

2RP-3976
DELINEATION REPORT AND REMEDIATION PLAN
Nash Draw #42 CTB Crude Oil Spill
Eddy County, New Mexico

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

LAI Project No. 17-0124-01

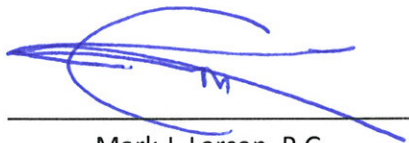
May 18, 2017

Prepared for:

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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 a crude oil spill 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

The spill occurred on October 27, 2016, 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 which assigned the release remediation permit 2RP-39-76-0 with conditions.

The spill 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.

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.

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

Soil will be excavated from the unlined area of the spill 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 at sample locations DP-2, DP-3, DP-4, DP-6, DP-8 and DP-10 following soil removal and 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 and 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 B presents the initial C-141.

Tables

Table 1

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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	<30.1	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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 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:											
	1 - 2	03/14/2017	In-situ	3.7	--	--	<27.8	<27.8	<27.8	1,000	*250
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

2RP-1486

XTO Energy, Inc., Nash Draw #42 CTB Crude Oil Spill

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-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	--	--	--	--	--	--	--

Table 1

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 UL N (SE/4, SW/4), S-8, T-26 South, R-31 East
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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:											
	7 - 8	03/13/2017	In-situ	103	<0.00112	<0.0079	<28.1	<28.1	<28.1	<28.1	72.7
					10	50				1,000	* 250

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

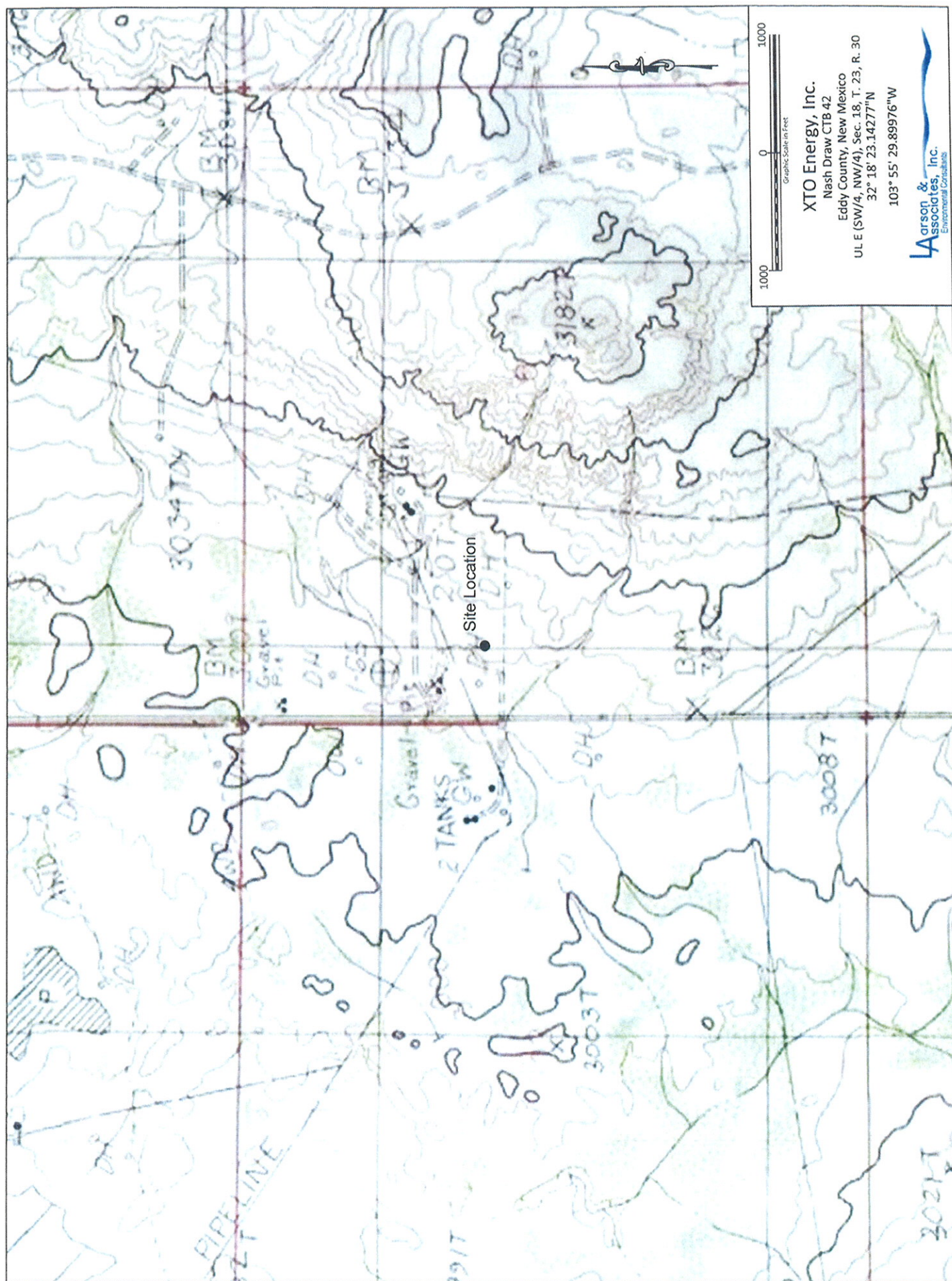


Figure 1 - Topographic Map



Figure 2 - Site Map Showing Direct Push Sample Locations



Figure 3- Site Map and Proposed Soil Excavation

Appendix A

Laboratory Reports

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



Analytical Report

Prepared for:

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

Project: XTO Nash Draw Battery 42

Project Number: 17-0124-01

Location:

Lab Order Number: 7C15005



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.
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-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.

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

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DP-12 (0-1)
7C15005-01 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

Chloride	104	10.9	mg/kg dry	10	P7C1604	03/16/17	03/20/17	EPA 309.0	
% 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	

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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
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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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Project Number: 17-0124-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP-12 (7-8)
7C15005-08 (Soil)

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

Organics by GC

Benzene	ND	0.00112	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	

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Midland TX, 79710

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

Fax: (432) 687-0456

DP-11 (0-1)
7C15005-09 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

Chloride	14.8	1.1	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	

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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
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Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	162	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		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	

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

Fax: (432) 687-0456

DP-10 (0-1)
7C15005-15 (Soil)

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

Organics by GC

Benzene	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	

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

Fax: (432) 687-0456

DP-10 (1-2)
7C15005-16 (Soil)

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

Organics by GC

Benzene	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	

Permian Basin Environmental Lab, L.P.

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

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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
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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-Turphenyl		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	

Larson & Associates, Inc.
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Midland TX, 79710

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

Fax: (432) 687-0456

DP-10 (7-8)
7C15005-22 (Soil)

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

Organics by GC

Benzene	ND	0.00111	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	

Permian Basin Environmental Lab, L.P.

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Larson & Associates, Inc.
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Midland TX, 79710

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

Fax: (432) 687-0456

DP-9 (0-1)
7C15005-23 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

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
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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
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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	

Larson & Associates, Inc.
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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)
7C15005-25RE1 (Soil)

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

Organics by GC

Benzene	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		78.8 %	75-125		P7C2705	03/24/17	03/25/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		78.5 %	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	
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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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Project: XTO Nash Draw Battery 42
Project Number: 17-0124-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP-8 (1-2)
7C15005-26 (Soil)

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

Organics by GC

Benzene	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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Midland TX, 79710

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

Fax: (432) 687-0456

DP-8 (2-3)
7C15005-27 (Soil)

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

Organics by GC

Benzene	ND	0.0235	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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Project: XTO Nash Draw Battery 42
Project Number: 17-0124-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP-8 (3-4)
7C15005-28 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

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

Fax: (432) 687-0456

DP-8 (4-5)
7C15005-29 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

% Moisture	11.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	
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Project: XTO Nash Draw Battery 42
Project Number: 17-0124-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP-8 (5-6)
7C15005-30 (Soil)

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

Organics by GC

Benzene	ND	0.00111	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	

Larson & Associates, Inc.
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Midland TX, 79710

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

Fax: (432) 687-0456

DP-7 (0-1)
7C15005-31 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

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

Fax: (432) 687-0456

DP-7 (1-2)
7C15005-32 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

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	

Larson & Associates, Inc.
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Midland TX, 79710

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

Fax: (432) 687-0456

DP-7 (7-8)
7C15005-38 (Soil)

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

Organics by GC

Benzene	ND	0.00111	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: α -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.
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Midland TX, 79710

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

Fax: (432) 687-0456

DP-6 (0-1)
7C15005-39 (Soil)

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

Organics by GC

Benzene	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.
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 (0-1)
7CI5005-39RE1 (Soil)

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

Organics by GC

Benzene	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	
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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	

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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
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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	

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Midland TX, 79710

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

Fax: (432) 687-0456

DP-6 (2-3)
7C15005-41 (Soil)

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

Organics by GC

Benzene	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	

Permian Basin Environmental Lab, L.P.

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

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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
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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.
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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
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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	

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Midland TX, 79710

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

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DP-6 (5-6)
7C15005-44 (Soil)

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

Organics by GC

Benzene	ND	0.00115	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	

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

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DP-6 (6-7)
7C15005-45 (Soil)

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

Organics by GC

Benzene	ND	0.00114	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	12.6	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	

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Project: XTO Nash Draw Battery 42
Project Number: 17-0124-01
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DP-5 (0-1)
7C15005-46 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

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	

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Midland TX, 79710

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

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DP-5 (1-2)
7C15005-47 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

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
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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
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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
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Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	22.1	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	

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Midland TX, 79710

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

Fax: (432) 687-0456

DP-4 (3-4)
7C15005-51 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

% Moisture	13.0	0.1	%	1	P7C2005	03/20/17	03/20/17	% calculation	
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Larson & Associates, Inc.
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Midland TX, 79710

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

Fax: (432) 687-0456

DP-4 (4-5)
7C15005-52 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

% Moisture	12.0	0.1	%	1	P7C2005	03/20/17	03/20/17	% calculation	
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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
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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	

Permian Basin Environmental Lab, L.P.

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

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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 (0-1)
7C15005-54 (Soil)

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

Organics by GC

Benzene	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	

Larson & Associates, Inc.
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Project: XTO Nash Draw Battery 42
Project Number: 17-0124-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP-3 (1-2)
7C15005-55 (Soil)

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

Organics by GC

Benzene	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.
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 (2-3)
7C15005-56 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

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	[CAJ.C]	03/16/17	03/17/17	calc	

Larson & Associates, Inc.
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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
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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.
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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.
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 (0-1)
7C15005-62 (Soil)

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

Organics by GC

Benzene	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.
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 (1-2)
7C15005-63 (Soil)

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

Organics by GC

Benzene	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
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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	

Permian Basin Environmental Lab, L.P.

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Larson & Associates, Inc.
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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
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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	

Permian Basin Environmental Lab, L.P.

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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
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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	

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Project Manager: Mark Larson

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 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	0.0621		"	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	0.0693		"	0.0612		108	75-125			

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

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

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Midland TX, 79710

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

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 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-BL-K1)

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	0.0557		"	0.0600		92.8	75-125			

Larson & Associates, Inc.
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Midland TX, 79710

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

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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	0.0625		"	0.0600		104	75-125			
LCS Dup (P7C2802-BS1)				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.
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Midland TX, 79710

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

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General Chemistry Parameters by EPA / Standard Methods - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P7C1604 - *** DEFAULT PREP ***										
Blank (P7C1604-BLK1)										
Chloride	ND	1.00	mg/kg wet							Prepared: 03/16/17 Analyzed: 03/20/17
LCS (P7C1604-BS1)										
Chloride	388	1.00	mg/kg wet	400		97.1	80-120			Prepared: 03/16/17 Analyzed: 03/20/17
LCS Dup (P7C1604-BSD1)										
Chloride	390	1.00	mg/kg wet	400		97.4	80-120	0.350	20	Prepared: 03/16/17 Analyzed: 03/20/17
Duplicate (P7C1604-DUP1)										
Chloride	88.3	Source: 7C15005-01 10.9	mg/kg dry		104			16.3	20	Prepared: 03/16/17 Analyzed: 03/20/17
Duplicate (P7C1604-DUP2)										
Chloride	35.3	Source: 7C15005-25 1.18	mg/kg dry		32.1			9.43	20	Prepared: 03/16/17 Analyzed: 03/20/17
Matrix Spike (P7C1604-MS1)										
Chloride	1730	Source: 7C15005-01 10.9	mg/kg dry	1630	104	99.9	80-120			Prepared: 03/16/17 Analyzed: 03/20/17
Batch P7C1605 - *** DEFAULT PREP ***										
Blank (P7C1605-BLK1)										
Chloride	ND	1.00	mg/kg wet							Prepared: 03/16/17 Analyzed: 03/20/17
LCS (P7C1605-BS1)										
Chloride	389	1.00	mg/kg wet	400		97.3	80-120			Prepared: 03/16/17 Analyzed: 03/20/17
LCS Dup (P7C1605-BSD1)										
Chloride	389	1.00	mg/kg wet	400		97.2	80-120	0.100	20	Prepared: 03/16/17 Analyzed: 03/20/17

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P7C1605 - *** DEFAULT PREP ***										
Duplicate (P7C1605-DUP1)										
Chloride	12.8	1.10	mg/kg dry		12.5			2.09	20	
Duplicate (P7C1605-DUP2)										
Chloride	54.9	1.16	mg/kg dry		53.9			1.77	20	
Matrix Spike (P7C1605-MS1)										
Chloride	988	1.10	mg/kg dry	1100	12.5	88.8	80-120			
Batch P7C1703 - *** DEFAULT PREP ***										
Blank (P7C1703-BLK1)										
% Moisture	ND	0.1	%							Prepared & Analyzed: 03/17/17
Blank (P7C1703-BLK2)										
% Moisture	ND	0.1	%							Prepared & Analyzed: 03/17/17
Duplicate (P7C1703-DUP1)										
% Moisture	12.0	0.1	%		8.0			40.0	20	
Duplicate (P7C1703-DUP2)										
% Moisture	6.0	0.1	%		7.0			15.4	20	
Duplicate (P7C1703-DUP3)										
% Moisture	12.0	0.1	%		9.0			28.6	20	
Duplicate (P7C1703-DUP4)										
% Moisture	1.0	0.1	%		2.0			66.7	20	

Permian Basin Environmental Lab, L.P.

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

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

Page 57 of 68

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 P7C1703 - *** DEFAULT PREP ***										
Duplicate (P7C1703-DUP5)										
		Source: 7C15005-33			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
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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	47.3		"	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: 7C15005-32		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: 7C15005-32		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.

Analytic	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7C2711 - TX 1005

Blank (P7C2711-BI.K1)

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-BS1)

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: 7C15005-14

Prepared: 03/24/17 Analyzed: 03/25/17

C6-C12	26.4	27.8	mg/kg dry		21.2			21.7	20	
>C12-C28	48.1	27.8	"		156			106	20	
Surrogate: 1-Chlorooctane	121		"	111		109	70-130			
Surrogate: o-Terphenyl	63.1		"	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.
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

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

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

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

Data Reported to:

DATE: 3-15-17 PAGE 1 OF 5
PO #: LAB WORK ORDER #: 7C15005
PROJECT LOCATION OR NAME: MO Ash Grove Battery
LAI PROJECT #: 17-0124-C1 COLLECTOR: Travis Smith

CHAIN-OF-CUSTODY

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	PRESERVATION				ANALYSES	TURN AROUND TIME	LABORATORY USE ONLY:
						W=WATER	P=PAINT	SL=SLUDGE	OT=OTHER			
DP-12 (0-1)	01	3-13-17	11:45	S	1							
(1-2)	02											
(2-3)	03											
(3-4)	04											
(4-5)	05		11:55									
(5-6)	06											
(6-7)	07											
(7-8)	08											
DP-11 (0-1)	09		12:05									
(1-2)	10											
(2-3)	11											
(3-4)	12											
(4-5)	13		12:10									
(5-6)	14											
DP-10 (0-1)	15		11:45									
TOTAL												

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME
<i>[Signature]</i>	3/30/17	<i>[Signature]</i>	3/15/17
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME
<i>[Signature]</i>	3/30/17	<i>[Signature]</i>	3/15/17
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME
<i>[Signature]</i>	3/30/17	<i>[Signature]</i>	3/15/17

TURN AROUND TIME	LABORATORY USE ONLY:
NORMAL <input checked="" type="checkbox"/>	RECEIVING TEMP: <u>35</u> THERM #: <u> </u>
1 DAY <input type="checkbox"/>	CUSTODY SEALS - <input type="checkbox"/> BROKEN <input type="checkbox"/> INTACT <input type="checkbox"/> NOT USED
2 DAY <input type="checkbox"/>	<input type="checkbox"/> CARRIER BILL # <u> </u>
OTHER <input type="checkbox"/>	<input type="checkbox"/> HAND DELIVERED

Varson & Associates, Inc.
Environmental Consultants

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

DATE: 3-15-17

PAGE 3 OF 5

PO#

LAB WORK ORDER #: 13505

PROJECT LOCATION OR NAME: X10 Nassi Drive Gaffney 712

LA PROJECT #: F7-6124-01 COLLECTOR: Trevis Williams

Page 66 of 68

Data Reported to:

TRRP report?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	DESORT	P=PAINT
			W=WATER	SL=SLUDGE
			A=AIR	OT=OTHER

PRESERVATION		
□	H	Q

1005 ☐ TPH 1006 ☐
70 ☐ HOLDPAH ☐
9151 HERBICIDES ☒
A) ☐ TCLP VOC ☐
? ☐ Semi-VOC ☐
A) ☐ OTHER LIST ☐
/ 200.8 ☐ TCLP ☐
IF POINT ☐
STURE ☐ CYANIDE ☐
CHROMIUM ☐
PHLORATE ☐
SS ☐ ALKALINITY ☐

TIME ZONE:		
Time zone/State:		
Field Sample I.D.		
Lab #.	Date	Time
Matrix		
# of Containers		
HCl		
HNO ₃		
H ₂ SO ₄ <input type="checkbox"/> NaO		
ICE		
UNPRESERVE		
ANALYSES BTEX <input type="checkbox"/> MTBE <input type="checkbox"/> TRPH 418.1 <input type="checkbox"/> TPH 10 GASOLINE MOD 8015 DIESEL - MOD 8015 VOC 8260 <input type="checkbox"/> SVOC 8270 <input type="checkbox"/> PAH 82 8001 PESTICIDES <input type="checkbox"/> 8002 PCBs <input type="checkbox"/> TCLP - METALS (RCRA) TCLP - PEST <input type="checkbox"/> HERB TOTAL METALS (RCRA) LEAD - TOTAL <input type="checkbox"/> DW TOX <input type="checkbox"/> FLASH TDS <input type="checkbox"/> TSS <input type="checkbox"/> % MOI pH <input type="checkbox"/> HEXAVALENT EXPLOSIVES <input type="checkbox"/> PEC CHLORIDE <input type="checkbox"/> ANION SO ₄ HOLD FIELD NOTES		

[illegible]

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME	TURN AROUND TIME	LABORATORY USE ONLY:
<i>[Signature]</i>		<i>[Signature]</i>		NORMAL <input checked="" type="checkbox"/> 1 DAY <input type="checkbox"/>	RECEIVING TEMP: <i>2.5</i> THERM #:

RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature)
14:30 3/15/17 MMSA Montana
2 DAY ☒ OTHER ☐
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL #

☐ HAND DELIVERED

Arison & Associates, Inc.
Environmental Consultants

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

CHAIN-OF-CUSTODY

Data Reported to:

DATE: 3-15-17 PAGE 4 OF 5
PO #: LAB WORK ORDER # 145805
PROJECT LOCATION OR NAME: XTC Ash Draw Battery 42
LAI PROJECT #: 17-0124-01 COLLECTOR: Travis Miller

TRRP report? ☒ Yes ☐ No
TIME ZONE: MM
Time zone/State:

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

PRESERVATION
HCl
HNO₃
H₂SO₄ ☐ NaOH ☐
ICE
UNPRESERVED

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers
-------------------	-------	------	------	--------	-----------------

DR-5 (C-1)	46	3-14-17	1:46	S	1
(1-2)	47				
DR-4 (C-1)	48		12:25		
(1-2)	49				
(2-3)	50				
(3-4)	51				
(4-5)	52		12:30		
(5-6)	53				
DR-3 (C-1)	54		12:35		
(1-2)	55				
(2-3)	56				
(3-4)	57				
(4-5)	58		12:35		
(5-6)	59				
(6-7)	60				

ANALYSES	
BTEX <input checked="" type="checkbox"/> MTBE <input type="checkbox"/>	
TPH 418.1 <input type="checkbox"/> TPH 1005 <input type="checkbox"/> TPH 1006 <input type="checkbox"/>	
GASOLINE MOD 8015 <input type="checkbox"/>	
DIESEL - MOD 8015 <input type="checkbox"/>	
VOC 8260 <input type="checkbox"/>	
SVOC 8270 <input type="checkbox"/> PAH 8270 <input type="checkbox"/> HOLDPAH <input type="checkbox"/>	
8081 PESTICIDES <input type="checkbox"/> 8151 HERBICIDES <input type="checkbox"/>	
8082 PCBs <input type="checkbox"/>	
TCLP - METALS (RCRA) <input type="checkbox"/> TCLP VOC <input type="checkbox"/>	
TCLP - PEST <input type="checkbox"/> HERB <input type="checkbox"/> Semi-VOC <input type="checkbox"/>	
TOTAL METALS (RCRA) <input type="checkbox"/> OTHER LIST <input type="checkbox"/>	
LEAD - TOTAL <input type="checkbox"/> D.W. 200.8 <input type="checkbox"/> TCLP <input type="checkbox"/>	
RQI <input type="checkbox"/> TOX <input type="checkbox"/> FLASHPOINT <input type="checkbox"/>	
TDS <input type="checkbox"/> TSS <input type="checkbox"/> % MOISTURE <input type="checkbox"/>	
PH <input type="checkbox"/> HEXAVALENT CHROMIUM <input type="checkbox"/>	
EXPLOSIVES <input type="checkbox"/> PENTACHLORATE <input type="checkbox"/>	
CHLORIDE ANIONS <input type="checkbox"/> ALKALINITY <input type="checkbox"/>	
TCO	
HOLD	
FIELD NOTES	

RELINQUISHED BY: (Signature)
RELINQUISHED BY: (Signature)
RELINQUISHED BY: (Signature)

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

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

LABORATORY USE ONLY:
RECEIVING TEMP: 35 THERM #:
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL #
☐ HAND DELIVERED

Date Reported to:

DATE: 3-15-17
PO #:
PROJECT LOCATION OR NAME: XTO Nash Draw Battery #12
LAI PROJECT #: 17-0124-01
COLLECTOR: Travis Winters

CHAIN-OF-CUSTODY

TRRP report?
☐ Yes ☒ No

TIME ZONE:
Time zone/State:
NM

PRE-PAYMENT
SL=SLUDGE
OT=OTHER

PRE-PAYMENT
SL=SLUDGE
OT=OTHER

PRE-PAYMENT
SL=SLUDGE
OT=OTHER

PRE-PAYMENT
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PRE-PAYMENT
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OT=OTHER

PRE-PAYMENT
SL=SLUDGE
OT=OTHER

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	HCl	HNO ₃	H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/>	ICE	UNPRESERVED	ANALYSES	TURN AROUND TIME	LABORATORY USE ONLY
DR-3 (7-8)	11	3-14-17	12:15	S	1						816X MTBE <input type="checkbox"/> TPH 418.1 <input type="checkbox"/> TPH 1005 <input type="checkbox"/> TPH 1006 <input type="checkbox"/> GASOLINE MOD 8015 <input type="checkbox"/> DIESEL MOD 8015 <input type="checkbox"/> VOC 8200 <input type="checkbox"/> SVOC 8270 <input type="checkbox"/> PAH 8270 <input type="checkbox"/> HOLD PAH <input type="checkbox"/> 8081 PESTICIDES <input type="checkbox"/> 8151 HERBICIDES <input type="checkbox"/> 8082 PCBs <input type="checkbox"/> TCLP - METALS (RCRA) <input type="checkbox"/> TCLP - SEMI-VOC <input type="checkbox"/> TCLP - PEST <input type="checkbox"/> HERB <input type="checkbox"/> OTHER LIST <input type="checkbox"/> TOTAL METALS (RCRA) <input type="checkbox"/> LEAD - TOTAL <input type="checkbox"/> D.W. 200.8 <input type="checkbox"/> TCLP <input type="checkbox"/> RCI <input type="checkbox"/> TOX <input type="checkbox"/> FLASHPOINT <input type="checkbox"/> TDS <input type="checkbox"/> TSS <input type="checkbox"/> % MOISTURE <input type="checkbox"/> PH <input type="checkbox"/> HEXAVALENT CHROMIUM <input type="checkbox"/> EXPLOSIVES <input type="checkbox"/> PENTACHLORATE <input type="checkbox"/> CHLORIDE <input type="checkbox"/> ANIONS <input type="checkbox"/> ALKALINITY <input type="checkbox"/>	NORMAL <input checked="" type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAY <input type="checkbox"/> OTHER <input type="checkbox"/>	RECEIVING TEMP: 3.5 THERM #: CUSTODY SEALS - <input type="checkbox"/> BROKEN <input type="checkbox"/> INTACT <input type="checkbox"/> NOT USED <input type="checkbox"/> CARRIER BILL # <input type="checkbox"/> HAND DELIVERED

DR-2 (0-1)	102	12:15									X		
(1-2)	103										X		
(2-3)	104										X		
(3-4)	105										X		
(4-5)	106	12:50									X		
(5-6)	107										X		
DR-1 (0-1)	108	1:55									X		

TOTAL													
-------	--	--	--	--	--	--	--	--	--	--	--	--	--

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

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

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

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



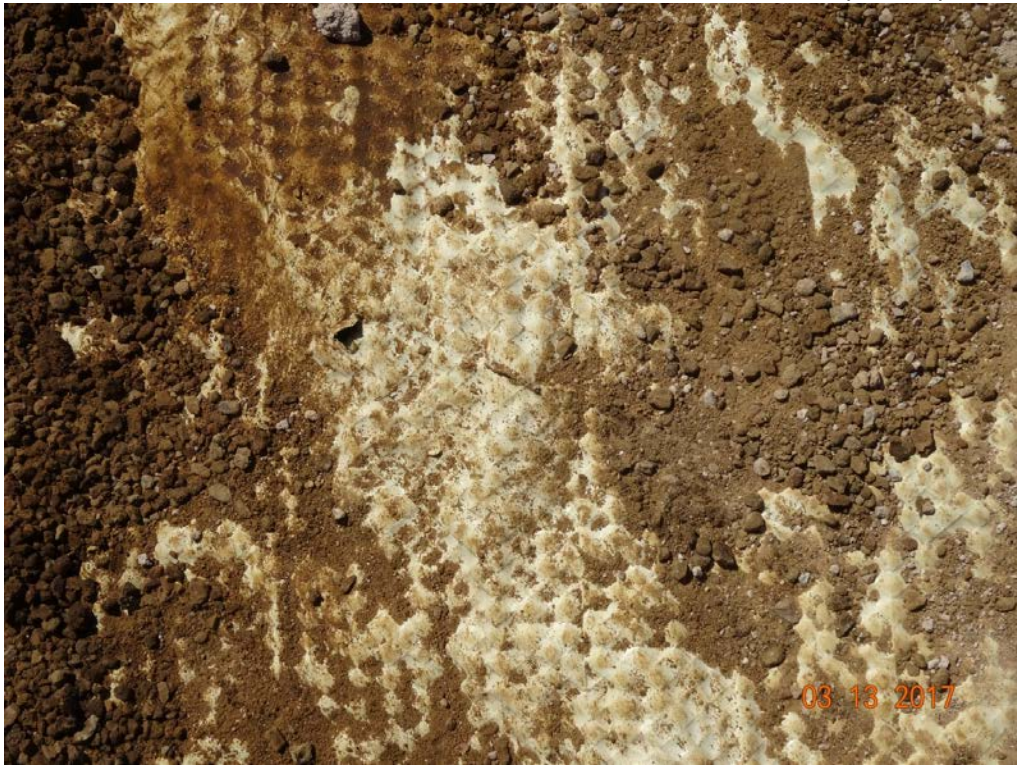
Inside Firewall after Removing Gravel Viewing Southeast



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

2RP-3976
Remediation Plan
Nash Draw Battery #42 Crude Oil Spill
Eddy County, New Mexico



Liner East of Tanks Viewing Northwest May 12, 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

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

ARTESIA DISTRICT

NOV 03 2016

Form C-141
Revised August 8, 2011

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

RECEIVED

Release Notification and Corrective Action

OPERATOR ☒ Initial Report ☐ Final Report

Name of Company	XTO Energy, Inc. 324373	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?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.*

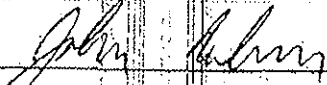
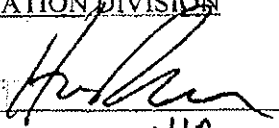
Describe Cause of Problem and Remedial Action Taken.*

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 Cleanup 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: 		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 <input checked="" type="checkbox"/>
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

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