	*03/16/17*	*03/16/17*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*83.4 %*	*75-125*		*P7C1710*	*03/16/17*	*03/16/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	13.5	1.19	mg/kg dry	1	P7C1604	03/16/17	03/20/17	EPA 300.0	
% Moisture	16.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	8260	149	mg/kg dry	5	P7C1704	03/16/17	03/17/17	TPH 8015M	
>C12-C28	11100	149	mg/kg dry	5	P7C1704	03/16/17	03/17/17	TPH 8015M	
>C28-C35	1910	149	mg/kg dry	5	P7C1704	03/16/17	03/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*116 %*	*70-130*		*P7C1704*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*116 %*	*70-130*		*P7C1704*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	21300	149	mg/kg dry	5	[CALC]	03/16/17	03/17/17	calc	

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P.O. Box 50685	Project Number: 17-0124-01	
Midland TX, 79710	Project Manager: Mark Larson	

DP-8 (2-3)

7C15005-27 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.0235	mg/kg dry	20	P7C2705	03/24/17	03/25/17	EPA 8021B	
Toluene	ND	0.0471	mg/kg dry	20	P7C2705	03/24/17	03/25/17	EPA 8021B	
Ethylbenzene	ND	0.0235	mg/kg dry	20	P7C2705	03/24/17	03/25/17	EPA 8021B	
Xylene (p/m)	ND	0.0471	mg/kg dry	20	P7C2705	03/24/17	03/25/17	EPA 8021B	
Xylene (o)	ND	0.0235	mg/kg dry	20	P7C2705	03/24/17	03/25/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*99.3 %*	*75-125*		*P7C2705*	*03/24/17*	*03/25/17*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*90.1 %*	*75-125*		*P7C2705*	*03/24/17*	*03/25/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	6.29	1.18	mg/kg dry	1	P7C1604	03/16/17	03/20/17	EPA 300.0	
% Moisture	15.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	37.6	29.4	mg/kg dry	1	P7C1704	03/16/17	03/17/17	TPH 8015M	
>C12-C28	238	29.4	mg/kg dry	1	P7C1704	03/16/17	03/17/17	TPH 8015M	
>C28-C35	58.1	29.4	mg/kg dry	1	P7C1704	03/16/17	03/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*74.9 %*	*70-130*		*P7C1704*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*89.4 %*	*70-130*		*P7C1704*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	334	29.4	mg/kg dry	1	[CALC]	03/16/17	03/17/17	calc	

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DP-8 (3-4)

7C15005-28 (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	ND	1.15	mg/kg dry	1	P7C2704	03/27/17	03/27/17	EPA 300.0	
% Moisture	13.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	28.7	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TPH 8015M	
>C12-C28	73.3	28.7	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TPH 8015M	
>C28-C35	ND	28.7	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*63.2 %*	*70-130*		*P7C2807*	*03/23/17*	*03/27/17*	*TPH 8015M*	*S-GC*
Surrogate: o-Terphenyl		*77.6 %*	*70-130*		*P7C2807*	*03/23/17*	*03/27/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	73.3	28.7	mg/kg dry	1	[CALC]	03/23/17	03/27/17	calc	

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P.O. Box 50685	Project Number: 17-0124-01	
Midland TX, 79710	Project Manager: Mark Larson	

DP-8 (4-5)

7C15005-29 (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	P7C1703	03/17/17	03/17/17	% calculation	

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P.O. Box 50685	Project Number: 17-0124-01	
Midland TX, 79710	Project Manager: Mark Larson	

DP-8 (5-6)

7C15005-30 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00111	mg/kg dry	1	P7C2705	03/24/17	03/25/17	EPA 8021B	
Toluene	ND	0.00222	mg/kg dry	1	P7C2705	03/24/17	03/25/17	EPA 8021B	
Ethylbenzene	ND	0.00111	mg/kg dry	1	P7C2705	03/24/17	03/25/17	EPA 8021B	
Xylene (p/m)	ND	0.00222	mg/kg dry	1	P7C2705	03/24/17	03/25/17	EPA 8021B	
Xylene (o)	ND	0.00111	mg/kg dry	1	P7C2705	03/24/17	03/25/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*101 %*	*75-125*		*P7C2705*	*03/24/17*	*03/25/17*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*90.5 %*	*75-125*		*P7C2705*	*03/24/17*	*03/25/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	ND	1.11	mg/kg dry	1	P7C2704	03/27/17	03/27/17	EPA 300.0	
% Moisture	10.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.8	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TPH 8015M	
>C12-C28	ND	27.8	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TPH 8015M	
>C28-C35	ND	27.8	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*66.7 %*	*70-130*		*P7C2807*	*03/23/17*	*03/27/17*	*TPH 8015M*	*S-GC*
Surrogate: o-Terphenyl		*81.7 %*	*70-130*		*P7C2807*	*03/23/17*	*03/27/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	27.8	mg/kg dry	1	[CALC]	03/23/17	03/27/17	calc	

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P.O. Box 50685	Project Number: 17-0124-01	
Midland TX, 79710	Project Manager: Mark Larson	

DP-7 (0-1)

7C15005-31 (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	22.4	1.12	mg/kg dry	1	P7C1604	03/16/17	03/20/17	EPA 300.0	
% Moisture	11.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	239	140	mg/kg dry	5	P7C1704	03/16/17	03/17/17	TPH 8015M	
>C12-C28	3300	140	mg/kg dry	5	P7C1704	03/16/17	03/17/17	TPH 8015M	
>C28-C35	625	140	mg/kg dry	5	P7C1704	03/16/17	03/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*66.4 %*	*70-130*		*P7C1704*	*03/16/17*	*03/17/17*	*TPH 8015M*	*S-GC*
Surrogate: o-Terphenyl		*84.3 %*	*70-130*		*P7C1704*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	4160	140	mg/kg dry	5	[CALC]	03/16/17	03/17/17	calc	

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DP-7 (1-2)

7C15005-32 (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	19.3	1.16	mg/kg dry	1	P7C1604	03/16/17	03/20/17	EPA 300.0	
% Moisture	14.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	29.1	mg/kg dry	1	P7C1704	03/16/17	03/17/17	TPH 8015M	
>C12-C28	78.8	29.1	mg/kg dry	1	P7C1704	03/16/17	03/17/17	TPH 8015M	
>C28-C35	ND	29.1	mg/kg dry	1	P7C1704	03/16/17	03/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*62.8 %*	*70-130*		*P7C1704*	*03/16/17*	*03/17/17*	*TPH 8015M*	*S-GC*
Surrogate: o-Terphenyl		*75.4 %*	*70-130*		*P7C1704*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	78.8	29.1	mg/kg dry	1	[CALC]	03/16/17	03/17/17	calc	

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P.O. Box 50685	Project Number: 17-0124-01	
Midland TX, 79710	Project Manager: Mark Larson	

DP-7 (7-8)

7C15005-38 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00111	mg/kg dry	1	P7C2802	03/27/17	03/27/17	EPA 8021B	
Toluene	ND	0.00222	mg/kg dry	1	P7C2802	03/27/17	03/27/17	EPA 8021B	
Ethylbenzene	ND	0.00111	mg/kg dry	1	P7C2802	03/27/17	03/27/17	EPA 8021B	
Xylene (p/m)	ND	0.00222	mg/kg dry	1	P7C2802	03/27/17	03/27/17	EPA 8021B	
Xylene (o)	ND	0.00111	mg/kg dry	1	P7C2802	03/27/17	03/27/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*92.8 %*	*75-125*		*P7C2802*	*03/27/17*	*03/27/17*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*112 %*	*75-125*		*P7C2802*	*03/27/17*	*03/27/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	137	1.11	mg/kg dry	1	P7C2704	03/27/17	03/27/17	EPA 300.0	
% Moisture	10.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.8	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TPH 8015M	
>C12-C28	ND	27.8	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TPH 8015M	
>C28-C35	ND	27.8	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*66.8 %*	*70-130*		*P7C2807*	*03/23/17*	*03/27/17*	*TPH 8015M*	*S-GC*
Surrogate: o-Terphenyl		*81.8 %*	*70-130*		*P7C2807*	*03/23/17*	*03/27/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	27.8	mg/kg dry	1	[CALC]	03/23/17	03/27/17	calc	

Larson & Associates, Inc	Project: XTO Nash Draw Battery 42	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 17-0124-01	
Midland TX, 79710	Project Manager: Mark Larson	

DP-6 (0-1)

7C15005-39 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	8.87	1.10	mg/kg dry	1000	P7C1710	03/16/17	03/17/17	EPA 8021B	
Toluene	71.6	2.20	mg/kg dry	1000	P7C1710	03/16/17	03/17/17	EPA 8021B	
Ethylbenzene	31.9	1.10	mg/kg dry	1000	P7C1710	03/16/17	03/17/17	EPA 8021B	
Xylene (p/m)	78.2	2.20	mg/kg dry	1000	P7C1710	03/16/17	03/17/17	EPA 8021B	
Xylene (o)	39.7	1.10	mg/kg dry	1000	P7C1710	03/16/17	03/17/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*104 %*	*75-125*		*P7C1710*	*03/16/17*	*03/17/17*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*115 %*	*75-125*		*P7C1710*	*03/16/17*	*03/17/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	145	1.10	mg/kg dry	1	P7C1604	03/16/17	03/20/17	EPA 300.0	
% Moisture	9.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	7900	137	mg/kg dry	5	P7C2001	03/16/17	03/16/17	TPH 8015M	
>C12-C28	20400	137	mg/kg dry	5	P7C2001	03/16/17	03/16/17	TPH 8015M	
>C28-C35	3330	137	mg/kg dry	5	P7C2001	03/16/17	03/16/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*95.4 %*	*70-130*		*P7C2001*	*03/16/17*	*03/16/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*108 %*	*70-130*		*P7C2001*	*03/16/17*	*03/16/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	31700	137	mg/kg dry	5	[CALC]	03/16/17	03/16/17	calc	

Larson & Associates, Inc.	Project: XTO Nash Draw Battery 42	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 17-0124-01	
Midland TX, 79710	Project Manager: Mark Larson	

DP-6 (0-1)

7C15005-39RE1 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	6.31	0.275	mg/kg dry	250	P7C2705	03/16/17	03/25/17	EPA 8021B	
Toluene	36.1	0.549	mg/kg dry	250	P7C2705	03/16/17	03/25/17	EPA 8021B	
Ethylbenzene	16.5	0.275	mg/kg dry	250	P7C2705	03/16/17	03/25/17	EPA 8021B	
Xylene (p/m)	46.0	0.549	mg/kg dry	250	P7C2705	03/16/17	03/25/17	EPA 8021B	
Xylene (o)	19.5	0.275	mg/kg dry	250	P7C2705	03/16/17	03/25/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*89.1 %*	*75-125*		*P7C2705*	*03/16/17*	*03/25/17*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*94.1 %*	*75-125*		*P7C2705*	*03/16/17*	*03/25/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	63.0	1.10	mg/kg dry	1	P7C2704	03/27/17	03/29/17	EPA 300.0	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	9030	137	mg/kg dry	5	P7C2807	03/16/17	03/27/17	TPH 8015M	
>C12-C28	16500	137	mg/kg dry	5	P7C2807	03/16/17	03/27/17	TPH 8015M	
>C28-C35	2930	137	mg/kg dry	5	P7C2807	03/16/17	03/27/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*114 %*	*70-130*		*P7C2807*	*03/16/17*	*03/27/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*21.0 %*	*70-130*		*P7C2807*	*03/16/17*	*03/27/17*	*TPH 8015M*	*S-GC*
Total Petroleum Hydrocarbon C6-C35	28500	137	mg/kg dry	5	[CALC]	03/16/17	03/27/17	calc	

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710	Project: XTO Nash Draw Battery 42 Project Number: 17-0124-01 Project Manager: Mark Larson	Fax: (432) 687-0456

DP-6 (1-2)

7C15005-40 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	18.9	1.15	mg/kg dry	1000	P7C1710	03/16/17	03/17/17	EPA 8021B	
Toluene	157	2.30	mg/kg dry	1000	P7C1710	03/16/17	03/17/17	EPA 8021B	
Ethylbenzene	51.2	1.15	mg/kg dry	1000	P7C1710	03/16/17	03/17/17	EPA 8021B	
Xylene (p/m)	150	2.30	mg/kg dry	1000	P7C1710	03/16/17	03/17/17	EPA 8021B	
Xylene (o)	62.5	1.15	mg/kg dry	1000	P7C1710	03/16/17	03/17/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*102 %*	*75-125*		*P7C1710*	*03/16/17*	*03/17/17*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*109 %*	*75-125*		*P7C1710*	*03/16/17*	*03/17/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	9.57	1.15	mg/kg dry	1	P7C1604	03/16/17	03/20/17	EPA 300.0	
% Moisture	13.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	12800	144	mg/kg dry	5	P7C2001	03/16/17	03/16/17	TPH 8015M	
>C12-C28	15200	144	mg/kg dry	5	P7C2001	03/16/17	03/16/17	TPH 8015M	
>C28-C35	2780	144	mg/kg dry	5	P7C2001	03/16/17	03/16/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*117 %*	*70-130*		*P7C2001*	*03/16/17*	*03/16/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*118 %*	*70-130*		*P7C2001*	*03/16/17*	*03/16/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	30800	144	mg/kg dry	5	[CALC]	03/16/17	03/16/17	calc	

Larson & Associates, Inc.	Project: XTO Nash Draw Battery 42	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 17-0124-01	
Midland TX, 79710	Project Manager: Mark Larson	

DP-6 (2-3)

7C15005-41 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	9.16	0.291	mg/kg dry	250	P7C2705	03/24/17	03/25/17	EPA 8021B	
Toluene	71.8	0.581	mg/kg dry	250	P7C2705	03/24/17	03/25/17	EPA 8021B	
Ethylbenzene	35.0	0.291	mg/kg dry	250	P7C2705	03/24/17	03/25/17	EPA 8021B	
Xylene (p/m)	98.0	0.581	mg/kg dry	250	P7C2705	03/24/17	03/25/17	EPA 8021B	
Xylene (o)	40.4	0.291	mg/kg dry	250	P7C2705	03/24/17	03/25/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*94.8 %*	*75-125*		*P7C2705*	*03/24/17*	*03/25/17*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*88.6 %*	*75-125*		*P7C2705*	*03/24/17*	*03/25/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	9.72	1.16	mg/kg dry	1	P7C1604	03/16/17	03/20/17	EPA 300.0	
% Moisture	14.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	10500	145	mg/kg dry	5	P7C2001	03/16/17	03/16/17	TPH 8015M	
>C12-C28	12300	145	mg/kg dry	5	P7C2001	03/16/17	03/16/17	TPH 8015M	
>C28-C35	2240	145	mg/kg dry	5	P7C2001	03/16/17	03/16/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*111 %*	*70-130*		*P7C2001*	*03/16/17*	*03/16/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*110 %*	*70-130*		*P7C2001*	*03/16/17*	*03/16/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	25100	145	mg/kg dry	5	[CALC]	03/16/17	03/16/17	calc	

Larson & Associates, Inc P.O. Box 50685 Midland TX, 79710	Project: XTO Nash Draw Battery 42 Project Number: 17-0124-01 Project Manager: Mark Larson	Fax: (432) 687-0456

DP-6 (3-4)

7C15005-42 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	0.0540	0.0230	mg/kg dry	20	P7C2705	03/24/17	03/25/17	EPA 8021B	
Toluene	3.63	0.0460	mg/kg dry	20	P7C2705	03/24/17	03/25/17	EPA 8021B	
Ethylbenzene	3.01	0.0230	mg/kg dry	20	P7C2705	03/24/17	03/25/17	EPA 8021B	
Xylene (p/m)	8.67	0.0460	mg/kg dry	20	P7C2705	03/24/17	03/25/17	EPA 8021B	
Xylene (o)	4.05	0.0230	mg/kg dry	20	P7C2705	03/24/17	03/25/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*86.6 %*	*75-125*		*P7C2705*	*03/24/17*	*03/25/17*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*110 %*	*75-125*		*P7C2705*	*03/24/17*	*03/25/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	8.75	1.15	mg/kg dry	1	P7C1604	03/16/17	03/20/17	EPA 300.0	
% Moisture	13.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	1160	28.7	mg/kg dry	1	P7C2001	03/16/17	03/16/17	TPH 8015M	
>C12-C28	2210	28.7	mg/kg dry	1	P7C2001	03/16/17	03/16/17	TPH 8015M	
>C28-C35	358	28.7	mg/kg dry	1	P7C2001	03/16/17	03/16/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*95.4 %*	*70-130*		*P7C2001*	*03/16/17*	*03/16/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*92.2 %*	*70-130*		*P7C2001*	*03/16/17*	*03/16/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	3720	28.7	mg/kg dry	1	[CALC]	03/16/17	03/16/17	calc	

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710	Project: XTO Nash Draw Battery 42 Project Number: 17-0124-01 Project Manager: Mark Larson	Fax: (432) 687-0456

DP-6 (4-5)

7C15005-43 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00115	mg/kg dry	1	P7C2705	03/24/17	03/25/17	EPA 8021B	
Toluene	0.00266	0.00230	mg/kg dry	1	P7C2705	03/24/17	03/25/17	EPA 8021B	
Ethylbenzene	0.00770	0.00115	mg/kg dry	1	P7C2705	03/24/17	03/25/17	EPA 8021B	
Xylene (p/m)	0.0309	0.00230	mg/kg dry	1	P7C2705	03/24/17	03/25/17	EPA 8021B	
Xylene (o)	0.00926	0.00115	mg/kg dry	1	P7C2705	03/24/17	03/25/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*95.8 %*	*75-125*		*P7C2705*	*03/24/17*	*03/25/17*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*97.0 %*	*75-125*		*P7C2705*	*03/24/17*	*03/25/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	8.86	1.15	mg/kg dry	1	P7C1604	03/16/17	03/20/17	EPA 300.0	
% Moisture	13.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	95.2	28.7	mg/kg dry	1	P7C2001	03/16/17	03/16/17	TPH 8015M	
>C12-C28	363	28.7	mg/kg dry	1	P7C2001	03/16/17	03/16/17	TPH 8015M	
>C28-C35	60.2	28.7	mg/kg dry	1	P7C2001	03/16/17	03/16/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*86.8 %*	*70-130*		*P7C2001*	*03/16/17*	*03/16/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*92.4 %*	*70-130*		*P7C2001*	*03/16/17*	*03/16/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	519	28.7	mg/kg dry	1	[CALC]	03/16/17	03/16/17	calc	

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710	Project: XTO Nash Draw Battery 42 Project Number: 17-0124-01 Project Manager: Mark Larson	Fax: (432) 687-0456

DP-6 (5-6)

7C15005-44 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00115	mg/kg dry	1	P7C2705	03/24/17	03/25/17	EPA 8021B	
Toluene	ND	0.00230	mg/kg dry	1	P7C2705	03/24/17	03/25/17	EPA 8021B	
Ethylbenzene	ND	0.00115	mg/kg dry	1	P7C2705	03/24/17	03/25/17	EPA 8021B	
Xylene (p/m)	ND	0.00230	mg/kg dry	1	P7C2705	03/24/17	03/25/17	EPA 8021B	
Xylene (o)	ND	0.00115	mg/kg dry	1	P7C2705	03/24/17	03/25/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*92.0 %*	*75-125*		*P7C2705*	*03/24/17*	*03/25/17*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*104 %*	*75-125*		*P7C2705*	*03/24/17*	*03/25/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	ND	1.15	mg/kg dry	1	P7C2704	03/27/17	03/27/17	EPA 300.0	
% Moisture	13.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	28.7	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TPH 8015M	
>C12-C28	129	28.7	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TPH 8015M	
>C28-C35	47.3	28.7	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*69.4 %*	*70-130*		*P7C2807*	*03/23/17*	*03/27/17*	*TPH 8015M*	*S-GC*
Surrogate: o-Terphenyl		*81.3 %*	*70-130*		*P7C2807*	*03/23/17*	*03/27/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	176	28.7	mg/kg dry	1	[CALC]	03/23/17	03/27/17	calc	

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710	Project: XTO Nash Draw Battery 42 Project Number: 17-0124-01 Project Manager: Mark Larson	Fax: (432) 687-0456

DP-6 (6-7)

7C15005-45 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00114	mg/kg dry	1	P7C2705	03/24/17	03/24/17	EPA 8021B	
Toluene	ND	0.00227	mg/kg dry	1	P7C2705	03/24/17	03/24/17	EPA 8021B	
Ethylbenzene	ND	0.00114	mg/kg dry	1	P7C2705	03/24/17	03/24/17	EPA 8021B	
Xylene (p/m)	ND	0.00227	mg/kg dry	1	P7C2705	03/24/17	03/24/17	EPA 8021B	
Xylene (o)	ND	0.00114	mg/kg dry	1	P7C2705	03/24/17	03/24/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*90.5 %*	*75-125*		*P7C2705*	*03/24/17*	*03/24/17*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*99.6 %*	*75-125*		*P7C2705*	*03/24/17*	*03/24/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	ND	1.14	mg/kg dry	1	P7C2704	03/27/17	03/27/17	EPA 300.0	
% Moisture	12.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	28.4	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TPH 8015M	
>C12-C28	ND	28.4	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TPH 8015M	
>C28-C35	ND	28.4	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*65.1 %*	*70-130*		*P7C2807*	*03/23/17*	*03/27/17*	*TPH 8015M*	*S-GC*
Surrogate: o-Terphenyl		*76.9 %*	*70-130*		*P7C2807*	*03/23/17*	*03/27/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	28.4	mg/kg dry	1	[CALC]	03/23/17	03/27/17	calc	

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710	Project: XTO Nash Draw Battery 42 Project Number: 17-0124-01 Project Manager: Mark Larsen	Fax: (432) 687-0456

DP-5 (0-1)

7C15005-46 (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	12.5	1.10	mg/kg dry	1	P7C1605	03/16/17	03/20/17	EPA 300.0	
% Moisture	9.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.5	mg/kg dry	1	P7C2001	03/16/17	03/16/17	TPH 8015M	
>C12-C28	ND	27.5	mg/kg dry	1	P7C2001	03/16/17	03/16/17	TPH 8015M	
>C28-C35	ND	27.5	mg/kg dry	1	P7C2001	03/16/17	03/16/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*86.6 %*	*70-130*		*P7C2001*	*03/16/17*	*03/16/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*93.2 %*	*70-130*		*P7C2001*	*03/16/17*	*03/16/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	27.5	mg/kg dry	1	[CALC]	03/16/17	03/16/17	calc	

Larson & Associates, Inc.	Project: XTO Nash Draw Battery 42	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 17-0124-01	
Midland TX, 79710	Project Manager: Mark Larson	

DP-5 (1-2)

7C15005-47 (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	9.41	1.11	mg/kg dry	1	P7C1605	03/16/17	03/20/17	EPA 300.0	
% Moisture	10.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.8	mg/kg dry	1	P7C2001	03/16/17	03/17/17	TPH 8015M	
>C12-C28	ND	27.8	mg/kg dry	1	P7C2001	03/16/17	03/17/17	TPH 8015M	
>C28-C35	ND	27.8	mg/kg dry	1	P7C2001	03/16/17	03/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*88.6 %*	*70-130*		*P7C2001*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*95.8 %*	*70-130*		*P7C2001*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	27.8	mg/kg dry	1	[CALC]	03/16/17	03/17/17	calc	

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710	Project: XTO Nash Draw Battery 42 Project Number: 17-0124-01 Project Manager: Mark Larson	Fax: (432) 687-0456

DP-4 (0-1)

7C15005-48 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	0.807	0.0227	mg/kg dry	20	P7C1710	03/16/17	03/16/17	EPA 8021B	
Toluene	1.87	0.0455	mg/kg dry	20	P7C1710	03/16/17	03/16/17	EPA 8021B	
Ethylbenzene	1.51	0.0227	mg/kg dry	20	P7C1710	03/16/17	03/16/17	EPA 8021B	
Xylene (p/m)	4.73	0.0455	mg/kg dry	20	P7C1710	03/16/17	03/16/17	EPA 8021B	
Xylene (o)	1.95	0.0227	mg/kg dry	20	P7C1710	03/16/17	03/16/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*85.9 %*	*75-125*		*P7C1710*	*03/16/17*	*03/16/17*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*87.9 %*	*75-125*		*P7C1710*	*03/16/17*	*03/16/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	43.4	1.14	mg/kg dry	1	P7C1605	03/16/17	03/20/17	EPA 300.0	
% Moisture	12.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	999	142	mg/kg dry	5	P7C2001	03/16/17	03/17/17	TPH 8015M	
>C12-C28	5060	142	mg/kg dry	5	P7C2001	03/16/17	03/17/17	TPH 8015M	
>C28-C35	844	142	mg/kg dry	5	P7C2001	03/16/17	03/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*99.3 %*	*70-130*		*P7C2001*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*113 %*	*70-130*		*P7C2001*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	6900	142	mg/kg dry	5	[CALC]	03/16/17	03/17/17	calc	

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710	Project: XTO Nash Draw Battery 42 Project Number: 17-0124-01 Project Manager: Mark Larson	Fax: (432) 687-0456

DP-4 (1-2)

7C15005-49 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	0.00560	0.00119	mg/kg dry	1	P7C1710	03/16/17	03/16/17	EPA 8021B	
Toluene	ND	0.00238	mg/kg dry	1	P7C1710	03/16/17	03/16/17	EPA 8021B	
Ethylbenzene	ND	0.00119	mg/kg dry	1	P7C1710	03/16/17	03/16/17	EPA 8021B	
Xylene (p/m)	ND	0.00238	mg/kg dry	1	P7C1710	03/16/17	03/16/17	EPA 8021B	
Xylene (o)	ND	0.00119	mg/kg dry	1	P7C1710	03/16/17	03/16/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*96.6 %*	*75-125*		*P7C1710*	*03/16/17*	*03/16/17*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*98.2 %*	*75-125*		*P7C1710*	*03/16/17*	*03/16/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	33.9	1.19	mg/kg dry	1	P7C1605	03/16/17	03/20/17	EPA 300.0	
% Moisture	16.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	29.8	mg/kg dry	1	P7C2001	03/16/17	03/17/17	TPH 8015M	
>C12-C28	ND	29.8	mg/kg dry	1	P7C2001	03/16/17	03/17/17	TPH 8015M	
>C28-C35	ND	29.8	mg/kg dry	1	P7C2001	03/16/17	03/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*84.6 %*	*70-130*		*P7C2001*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*91.6 %*	*70-130*		*P7C2001*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	29.8	mg/kg dry	1	[CALC]	03/16/17	03/17/17	calc	

Larson & Associates, Inc P.O. Box 50685 Midland TX, 79710	Project: XTO Nash Draw Battery 42 Project Number: 17-0124-01 Project Manager: Mark Larson	Fax: (432) 687-0456

DP-4 (2-3)

7C15005-50 (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	22.3	1.14	mg/kg dry	1	P7C1605	03/16/17	03/20/17	EPA 300.0	
% Moisture	12.0	0.1	%	1	P7C2005	03/20/17	03/20/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	28.4	mg/kg dry	1	P7C2001	03/16/17	03/17/17	TPH 8015M	
>C12-C28	ND	28.4	mg/kg dry	1	P7C2001	03/16/17	03/17/17	TPH 8015M	
>C28-C35	ND	28.4	mg/kg dry	1	P7C2001	03/16/17	03/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*86.9 %*	*70-130*		*P7C2001*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*92.7 %*	*70-130*		*P7C2001*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	28.4	mg/kg dry	1	[CALC]	03/16/17	03/17/17	calc	

Larson & Associates, Inc.	Project: XTO Nash Draw Battery 42	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 17-0124-01	
Midland TX, 79710	Project Manager: Mark Larson	

DP-4 (3-4)

7C15005-51 (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	13.0	0.1	%	1	P7C2005	03/20/17	03/20/17	% calculation	

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DP-4 (4-5)

7C1500S-52 (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	12.0	0.1	%	1	P7C2005	03/20/17	03/20/17	% calculation	

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710	Project: XTO Nash Draw Battery 42 Project Number: 17-0124-01 Project Manager: Mark Larson	Fax: (432) 687-0456

DP-4 (5-6)

7C15005-53 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00112	mg/kg dry	1	P7C2802	03/27/17	03/27/17	EPA 8021B	
Toluene	ND	0.00225	mg/kg dry	1	P7C2802	03/27/17	03/27/17	EPA 8021B	
Ethylbenzene	ND	0.00112	mg/kg dry	1	P7C2802	03/27/17	03/27/17	EPA 8021B	
Xylene (p/m)	ND	0.00225	mg/kg dry	1	P7C2802	03/27/17	03/27/17	EPA 8021B	
Xylene (o)	ND	0.00112	mg/kg dry	1	P7C2802	03/27/17	03/27/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*109 %*	*75-125*		*P7C2802*	*03/27/17*	*03/27/17*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*93.2 %*	*75-125*		*P7C2802*	*03/27/17*	*03/27/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	106	1.12	mg/kg dry	1	P7C2804	03/28/17	03/28/17	EPA 300.0	
% Moisture	11.0	0.1	%	1	P7C2005	03/20/17	03/20/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	28.1	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TPH 8015M	
>C12-C28	ND	28.1	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TPH 8015M	
>C28-C35	ND	28.1	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*62.2 %*	*70-130*		*P7C2807*	*03/23/17*	*03/27/17*	*TPH 8015M*	*S-GC*
Surrogate: o-Terphenyl		*79.0 %*	*70-130*		*P7C2807*	*03/23/17*	*03/27/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	28.1	mg/kg dry	1	[CALC]	03/23/17	03/27/17	calc	

Larson & Associates, Inc	Project: XTO Nash Draw Battery 42	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 17-0124-01	
Midland TX, 79710	Project Manager: Mark Larson	

DP-3 (0-1)

7C15005-54 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	5.23	0.549	mg/kg dry	500	P7C1710	03/16/17	03/18/17	EPA 8021B	
Toluene	38.2	1.10	mg/kg dry	500	P7C1710	03/16/17	03/18/17	EPA 8021B	
Ethylbenzene	18.3	0.549	mg/kg dry	500	P7C1710	03/16/17	03/18/17	EPA 8021B	
Xylene (p/m)	52.4	1.10	mg/kg dry	500	P7C1710	03/16/17	03/18/17	EPA 8021B	
Xylene (o)	26.1	0.549	mg/kg dry	500	P7C1710	03/16/17	03/18/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*96.1 %*	*75-125*		*P7C1710*	*03/16/17*	*03/18/17*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*113 %*	*75-125*		*P7C1710*	*03/16/17*	*03/18/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	10.5	1.10	mg/kg dry	1	P7C1605	03/16/17	03/20/17	EPA 300.0	
% Moisture	9.0	0.1	%	1	P7C2005	03/20/17	03/20/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	5380	137	mg/kg dry	5	P7C2001	03/16/17	03/17/17	TPH 8015M	
>C12-C28	10800	137	mg/kg dry	5	P7C2001	03/16/17	03/17/17	TPH 8015M	
>C28-C35	1650	137	mg/kg dry	5	P7C2001	03/16/17	03/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*87.5 %*	*70-130*		*P7C2001*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*98.5 %*	*70-130*		*P7C2001*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	17800	137	mg/kg dry	5	[CALC]	03/16/17	03/17/17	calc	

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DP-3 (1-2)

7C15005-55 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	0.0127	0.00120	mg/kg dry	1	P7C1710	03/16/17	03/16/17	EPA 8021B	
Toluene	0.0445	0.00241	mg/kg dry	1	P7C1710	03/16/17	03/16/17	EPA 8021B	
Ethylbenzene	0.0202	0.00120	mg/kg dry	1	P7C1710	03/16/17	03/16/17	EPA 8021B	
Xylene (p/m)	0.0624	0.00241	mg/kg dry	1	P7C1710	03/16/17	03/16/17	EPA 8021B	
Xylene (o)	0.0310	0.00120	mg/kg dry	1	P7C1710	03/16/17	03/16/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*93.6 %*	*75-125*		*P7C1710*	*03/16/17*	*03/16/17*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*91.8 %*	*75-125*		*P7C1710*	*03/16/17*	*03/16/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	11.6	1.20	mg/kg dry	1	P7C1605	03/16/17	03/20/17	EPA 300.0	
% Moisture	17.0	0.1	%	1	P7C2005	03/20/17	03/20/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	30.1	mg/kg dry	1	P7C2001	03/16/17	03/17/17	TPH 8015M	
>C12-C28	112	30.1	mg/kg dry	1	P7C2001	03/16/17	03/17/17	TPH 8015M	
>C28-C35	ND	30.1	mg/kg dry	1	P7C2001	03/16/17	03/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*80.3 %*	*70-130*		*P7C2001*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*89.0 %*	*70-130*		*P7C2001*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	112	30.1	mg/kg dry	1	[CALC]	03/16/17	03/17/17	calc	

Larson & Associates, Inc.	Project: XTO Nash Draw Battery 42	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 17-0124-01	
Midland TX, 79710	Project Manager: Mark Larson	

DP-3 (2-3)

7C15005-56 (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	12.4	1.18	mg/kg dry	1	P7C1605	03/16/17	03/20/17	EPA 300.0	
% Moisture	15.0	0.1	%	1	P7C2005	03/20/17	03/20/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	29.4	mg/kg dry	1	P7C2001	03/16/17	03/17/17	TPH 8015M	
>C12-C28	ND	29.4	mg/kg dry	1	P7C2001	03/16/17	03/17/17	TPH 8015M	
>C28-C35	ND	29.4	mg/kg dry	1	P7C2001	03/16/17	03/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*77.4 %*	*70-130*		*P7C2001*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*85.8 %*	*70-130*		*P7C2001*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	29.4	mg/kg dry	1	[CALC]	03/16/17	03/17/17	calc	

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710	Project: XTO Nash Draw Battery 42 Project Number: 17-0124-01 Project Manager: Mark Larson	Fax: (432) 687-0456

DP-3 (3-4)

7C15005-57 (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	9.45	1.16	mg/kg dry	1	P7C1605	03/16/17	03/20/17	EPA 300.0	
% Moisture	14.0	0.1	%	1	P7C2005	03/20/17	03/20/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	29.1	mg/kg dry	1	P7C2001	03/16/17	03/17/17	TPH 8015M	
>C12-C28	ND	29.1	mg/kg dry	1	P7C2001	03/16/17	03/17/17	TPH 8015M	
>C28-C35	ND	29.1	mg/kg dry	1	P7C2001	03/16/17	03/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*76.2 %*	*70-130*		*P7C2001*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*86.3 %*	*70-130*		*P7C2001*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	29.1	mg/kg dry	1	[CALC]	03/16/17	03/17/17	calc	

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710	Project: XTO Nash Draw Battery 42 Project Number: 17-0124-01 Project Manager: Mark Larson	Fax. (432) 687-0456

DP-3 (7-8)

7C15005-61 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00116	mg/kg dry	1	P7C2802	03/27/17	03/27/17	EPA 8021B	
Toluene	ND	0.00233	mg/kg dry	1	P7C2802	03/27/17	03/27/17	EPA 8021B	
Ethylbenzene	ND	0.00116	mg/kg dry	1	P7C2802	03/27/17	03/27/17	EPA 8021B	
Xylene (p/m)	ND	0.00233	mg/kg dry	1	P7C2802	03/27/17	03/27/17	EPA 8021B	
Xylene (o)	ND	0.00116	mg/kg dry	1	P7C2802	03/27/17	03/27/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*113 %*	*75-125*		*P7C2802*	*03/27/17*	*03/27/17*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*95.3 %*	*75-125*		*P7C2802*	*03/27/17*	*03/27/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**8.31**	1.16	mg/kg dry	1	P7C2804	03/28/17	03/28/17	EPA 300.0	
% Moisture	**14.0**	0.1	%	1	P7C2005	03/20/17	03/20/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	29.1	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TPH 8015M	
>C12-C28	ND	29.1	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TPH 8015M	
>C28-C35	ND	29.1	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*62.5 %*	*70-130*		*P7C2807*	*03/23/17*	*03/27/17*	*TPH 8015M*	*S-GC*
Surrogate: o-Terphenyl		*79.3 %*	*70-130*		*P7C2807*	*03/23/17*	*03/27/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	29.1	mg/kg dry	1	[CALC]	03/23/17	03/27/17	calc	

Larson & Associates, Inc.	Project: XTO Nash Draw Battery 42	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 17-0124-01	
Midland TX, 79710	Project Manager: Mark Larson	

DP-2 (0-1)

7C15005-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	4.75	0.114	mg/kg dry	100	P7C1710	03/16/17	03/17/17	EPA 8021B	
Toluene	39.4	0.227	mg/kg dry	100	P7C1710	03/16/17	03/17/17	EPA 8021B	
Ethylbenzene	18.2	0.114	mg/kg dry	100	P7C1710	03/16/17	03/17/17	EPA 8021B	
Xylene (p/m)	60.7	0.227	mg/kg dry	100	P7C1710	03/16/17	03/17/17	EPA 8021B	
Xylene (o)	24.7	0.114	mg/kg dry	100	P7C1710	03/16/17	03/17/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*86.8 %*	*75-125*		*P7C1710*	*03/16/17*	*03/17/17*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*83.8 %*	*75-125*		*P7C1710*	*03/16/17*	*03/17/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	62.9	1.14	mg/kg dry	1	P7C1605	03/16/17	03/20/17	EPA 300.0	
% Moisture	12.0	0.1	%	1	P7C2005	03/20/17	03/20/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	5730	142	mg/kg dry	5	P7C2001	03/16/17	03/17/17	TPH 8015M	
>C12-C28	16900	142	mg/kg dry	5	P7C2001	03/16/17	03/17/17	TPH 8015M	
>C28-C35	2760	142	mg/kg dry	5	P7C2001	03/16/17	03/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*90.6 %*	*70-130*		*P7C2001*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*104 %*	*70-130*		*P7C2001*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	25400	142	mg/kg dry	5	[CALC]	03/16/17	03/17/17	calc	

Larson & Associates, Inc.	Project: XTO Nash Draw Battery 42	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 17-0124-01	
Midland TX, 79710	Project Manager: Mark Larson	

DP-2 (1-2)

7C15005-63 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	0.00702	0.00116	mg/kg dry	1	P7C1710	03/16/17	03/16/17	EPA 8021B	
Toluene	0.0302	0.00233	mg/kg dry	1	P7C1710	03/16/17	03/16/17	EPA 8021B	
Ethylbenzene	0.00837	0.00116	mg/kg dry	1	P7C1710	03/16/17	03/16/17	EPA 8021B	
Xylene (p/m)	0.0923	0.00233	mg/kg dry	1	P7C1710	03/16/17	03/16/17	EPA 8021B	
Xylene (o)	0.0484	0.00116	mg/kg dry	1	P7C1710	03/16/17	03/16/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*105 %*	*75-125*		*P7C1710*	*03/16/17*	*03/16/17*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*96.5 %*	*75-125*		*P7C1710*	*03/16/17*	*03/16/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	53.9	1.16	mg/kg dry	1	P7C1605	03/16/17	03/20/17	EPA 300.0	
% Moisture	14.0	0.1	%	1	P7C2005	03/20/17	03/20/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	72.9	29.1	mg/kg dry	1	P7C2001	03/16/17	03/17/17	TPH 8015M	
>C12-C28	614	29.1	mg/kg dry	1	P7C2001	03/16/17	03/17/17	TPH 8015M	
>C28-C35	102	29.1	mg/kg dry	1	P7C2001	03/16/17	03/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*84.6 %*	*70-130*		*P7C2001*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*94.9 %*	*70-130*		*P7C2001*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	789	29.1	mg/kg dry	1	[CALC]	03/16/17	03/17/17	calc	

Larson & Associates, Inc P.O. Box 50685 Midland TX, 79710	Project: XTO Nash Draw Battery 42 Project Number: 17-0124-01 Project Manager: Mark Larson	Fax: (432) 687-0456

DP-2 (2-3)

7C15005-64 (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	33.9	1.15	mg/kg dry	1	P7C1605	03/16/17	03/20/17	EPA 300.0	
% Moisture	13.0	0.1	%	1	P7C2005	03/20/17	03/20/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	28.7	mg/kg dry	1	P7C2001	03/16/17	03/17/17	TPH 8015M	
>C12-C28	ND	28.7	mg/kg dry	1	P7C2001	03/16/17	03/17/17	TPH 8015M	
>C28-C35	ND	28.7	mg/kg dry	1	P7C2001	03/16/17	03/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*70.4 %*	*70-130*		*P7C2001*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*85.6 %*	*70-130*		*P7C2001*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	28.7	mg/kg dry	1	[CALC]	03/16/17	03/17/17	calc	

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710	Project: XTO Nash Draw Battery 42 Project Number: 17-0124-01 Project Manager: Mark Larson	Fax: (432) 687-0456

DP-2 (5-6)

7C15005-67 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00116	mg/kg dry	1	P7C2802	03/27/17	03/27/17	EPA 8021B	
Toluene	ND	0.00233	mg/kg dry	1	P7C2802	03/27/17	03/27/17	EPA 8021B	
Ethylbenzene	ND	0.00116	mg/kg dry	1	P7C2802	03/27/17	03/27/17	EPA 8021B	
Xylene (p/m)	ND	0.00233	mg/kg dry	1	P7C2802	03/27/17	03/27/17	EPA 8021B	
Xylene (o)	ND	0.00116	mg/kg dry	1	P7C2802	03/27/17	03/27/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*109 %*	*75-125*		*P7C2802*	*03/27/17*	*03/27/17*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*95.3 %*	*75-125*		*P7C2802*	*03/27/17*	*03/27/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	ND	1.16	mg/kg dry	1	P7C2804	03/28/17	03/28/17	EPA 300.0	
% Moisture	14.0	0.1	%	1	P7C2005	03/20/17	03/20/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	29.1	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TPH 8015M	
>C12-C28	ND	29.1	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TPH 8015M	
>C28-C35	ND	29.1	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*66.1 %*	*70-130*		*P7C2807*	*03/23/17*	*03/27/17*	*TPH 8015M*	*S-GC*
Surrogate: o-Terphenyl		*90.4 %*	*70-130*		*P7C2807*	*03/23/17*	*03/27/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	29.1	mg/kg dry	1	[CALC]	03/23/17	03/27/17	calc	

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710	Project: XTO Nash Draw Battery 42 Project Number: 17-0124-01 Project Manager: Mark Larson	Fax: (432) 687-0456

DP-1 (0-1)

7C15005-68 (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	17.4	1.10	mg/kg dry	1	P7C1605	03/16/17	03/20/17	EPA 300.0	
% Moisture	9.0	0.1	%	1	P7C2005	03/20/17	03/20/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.5	mg/kg dry	1	P7C2001	03/16/17	03/17/17	TPH 8015M	
>C12-C28	ND	27.5	mg/kg dry	1	P7C2001	03/16/17	03/17/17	TPH 8015M	
>C28-C35	ND	27.5	mg/kg dry	1	P7C2001	03/16/17	03/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*112 %*	*70-130*		*P7C2001*	*03/16/17*	*03/17/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*131 %*	*70-130*		*P7C2001*	*03/16/17*	*03/17/17*	*TPH 8015M*	*S-GC*
Total Petroleum Hydrocarbon C6-C35	ND	27.5	mg/kg dry	1	[CALC]	03/16/17	03/17/17	calc	

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
Batch P7C1710 - General Preparation (GC)										
Blank (P7C1710-BLK1)				Prepared & Analyzed: 03/16/17						
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	*0.0631*		"	*0.0600*		*104*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0605*		"	*0.0600*		*101*	*75-125*			
LCS (P7C1710-BS1)				Prepared & Analyzed: 03/16/17						
Benzene	0.0890	0.00100	mg/kg wet	0.100		89.0	70-130			
Toluene	0.0908	0.00200	"	0.100		90.8	70-130			
Ethylbenzene	0.104	0.00100	"	0.100		104	70-130			
Xylene (p/m)	0.196	0.00200	"	0.200		98.2	70-130			
Xylene (o)	0.0964	0.00100	"	0.100		96.4	70-130			
Surrogate: 1,4-Difluorobenzene	*0.0612*		"	*0.0600*		*102*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0642*		"	*0.0600*		*107*	*75-125*			
LCS Dup (P7C1710-BSD1)				Prepared & Analyzed: 03/16/17						
Benzene	0.0964	0.00100	mg/kg wet	0.100		96.4	70-130	7.95	20	
Toluene	0.106	0.00200	"	0.100		106	70-130	15.4	20	
Ethylbenzene	0.102	0.00100	"	0.100		102	70-130	2.31	20	
Xylene (p/m)	0.224	0.00200	"	0.200		112	70-130	13.0	20	
Xylene (o)	0.109	0.00100	"	0.100		109	70-130	12.4	20	
Surrogate: 1,4-Difluorobenzene	*0.0568*		"	*0.0600*		*94.6*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0734*		"	*0.0600*		*122*	*75-125*			
Matrix Spike (P7C1710-MS1)	Source: 7C16002-02			Prepared & Analyzed: 03/16/17						
Benzene	0.130	0.00102	mg/kg dry	0.102	ND	127	80-120			QM-07
Toluene	0.139	0.00204	"	0.102	ND	136	80-120			QM-07
Ethylbenzene	0.149	0.00102	"	0.102	ND	146	80-120			QM-07
Xylene (p/m)	0.270	0.00204	"	0.204	ND	133	80-120			QM-07
Xylene (o)	0.135	0.00102	"	0.102	ND	133	80-120			QM-07
Surrogate: 4-Bromofluorobenzene	*0.0704*		"	*0.0612*		*115*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.0662*		"	*0.0612*		*108*	*75-125*			

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
Batch P7C1710 - General Preparation (GC)										
Matrix Spike Dup (P7C1710-MSD1)	Source: 7C16002-02			Prepared & Analyzed: 03/16/17						
Benzene	0.126	0.00102	mg/kg dry	0.102	ND	123	80-120	3.28	20	QM-07
Toluene	0.134	0.00204	"	0.102	ND	131	80-120	3.83	20	QM-07
Ethylbenzene	0.146	0.00102	"	0.102	ND	143	80-120	1.84	20	QM-07
Xylene (p/m)	0.262	0.00204	"	0.204	ND	128	80-120	3.08	20	QM-07
Xylene (o)	0.130	0.00102	"	0.102	ND	127	80-120	4.33	20	QM-07
Surrogate: 1,4-Difluorobenzene	*0.0649*		"	*0.0612*		*106*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0651*		"	*0.0612*		*106*	*75-125*			
Batch P7C2705 - General Preparation (GC)										
Blank (P7C2705-BLK1)				Prepared & Analyzed: 03/24/17						
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: 4-Bromofluorobenzene	*0.0570*		"	*0.0600*		*95.0*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.0546*		"	*0.0600*		*91.1*	*75-125*			
LCS (P7C2705-BS1)				Prepared & Analyzed: 03/24/17						
Benzene	0.0917	0.00100	mg/kg wet	0.100		91.7	70-130			
Toluene	0.0900	0.00200	"	0.100		90.0	70-130			
Ethylbenzene	0.0984	0.00100	"	0.100		98.4	70-130			
Xylene (p/m)	0.192	0.00200	"	0.200		95.8	70-130			
Xylene (o)	0.0897	0.00100	"	0.100		89.7	70-130			
Surrogate: 1,4-Difluorobenzene	*0.0606*		"	*0.0600*		*101*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0620*		"	*0.0600*		*103*	*75-125*			

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

Project: XTO Nash Draw Battery 42
Project Number: 17-0124-01
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
Batch P7C2705 - General Preparation (GC)										
LCS Dup (P7C2705-BSD1)				Prepared & Analyzed: 03/24/17						
Benzene	0.0852	0.00100	mg/kg wet	0.100		85.2	70-130	7.30	20	
Toluene	0.0842	0.00200	"	0.100		84.2	70-130	6.69	20	
Ethylbenzene	0.0939	0.00100	"	0.100		93.9	70-130	4.64	20	
Xylene (p/m)	0.186	0.00200	"	0.200		93.2	70-130	2.77	20	
Xylene (o)	0.0870	0.00100	"	0.100		87.0	70-130	3.08	20	
Surrogate: 4-Bromofluorobenzene	*0.0625*		"	*0.0600*		*104*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.0606*		"	*0.0600*		*101*	*75-125*			
Matrix Spike (P7C2705-MS1)	Source: 7C24008-04			Prepared: 03/24/17 Analyzed: 03/25/17						
Benzene	0.134	0.0211	mg/kg dry	0.211	ND	63.5	80-120			QM-07
Toluene	0.146	0.0421	"	0.211	ND	69.4	80-120			QM-07
Ethylbenzene	0.178	0.0211	"	0.211	ND	84.6	80-120			
Xylene (p/m)	0.370	0.0421	"	0.421	0.0238	82.2	80-120			
Xylene (o)	0.158	0.0211	"	0.211	0.0158	67.4	80-120			QM-07
Surrogate: 1,4-Difluorobenzene	*0.0593*		"	*0.0632*		*94.0*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0636*		"	*0.0632*		*101*	*75-125*			
Matrix Spike Dup (P7C2705-MSD1)	Source: 7C24008-04			Prepared: 03/24/17 Analyzed: 03/25/17						
Benzene	0.129	0.0211	mg/kg dry	0.211	ND	61.5	80-120	3.20	20	QM-07
Toluene	0.135	0.0421	"	0.211	ND	64.0	80-120	8.10	20	QM-07
Ethylbenzene	0.163	0.0211	"	0.211	ND	77.3	80-120	9.02	20	QM-07
Xylene (p/m)	0.352	0.0421	"	0.421	0.0238	78.0	80-120	5.31	20	QM-07
Xylene (o)	0.148	0.0211	"	0.211	0.0158	63.0	80-120	6.75	20	QM-07
Surrogate: 1,4-Difluorobenzene	*0.0581*		"	*0.0632*		*91.9*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0614*		"	*0.0632*		*97.2*	*75-125*			
Batch P7C2802 - General Preparation (GC)										
Blank (P7C2802-BLK1)				Prepared & Analyzed: 03/27/17						
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: 4-Bromofluorobenzene	*0.0607*		"	*0.0600*		*101*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.0552*		"	*0.0600*		*92.0*	*75-125*			

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710	Project: XTO Nash Draw Battery 42 Project Number: 17-0124-01 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
Batch P7C2802 - General Preparation (GC)										
LCS (P7C2802-BS1)				Prepared & Analyzed: 03/27/17						
Benzene	0.0923	0.00100	mg/kg wet	0.100		92.3	70-130			
Toluene	0.0942	0.00200	"	0.100		94.2	70-130			
Ethylbenzene	0.105	0.00100	"	0.100		105	70-130			
Xylene (p/m)	0.213	0.00200	"	0.200		106	70-130			
Xylene (o)	0.0983	0.00100	"	0.100		98.3	70-130			
Surrogate: 4-Bromofluorobenzene	*0.0672*		"	*0.0600*		*112*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.0635*		"	*0.0600*		*104*	*75-125*			
LCS Dup (P7C2802-BSD1)				Prepared & Analyzed: 03/27/17						
Benzene	0.0904	0.00100	mg/kg wet	0.100		90.4	70-130	2.08	20	
Toluene	0.0912	0.00200	"	0.100		91.2	70-130	3.24	20	
Ethylbenzene	0.104	0.00100	"	0.100		104	70-130	0.662	20	
Xylene (p/m)	0.211	0.00200	"	0.200		105	70-130	1.00	20	
Xylene (o)	0.0957	0.00100	"	0.100		95.7	70-130	2.68	20	
Surrogate: 1,4-Difluorobenzene	*0.0624*		"	*0.0600*		*104*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0666*		"	*0.0600*		*111*	*75-125*			
Matrix Spike (P7C2802-MS1)	Source: 7C15005-67			Prepared & Analyzed: 03/27/17						
Benzene	0.167	0.00116	mg/kg dry	0.233	ND	71.8	80-120			QM-07
Toluene	0.172	0.00233	"	0.233	ND	74.2	80-120			QM-07
Ethylbenzene	0.188	0.00116	"	0.233	ND	81.0	80-120			
Xylene (p/m)	0.387	0.00233	"	0.465	ND	83.2	80-120			
Xylene (o)	0.178	0.00116	"	0.233	ND	76.7	80-120			QM-07
Surrogate: 1,4-Difluorobenzene	*0.0783*		"	*0.0698*		*112*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0879*		"	*0.0698*		*126*	*75-125*			*S-GC*
Matrix Spike Dup (P7C2802-MSD1)	Source: 7C15005-67			Prepared & Analyzed: 03/27/17						
Benzene	0.164	0.00116	mg/kg dry	0.233	ND	70.5	80-120	1.78	20	QM-07
Toluene	0.169	0.00233	"	0.233	ND	72.9	80-120	1.77	20	QM-07
Ethylbenzene	0.195	0.00116	"	0.233	ND	83.7	80-120	3.35	20	
Xylene (p/m)	0.397	0.00233	"	0.465	ND	85.4	80-120	2.65	20	
Xylene (o)	0.181	0.00116	"	0.233	ND	77.7	80-120	1.40	20	QM-07
Surrogate: 4-Bromofluorobenzene	*0.0885*		"	*0.0698*		*127*	*75-125*			*S-GC*
Surrogate: 1,4-Difluorobenzene	*0.0757*		"	*0.0698*		*108*	*75-125*			

Larson & Associates, Inc	Project: XTO Nash Draw Battery 42	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 17-0124-01	
Midland TX, 79710	Project Manager: Mark Larson	

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 P7C1604 - * DEFAULT PREP *** **										
Blank (P7C1604-BLK1)				Prepared: 03/16/17 Analyzed: 03/20/17						
Chloride	ND	1.00	mg/kg wet							
LCS (P7C1604-BS1)				Prepared: 03/16/17 Analyzed: 03/20/17						
Chloride	388	1.00	mg/kg wet	400		97.1	80-120			
LCS Dup (P7C1604-BSD1)				Prepared: 03/16/17 Analyzed: 03/20/17						
Chloride	390	1.00	mg/kg wet	400		97.4	80-120	0.350	20	
Duplicate (P7C1604-DUP1)	Source: 7C15005-01			Prepared: 03/16/17 Analyzed: 03/20/17						
Chloride	88.3	10.9	mg/kg dry		104			16.3	20	
Duplicate (P7C1604-DUP2)	Source: 7C15005-25			Prepared: 03/16/17 Analyzed: 03/20/17						
Chloride	35.3	1.18	mg/kg dry		32.1			9.43	20	
Matrix Spike (P7C1604-MS1)	Source: 7C15005-01			Prepared: 03/16/17 Analyzed: 03/20/17						
Chloride	1730	10.9	mg/kg dry	1630	104	99.9	80-120			
Batch P7C1605 - * DEFAULT PREP *** **										
Blank (P7C1605-BLK1)				Prepared: 03/16/17 Analyzed: 03/20/17						
Chloride	ND	1.00	mg/kg wet							
LCS (P7C1605-BS1)				Prepared: 03/16/17 Analyzed: 03/20/17						
Chloride	389	1.00	mg/kg wet	400		97.3	80-120			
LCS Dup (P7C1605-BSD1)				Prepared: 03/16/17 Analyzed: 03/20/17						
Chloride	389	1.00	mg/kg wet	400		97.2	80-120	0.103	20	

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

Project: XTO Nash Draw Battery 42
Project Number: 17-0124-01
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 P7C1605 - * DEFAULT PREP *** **										
Duplicate (P7C1605-DUP1)	Source: 7C15005-46			Prepared: 03/16/17 Analyzed: 03/20/17						
Chloride	12.8	1.10	mg/kg dry		12.5			2.09	20	
Duplicate (P7C1605-DUP2)	Source: 7C15005-63			Prepared: 03/16/17 Analyzed: 03/20/17						
Chloride	54.9	1.16	mg/kg dry		53.9			1.77	20	
Matrix Spike (P7C1605-MS1)	Source: 7C15005-46			Prepared: 03/16/17 Analyzed: 03/20/17						
Chloride	988	1.10	mg/kg dry	1100	12.5	88.8	80-120			
Batch P7C1703 - * DEFAULT PREP *** **										
Blank (P7C1703-BLK1)				Prepared & Analyzed: 03/17/17						
% Moisture	ND	0.1	%							
Blank (P7C1703-BLK2)				Prepared & Analyzed: 03/17/17						
% Moisture	ND	0.1	%							
Duplicate (P7C1703-DUP1)	Source: 7C14004-12			Prepared & Analyzed: 03/17/17						
% Moisture	12.0	0.1	%		8.0			40.0	20	
Duplicate (P7C1703-DUP2)	Source: 7C14007-08			Prepared & Analyzed: 03/17/17						
% Moisture	6.0	0.1	%		7.0			15.4	20	
Duplicate (P7C1703-DUP3)	Source: 7C14011-27			Prepared & Analyzed: 03/17/17						
% Moisture	12.0	0.1	%		9.0			28.6	20	
Duplicate (P7C1703-DUP4)	Source: 7C15004-01			Prepared & Analyzed: 03/17/17						
% Moisture	1.0	0.1	%		2.0			66.7	20	

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Project: XTO Nash Draw Battery 42
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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 P7C1703 - * DEFAULT PREP *** **										
Duplicate (P7C1703-DUP5)	Source: 7C15008-33			Prepared & Analyzed: 03/17/17						
% Moisture	16.0	0.1	%		15.0			6.45	20	
Batch P7C2005 - * DEFAULT PREP *** **										
Blank (P7C2005-BLK1)				Prepared & Analyzed: 03/20/17						
% Moisture	ND	0.1	%							
Duplicate (P7C2005-DUP1)	Source: 7C16007-01			Prepared & Analyzed: 03/20/17						
% Moisture	3.0	0.1	%		3.0			0.00	20	
Duplicate (P7C2005-DUP2)	Source: 7C17003-10			Prepared & Analyzed: 03/20/17						
% Moisture	2.0	0.1	%		2.0			0.00	20	
Duplicate (P7C2005-DUP3)	Source: 7C17011-03			Prepared & Analyzed: 03/20/17						
% Moisture	12.0	0.1	%		12.0			0.00	20	
Batch P7C2704 - * DEFAULT PREP *** **										
Blank (P7C2704-BLK1)				Prepared & Analyzed: 03/27/17						
Chloride	ND	1.00	mg/kg wet							
LCS (P7C2704-BS1)				Prepared & Analyzed: 03/27/17						
Chloride	414	1.00	mg/kg wet	400		104	80-120			
LCS Dup (P7C2704-BSD1)				Prepared & Analyzed: 03/27/17						
Chloride	412	1.00	mg/kg wet	400		103	80-120	0.586	20	

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

Project: XTO Nash Draw Battery 42
Project Number: 17-0124-01
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 P7C2704 - * DEFAULT PREP *** **										
Duplicate (P7C2704-DUP1)	Source: 7C15005-28			Prepared & Analyzed: 03/27/17						
Chloride	14.3	1.15	mg/kg dry		ND				20	
Duplicate (P7C2704-DUP2)	Source: 7C23008-22			Prepared & Analyzed: 03/27/17						
Chloride	643	5.26	mg/kg dry		710			9.93	20	
Matrix Spike (P7C2704-MS1)	Source: 7C15005-28			Prepared & Analyzed: 03/27/17						
Chloride	1040	1.15	mg/kg dry	1150	ND	90.2	80-120			
Batch P7C2804 - * DEFAULT PREP *** **										
Blank (P7C2804-BLK1)				Prepared & Analyzed: 03/28/17						
Chloride	ND	1.00	mg/kg wet							
LCS (P7C2804-BS1)				Prepared & Analyzed: 03/28/17						
Chloride	422	1.00	mg/kg wet	400		105	80-120			
LCS Dup (P7C2804-BSD1)				Prepared & Analyzed: 03/28/17						
Chloride	428	1.00	mg/kg wet	400		107	80-120	1.55	20	
Duplicate (P7C2804-DUP1)	Source: 7C15005-14			Prepared & Analyzed: 03/28/17						
Chloride	713	1.11	mg/kg dry		702			1.63	20	
Duplicate (P7C2804-DUP2)	Source: 7C24003-13			Prepared & Analyzed: 03/28/17						
Chloride	134	1.05	mg/kg dry		131			2.13	20	
Matrix Spike (P7C2804-MS1)	Source: 7C15005-14			Prepared & Analyzed: 03/28/17						
Chloride	1750	1.11	mg/kg dry	1110	702	94.8	80-120			

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710	Project: XTO Nash Draw Battery 42 Project Number: 17-0124-01 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 P7C1704 - TX 1005										
Blank (P7C1704-BLK1)				Prepared & Analyzed: 03/16/17						
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	*78.1*		"	*100*		*78.1*	*70-130*			
Surrogate: o-Terphenyl	*47.5*		"	*50.0*		*95.0*	*70-130*			
LCS (P7C1704-BS1)				Prepared & Analyzed: 03/16/17						
C6-C12	1000	25.0	mg/kg wet	1000		100	75-125			
>C12-C28	1030	25.0	"	1000		103	75-125			
Surrogate: 1-Chlorooctane	*102*		"	*100*		*102*	*70-130*			
Surrogate: o-Terphenyl	*49.7*		"	*50.0*		*99.4*	*70-130*			
LCS Dup (P7C1704-BSD1)				Prepared & Analyzed: 03/16/17						
C6-C12	948	25.0	mg/kg wet	1000		94.8	75-125	5.67	20	
>C12-C28	958	25.0	"	1000		95.8	75-125	6.96	20	
Surrogate: 1-Chlorooctane	*102*		"	*100*		*102*	*70-130*			
Surrogate: o-Terphenyl	*49.0*		"	*50.0*		*98.0*	*70-130*			
Matrix Spike (P7C1704-MS1)	Source: 7C1500S-32			Prepared: 03/16/17 Analyzed: 03/17/17						
C6-C12	1300	29.1	mg/kg dry	1160	19.3	110	75-125			
>C12-C28	1210	29.1	"	1160	78.8	97.3	75-125			
Surrogate: 1-Chlorooctane	*110*		"	*116*		*94.5*	*70-130*			
Surrogate: o-Terphenyl	*49.7*		"	*58.1*		*85.4*	*70-130*			
Matrix Spike Dup (P7C1704-MSD1)	Source: 7C1500S-32			Prepared: 03/16/17 Analyzed: 03/17/17						
C6-C12	1320	29.1	mg/kg dry	1160	19.3	112	75-125	1.58	20	
>C12-C28	1260	29.1	"	1160	78.8	101	75-125	3.99	20	
Surrogate: 1-Chlorooctane	*112*		"	*116*		*95.9*	*70-130*			
Surrogate: o-Terphenyl	*48.3*		"	*58.1*		*83.1*	*70-130*			

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

Project: XTO Nash Draw Battery 42
Project Number: 17-0124-01
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 P7C2711 - TX 1005										
Blank (P7C2711-BLK1)				Prepared & Analyzed: 03/24/17						
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	*74.5*		"	*100*		*74.5*	*70-130*			
Surrogate: o-Terphenyl	*39.6*		"	*50.0*		*79.3*	*70-130*			
LCS (P7C2711-BS1)				Prepared & Analyzed: 03/24/17						
C6-C12	915	25.0	mg/kg wet	1000		91.5	75-125			
>C12-C28	867	25.0	"	1000		86.7	75-125			
Surrogate: 1-Chlorooctane	*90.8*		"	*100*		*90.8*	*70-130*			
Surrogate: o-Terphenyl	*42.7*		"	*50.0*		*85.3*	*70-130*			
LCS Dup (P7C2711-BSD1)				Prepared & Analyzed: 03/24/17						
C6-C12	913	25.0	mg/kg wet	1000		91.3	75-125	0.257	20	
>C12-C28	851	25.0	"	1000		85.1	75-125	1.83	20	
Surrogate: 1-Chlorooctane	*90.9*		"	*100*		*90.9*	*70-130*			
Surrogate: o-Terphenyl	*43.8*		"	*50.0*		*87.5*	*70-130*			
Duplicate (P7C2711-DUP1)	Source: 7C1500S-14			Prepared: 03/24/17 Analyzed: 03/25/17						
C6-C12	26.4	27.8	mg/kg dry		21.2			21.7	20	
>C12-C28	48.3	27.8	"		156			106	20	
Surrogate: 1-Chlorooctane	*121*		"	*111*		*109*	*70-130*			
Surrogate: o-Terphenyl	*65.1*		"	*55.6*		*117*	*70-130*			
Batch P7C2807 - TX 1005										
Blank (P7C2807-BLK1)				Prepared: 03/23/17 Analyzed: 03/27/17						
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	*71.7*		"	*100*		*71.7*	*70-130*			
Surrogate: o-Terphenyl	*40.4*		"	*50.0*		*80.9*	*70-130*			

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

Project: XTO Nash Draw Battery 42
Project Number: 17-0124-01
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 P7C2807 - TX 1005										
LCS (P7C2807-BS1)				Prepared: 03/23/17 Analyzed: 03/27/17						
C6-C12	1080	25.0	mg/kg wet	1000		108	75-125			
>C12-C28	977	25.0	"	1000		97.7	75-125			
Surrogate: 1-Chlorooctane	*78.4*		"	*100*		*78.4*	*70-130*			
Surrogate: o-Terphenyl	*32.9*		"	*50.0*		*65.9*	*70-130*			*S-GC*
LCS Dup (P7C2807-BSD1)				Prepared: 03/23/17 Analyzed: 03/27/17						
C6-C12	1170	25.0	mg/kg wet	1000		117	75-125	7.84	20	
>C12-C28	1040	25.0	"	1000		104	75-125	6.15	20	
Surrogate: 1-Chlorooctane	*78.6*		"	*100*		*78.6*	*70-130*			
Surrogate: o-Terphenyl	*34.8*		"	*50.0*		*69.6*	*70-130*			*S-GC*
Matrix Spike (P7C2807-MS1)	Source: 7C15005-61			Prepared: 03/23/17 Analyzed: 03/27/17						
C6-C12	1560	29.1	mg/kg dry	1160	27.6	132	75-125			QM-05
>C12-C28	1390	29.1	"	1160	ND	119	75-125			
Surrogate: 1-Chlorooctane	*109*		"	*116*		*94.0*	*70-130*			
Surrogate: o-Terphenyl	*51.2*		"	*58.1*		*88.0*	*70-130*			
Matrix Spike Dup (P7C2807-MSD1)	Source: 7C15005-61			Prepared: 03/23/17 Analyzed: 03/27/17						
C6-C12	1590	29.1	mg/kg dry	1160	27.6	134	75-125	1.85	20	QM-05
>C12-C28	1380	29.1	"	1160	ND	119	75-125	0.0622	20	
Surrogate: 1-Chlorooctane	*111*		"	*116*		*95.5*	*70-130*			
Surrogate: o-Terphenyl	*52.2*		"	*58.1*		*89.8*	*70-130*			

Larson & Associates, Inc.	Project: XTO Nash Draw Battery 42	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 17-0124-01	
Midland TX, 79710	Project Manager: Mark Larson	

Notes and Definitions

S-GC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
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: 4/4/2017

Brent Barron, Laboratory Director/Technical Director

CHAIN-OF-CUSTODY

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

DATE: 3-15-17 PAGE 1 OF 5
PO #: LAB WORK ORDER #: 7C15005
PROJECT LOCATION OR NAME: XTO Nash Draw Battery 42
LAI PROJECT #: 17-0124-01 COLLECTOR: Travis Willi

Data Reported to:

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

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 ☑ DRO ☑	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 ☐ PERCHLORATE ☐	CHLORIDE ☑ ANIONS ☐ ALKALINITY ☐	HOLD	FIELD NOTES
DP-12 (0-1)	01	3-13-17	11:45	S	1				✓				x	x													x		
(1-2)	02												x	x													x		
(2-3)	03																											x	
(3-4)	04																											x	
(4-5)	05		11:55																									x	
(5-6)	06																											x	
(6-7)	07																											x	
(7-8)	08										x		x	x													x		
DP-11 (0-1)	09		12:05										x	x													x		
(1-2)	10												x	x													x		
(2-3)	11																											x	
(3-4)	12																											x	
(4-5)	13		13:10																									x	
(5-6)	14																											x	
DP-10 (0-1)	15		11:45								x		x	x													x		
TOTAL																													

RELINQUISHED BY:(Signature) DATE/TIME 2:30 3/15/17 RECEIVED BY: (Signature)
RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)
RELINQUISHED BY:(Signature) DATE/TIME 14:30 3/15/17 RECEIVED BY: (Signature) Marissa Martin

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

LABORATORY USE ONLY:
RECEIVING TEMP: 3.5 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: 3-15-17 PAGE 2 OF 5
PO #: LAB WORK ORDER #: 7015005
PROJECT LOCATION OR NAME: XTO Nash Draw Batten 42
LAI PROJECT #: 17-0124-01 COLLECTOR: Travis Willia

Data Reported to:

TRRP report? ☐ Yes ☑ No
TIME ZONE: Time zone/State: NM

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

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 ☑ | GRO ☑ | 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 ☐ PERCHLORATE ☐ | CHLORIDE ☑ ANIONS ☐ ALKALINITY ☐ | 3GG | HOLD

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	HCl	HNO_3	H_2SO_4 NaOH	ICE	UNPRESERVED	BTEX	MTBE	TRPH	GASOLINE	DIESEL	GRO	3GG	HOLD	FIELD NOTES
DP-10 (1-2)	-16	3-13-17	11:45	S	1				✓		x		x	x			✓		
(2-3)	-17												x	x			✓		
(3-4)	18																	x	
(4-5)	19		11:55															x	
(5-6)	20																	x	
(6-7)	21																	x	
(7-8)	22																	x	
DP-9 (0-1)	23		12:50										x	x			x		
(1-2)	24		1										x	x			x		
DP-8 (0-1)	25		12:26								x		x	x			x		
(1-2)	26										x		x	x			x		
(2-3)	27												x	x			x		
(3-4)	28																	x	
(4-5)	29		12:25															x	
(5-6)	30		1															x	
TOTAL																			

RELINQUISHED BY: (Signature) DATE/TIME 2:30 3/15/17 RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature) DATE/TIME 14:30 3/15/17 RECEIVED BY: (Signature)

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

LABORATORY USE ONLY:
RECEIVING TEMP: 3.5 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: 3-15-17 PAGE 3 OF 5

PO #: LAB WORK ORDER #: 745005

PROJECT LOCATION OR NAME: XTO Nash Draw Battery 42

LAI PROJECT #: 17-0124-01 COLLECTOR: Travis Wilson

Data Reported to:

TRRP report? ☐ Yes ☑ No

TIME ZONE: Time zone/State: NM

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

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 ☑ SULFATE ☐ AMIONS ☐ ALKALINITY ☐ | 30 | HOLD | FIELD NOTES

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	HCl	HNO_3	H_2SO_4 NaOH	ICE	UNPRESERVED	BTEX	TRPH	GASOLINE	DIESEL	VOC	SVOC	8081	8082	TCLP-METALS	TCLP-PEST	TOTAL METALS	LEAD-TOTAL	RCI	TDS	pH	EXPLOSIVES	CHLORIDE	30	HOLD	FIELD NOTES
DP-7 (0-1)	31	3-13-17	12:35	S	1				✓			x	x													x				
(1-2)	32											x	x													x				
(2-3)	33																											x		
(3-4)	34																											x		
(4-5)	35		12:40																									x		
(5-6)	36																											x		
(6-7)	37																											x		
(7-8)	38																											x		
S-6 (0-1)	39		1:45								x	x	x													x				
(1-2)	40										x	x	x													x				
(2-3)	41											x	x													x				
(3-4)	42											x	x													x				
(4-5)	43		1:50									x	x													x				
(5-6)	44																											x		
(6-7)	45																											x		
TOTAL																														

RELINQUISHED BY:(Signature) DATE/TIME 5:30 3/15/17 RECEIVED BY: (Signature)

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

RELINQUISHED BY:(Signature) DATE/TIME 14:30 3/15/17 RECEIVED BY: (Signature) Melissa Montan

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

LABORATORY USE ONLY:
RECEIVING TEMP: 2.5 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

DATE: 3-15-17 PAGE 4 OF 5
PO #: ______ LAB WORK ORDER #: 7C15005
PROJECT LOCATION OR NAME: XTO Nash Draw Battery 42
LAI PROJECT #: 17-0124-01 COLLECTOR: Travis Willia[…]

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

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 ☑ ORO ☑; 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 ☐ 300; HOLD

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	ICE	BTEX	GASOLINE MOD 8015	DIESEL MOD 8015	CHLORIDE (300)	HOLD	FIELD NOTES
DP-5 (0-1)	46	3-14-17	1:46	S	1	✓		x	x	x		
(1-2)	47	|	|	|	|	|		x	x	x		
DP-4 (0-1)	48	|	12:25	|	|	|	x	x	x	x		
(1-2)	49	|	|	|	|	|	x	x	x	x		
(2-3)	50	|	|	|	|	|		x	x	x		
(3-4)	51	|	|	|	|	|					x	
(4-5)	52	|	12:30	|	|	|					x	
(5-6)	53	|	|	|	|	|					x	
DP-3 (0-1)	54	|	12:05	|	|	|	x	x	x	x		
(1-2)	55	|	|	|	|	|	x	x	x	x		
(2-3)	56	|	|	|	|	|		x	x	x		
(3-4)	57	|	|	|	|	|		x	x	x		
(4-5)	58	|	12:15	|	|	|					x	
(5-6)	59	|	|	|	|	|					x	
(6-7)	60	|	|	|	|	|					x	

TOTAL

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
[signature]	9:30 3/15/17	
	14:30 3/15/17	[signature]

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

LABORATORY USE ONLY:
RECEIVING TEMP: 3.5 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

DATE: 3-15-17 PAGE 5 OF 5

PO #: LAB WORK ORDER #: 705005

PROJECT LOCATION OR NAME: XTO Nash Draw Battery 42

LAI PROJECT #: 17-0124-01 COLLECTOR: Travis Williams

Data Reported to:

TRRP report? ☐ Yes ☑ No

TIME ZONE: Time zone/State: NM

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

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

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES: BTEX ☑ MTBE ☐ / TRPH 418.1 ☐ / TPH 1005 ☐ / TPH 1005 ☐ / GASOLINE MOD 8015 ☐ / DIESEL - MOD 8015 ☑ ORO ☑ / VOC 8260 ☐ / SVOC 8270 ☐ / PAH 8270 ☐ / HOLDPAH ☐ / 8081 PESTICIDES ☐ / 8151 HERBICIDES ☐ / 8082 PCBS ☐ / TCLP - METALS (RCRA) ☐ / TCLP VOC ☐ / TCLP - PEST ☐ / HERB ☐ / SemiVOC ☐ / TOTAL METALS (RCRA) ☐ / OTHER LIST ☐ / LEAD - TOTAL ☐ / D.W. 200.8 ☐ / TCLP ☐ / RCI ☐ / TOX ☐ / FLASHPOINT ☐ / TDS ☐ / TSS ☐ / % MOISTURE ☐ / CYANIDE ☐ / pH ☐ / HEXAVALENT CHROMIUM ☐ / EXPLOSIVES ☐ / PEGHLORATE ☐ / CHLORIDE ☑ ANIONS ☐ / ALKALINITY ☐ / 300 / HOLD	FIELD NOTES
DP-3 (7-8)	01	3-14-17	12:05	S	1				✓			✓
DP-2 (0-1)	02		12:45								x x x x	
(1-2)	03										x x x x	
(2-3)	04										x x x	
(3-4)	05											x
(4-5)	06		12:50									x
(5-6)	07											x
DP-1 (0-1)	08		1:55								x x x	
TOTAL												

RELINQUISHED BY:(Signature) DATE/TIME 2:30 3/15/17 RECEIVED BY: (Signature)

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

RELINQUISHED BY:(Signature) DATE/TIME 14:30 3/15/17 RECEIVED BY: (Signature) Monica Martin

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

LABORATORY USE ONLY:
RECEIVING TEMP: 3.5 THERM #:
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL #
☐ HAND DELIVERED

Appendix B

Photographs

Location Sign

Spill Area Viewing South

Spill Area Viewing Northeast

Spill Area Viewing North

Spill Area Viewing North

Spill Area Viewing Northwest

Spill Area Viewing North

Spill Area Viewing South Following Soil Sample Collection

Spill Area Viewing Southwest Following Soil Sample Collection

Spill Area Viewing South Following Soil Sample Collection

Spill Area Viewing South Following Soil Sample Collection

Spill Area Viewing South Following Soil Sample Collection

Spill Area inside Firewall Prior to Removing Gravel Viewing East

Spill Area inside Firewall Prior to Removing Gravel Viewing West

Spill Area inside Firewall Prior to Removing Gravel Viewing East

Hydrovac Truck Removing Gravel Viewing West

Inside Firewall after Removing Gravel Viewing South

Inside Firewall after Removing Gravel Viewing South

Inside Firewall after Removing Gravel Viewing South

Inside Firewall after Removing Gravel Viewing South

Inside Firewall after Removing Gravel Viewing West

Inside Firewall after Removing Gravel Viewing Southeast

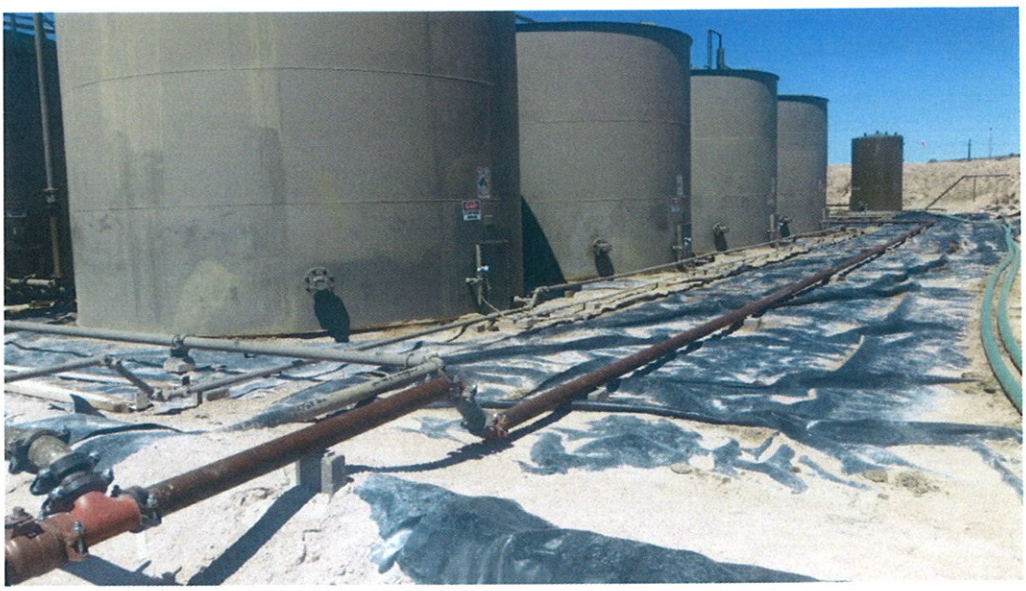
Inside Firewall after Removing Gravel Viewing West

Inside Firewall after Removing Gravel Viewing West

Small Tear in Bottom Liner inside Firewall

Liner inside Firewall May 12, 2017

Liner inside Firewall Viewing West May 12, 2017



Liner South of Tanks Viewing West May 12, 2017

Liner East of Tanks Viewing North May 12, 2017

Liner East of Tanks Viewing East May 12, 2017

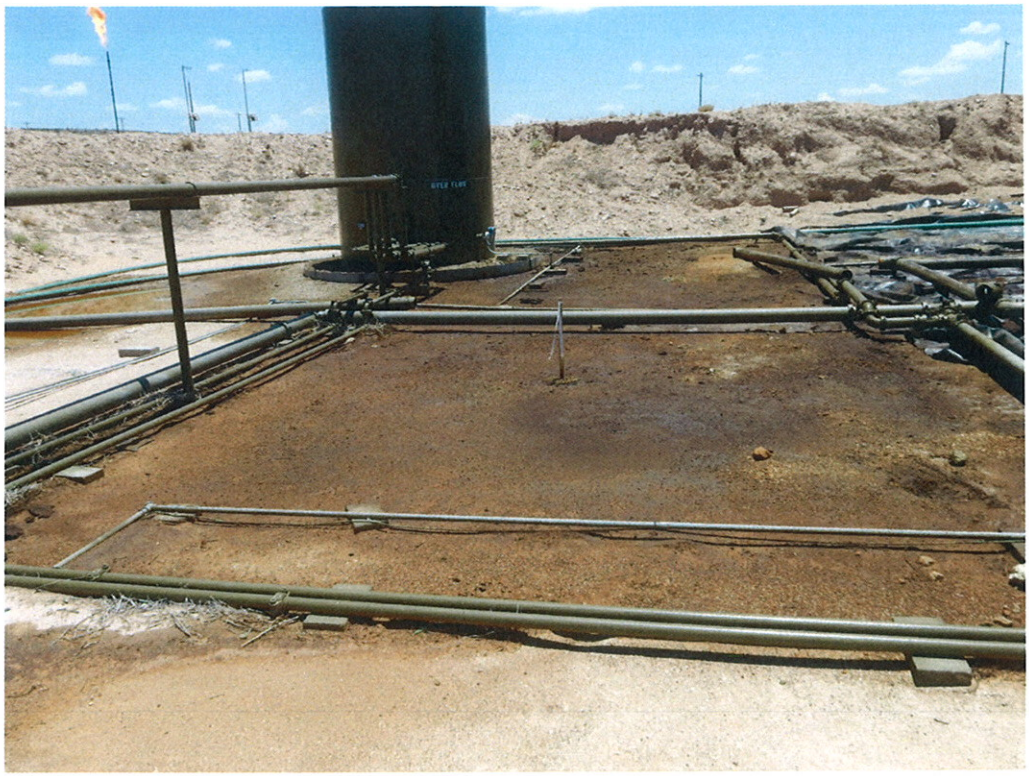
Liner East of Tanks Viewing West May 12, 2017

Break in Liner South of Tanks May 12, 2017

Liner East of Tanks Viewing Northwest May 12, 2017

New Spill (June 14, 2017) Viewing Southeast, June 27, 2017

New Spill (June 14, 2017) Viewing East, June 27, 2017



New Spill (June 14, 2017) Viewing South, June 27, 2017

New Spill (June 14, 2017) Viewing Northwest, June 27, 2017

Appendix C

Initial C-141

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

NM OIL CONSERVATION
ARTESIA DISTRICT
NOV 03 2016
RECEIVED

Form C-141
Revised August 8, 2011

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

fAB1630929137
nAB1630929291

Release Notification and Corrective Action

OPERATOR

X Initial Report ☐ Final Report

Name of Company XTO Energy, Inc. 384373	Contact John Robinson
Address 500 West Illinois, Suite 100 Midland, TX 79701	Telephone No. 575-44-5199
Facility Name Nash 42 CTB	Facility Type Battery

Surface Owner BLM	Mineral Owner	API No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	18	23 S	30 E					Eddy

Latitude _____ Longitude _____

NATURE OF RELEASE

Type of Release Oil	Volume of Release 124.71 barrels	Volume Recovered 121 barrels
Source of Release Pop off tank	Date and Hour of Occurrence 10-27-16 9:00pm	Date and Hour of Discovery 10-28-16 7:30am
Was Immediate Notice Given? X Yes ☐ No ☐ Not Required	If YES, To Whom? Shelly Tucker BLM and Heather Patterson NMOCD	
By Whom? John Robinson	Date and Hour 10-28-16 11:00 am	
Was a Watercourse Reached? ☐ Yes X No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
Rod between float and oil dump broke causing FWKO to dome out and overflow 210 pop off tank. Cleaned up all oil possible and pumped into spare water tank to be circulated through system.

Describe Area Affected and Clean up Action Taken.*
Leak stayed inside berm. Will clean up according to BLM and NMOCD standards

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: John Robinson	OIL CONSERVATION DIVISION
Printed Name: John Robinson	Approved by Environmental Specialist:
Title: Maintenance Foreman	Approval Date: 11/4/16 Expiration Date: N/A
E-mail Address: john_robinson@xtoenergy.com	Conditions of Approval: Attached X
Date: 11-3-16 Phone: 575-441-5199	

* Attach Additional Sheets If Necessary

2RP-3976

Patterson, Heather, EMNRD

From: Robinson, John <John_Robinson@xtoenergy.com>
Sent: Thursday, November 03, 2016 1:52 PM
To: stucker@blm.gov; Patterson, Heather, EMNRD
Subject: FW: form
Attachments: Form-C141.pdf

From: Snyder, Kathy
Sent: Thursday, November 03, 2016 2:48 PM
To: Robinson, John
Subject: form

Kathy Snyder
Office Clerk
XTO Energy, Inc
PO Box 700
Eunice, NM 88231
Phone: 575-394-2089
Fax: 575-394-3362
Email: Kathy_snyder@xtoenergy.com

An **ExxonMobil** Subsidiary

NM OIL CONSERVATION
ARTESIA DISTRICT
JUN 19 2017
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

nAB1717131002

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: XTO Energy 5380	Contact: Amy Ruth
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: Nash #042 Tank Battery (API Nash #042)	Facility Type: Exploration and Production

Surface Owner: Federal	Mineral Owner: Unknown	API No. 30-015-37194

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
E	18	23S	30E	2100	North	615	West	Eddy

Latitude 32.306495° **Longitude** -103.927575°

NATURE OF RELEASE

Type of Release: Produced Water and Crude Oil	Volume of Release: 456.13 BPW, 9.31 BO	Volume Recovered: 450.8 BPW, 9.2 BO
Source of Release: fiberglass line	Date and Hour of Occurrence: 6/14/2017 time unknown	Date and Hour of Discovery: 6/14/2017 9:30 am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher/Crystal Weaver (NMOCD), Jim Amos/Shelly Tucker (BLM)	
By Whom? Amy Ruth	Date and Hour 6/14/2017 5:13 pm by email	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*
N/A

Describe Cause of Problem and Remedial Action Taken.*
The fiberglass line connecting the ESP water dump and the production FWKO to the gun barrel and water tanks ruptured at a 90 degree connection. The wells feeding the facility were shut in until repairs can be made.

Describe Area Affected and Cleanup Action Taken.*
The leak affected the area within the zero-perm and earthen containments on the facility pad. Free standing fluids were recovered.

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

Signature:	OIL CONSERVATION DIVISION
Printed Name: Amy C. Ruth	Approved by Environmental Specialist: Crystal Weaver
Title: Environmental Supervisor	Approval Date: 6/20/17 Expiration Date: N/A
E-mail Address: Amy_Ruth@xtoenergy.com	Conditions of Approval: see attached Attached ☒
Date: Phone: 432-661-0571	

* Attach Additional Sheets If Necessary

Please refer to the New Mexico Oil Conservation Division Website for updated form(s) at: http://www.emnrd.state.nm.us/OCD/forms.html Thank you

2RP-4253

Operator/Responsible Party,

The OCD has received the form C-141 you provided on **6/19/17** regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 2RP-4253 has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

> *The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC.* [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District II office in Artesia on or before 7/19/17. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.

- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.

- Nominal detection limits for field and laboratory analyses must be provided.

- Composite sampling is not generally allowed.

- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

•Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

• If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

• Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold
OCD Environmental Bureau Chief
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505-476-3465
jim.griswold@state.nm.us

Weaver, Crystal, EMNRD

From: Ruth, Amy <Amy_Ruth@xtoenergy.com>
Sent: Monday, June 19, 2017 2:53 PM
To: Bratcher, Mike, EMNRD; Weaver, Crystal, EMNRD
Cc: Jim Amos; Shelly Tucker; Foust, Bryan; Sanders, Toady
Subject: RE: Nash 042 Battery 6-14-17 Release notification
Attachments: Initial C-141 Nash 42 TB 6-14-17.pdf

Please find the initial form C-141 for the referenced spill event/notification at the Nash 042 Tank Battery last week. Call me with any questions. Thank you.

-----Original Message-----
From: Ruth, Amy
Sent: Wednesday, June 14, 2017 5:13 PM
To: Mike Bratcher; Crystal EMNRD Weaver
Cc: Jim Amos; Shelly Tucker; Foust, Bryan; Sanders, Toady; Jackson, Bo; McSpadden, Wes
Subject: Nash 042 Battery 6-14-17 Release notification

All, please be advised that XTO Energy has had an accidental release of fluids from the Nash 042 Battery facility over the amount of 25 barrels. All fluids remained within the zero perm and earthen containment areas. Free standing fluids are being recovered. We will update you on volume and cause of the release with the submittal of an initial C-141 form. Please call with questions or concerns. Thank you.

Amy Ruth
432-661-0571
Sent from my iPhone

Weaver, Crystal, EMNRD

From: Ruth, Amy <Amy_Ruth@xtoenergy.com>
Sent: Wednesday, June 14, 2017 5:13 PM
To: Bratcher, Mike, EMNRD; Weaver, Crystal, EMNRD
Cc: Jim Amos; Shelly Tucker; Foust, Bryan; Sanders, Toady; Jackson, Bo; McSpadden, Wes
Subject: Nash 042 Battery 6-14-17 Release notification

All, please be advised that XTO Energy has had an accidental release of fluids from the Nash 042 Battery facility over the amount of 25 barrels. All fluids remained within the zero perm and earthen containment areas. Free standing fluids are being recovered. We will update you on volume and cause of the release with the submittal of an initial C-141 form. Please call with questions or concerns. Thank you.

Amy Ruth
432-661-0571
Sent from my iPhone