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

State of New Mexico
Energy Minerals and Natural Resources Department

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

REVIEWED
By Dylan Rose-Coss at 2:43 pm, Aug 13, 2019

Release Notification

Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Shelby Pennington	Contact Telephone 281-723-9353
Contact email shelby_pennington@xtoenergy.com	Incident # *(assigned by OCD)* 1RP-5118
Contact mailing address 6401 Holiday Hill Rd. Building 5 Midland TX 79707	

Location of Release Source

Latitude 32.42125 Longitude -103.13545
(NAD 83 in decimal degrees to 5 decimal places)

Site Name NM State S Battery	Site Type Tank Battery
Date Release Discovered 6/27/2018	API# *(if applicable)* 30-025-25268

Unit Letter	Section	Township	Range	County
F	2	22S	37E	Lea

Surface Owner: [X] State [ ] Federal [ ] Tribal [ ] Private (*Name:* _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

[ ] Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
[X] Produced Water	Volume Released (bbls) 71.30	Volume Recovered (bbls) 70.00
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	[X] Yes [ ] No
[ ] Condensate	Volume Released (bbls)	Volume Recovered (bbls)
[ ] Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
[ ] Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

The release was caused by corrosion and age of a 2" nipple coming out of a fiber glass tank. The ball valve attached had broken off at the tank threads while an electrician was servicing the head switch. Equipment was replaced immediately and the leak was stopped.

State of New Mexico
Oil Conservation Division

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Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? The release was a volume more than 25 bbls.

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?

Immediate notice was given to NM State Land (Ryan Mann) by voice message and to NMOCD (Olivia Yu) by voice message and email.

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

- ☒ The source of the release has been stopped.
- ☒ The impacted area has been secured to protect human health and the environment.
- ☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- ☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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.

Printed Name: Shelby Pennington Title: Environmental Coordinator

Signature: Shelby Pennington Date: 6/27/2019

email: shelby_pennington@xtoenergy.com Telephone: 281-723-9353

OCD Only

Received by: _____ Date: __

State of New Mexico
Oil Conservation Division

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Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	30 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☒ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☒ Boring or excavation logs
- ☒ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

State of New Mexico
Oil Conservation Division

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I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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.

Printed Name: Shelby Pennington Title: Environmental Coordinator

Signature: Shelby Pennington Date: 6/27/2019

email: shelby_pennington@xtoenergy.com Telephone: 281-723-9353

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

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Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

- [x] Detailed description of proposed remediation technique
- [x] Scaled sitemap with GPS coordinates showing delineation points
- [x] Estimated volume of material to be remediated
- [x] Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- [x] Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

- [x] Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

- [x] Extents of contamination must be fully delineated.

- [x] Contamination does not cause an imminent risk to human health, the environment, or groundwater.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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.

Printed Name: Shelby Pennington Title: Environmental Coordinator

Signature: Shelby Pennington Date: 6/27/2019

email: shelby_pennington@xtoenergy.com Telephone: 281-723-9353

OCD Only

Received by: _____ Date: _____

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: _____ Date: _____

1RP-5118
DEFERRAL REQUEST
New Mexico State S #5 Tank Battery
Lea County, New Mexico

Latitude: 32.421249° North
Longitude: -103.135452° West

LAI Project No. 18-0153-01

July 1, 2019

Prepared for:
XTO Energy, Inc.
6401 Holiday Hill Road, Building 5
Midland, Texas 79707

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

Mark J. Larson, P.G.
Certified Professional Geoscientist #10490

Rachel E. Owen
Sr. Geoscientist

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Appendix C Laboratory Reports
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1.0 INTRODUCTION

Larson & Associates, Inc., (LAI), on behalf of XTO Energy, Inc. (XTO), submits this deferral request to the New Mexico Oil Conservation Division (OCD) District 1 for a produced water spill at the New Mexico State S #5 Tank Battery (Site) located in Unit F (SE/4, NW/4), Section 2, Township 22 South, Range 37 East in Lea County, New Mexico. The surface and mineral owner is New Mexico State Land Office (SLO). The geodetic position is North 32.421249° and West -103.135452°. Figure 1 presents a topographic map.

1.1 Background

The spill occurred on June 27, 2018, due to failure of a nipple on the water tank level switch causing approximately 71.30 barrels (bbls) of produced water to be released inside the earthen containment. Approximately 70.00 bbls were recovered. The affected area measures approximately 1,458.26 square feet. The initial C-141 was submitted to OCD District 1 on July 5, 2018, and was approved on July 9, 2018. OCD assigned the release remediation permit number 1RP-5118. Appendix A presents the initial C-141.

LAI submitted a delineation plan to OCD District 1 on August 10, 2018, and was approved on August 28, 2018. Appendix B presents OCD correspondence.

1.2 Physical Setting

The Physical Setting is as follows:

- The surface elevation is approximately 3,365 feet above mean sea level (msl);
- The topography slopes to the southeast;
- The nearest surface water feature is a seasonal playa located approximately 800 feet north of the site;
- Ephemeral monument draw is located approximately 1.5 miles east of the Site;
- There are no lateral connections between the Site, seasonal playa, and Monument Draw;
- The soils are designated as “Berino-Cacique loamy fine sand, 0 to 3 percent slopes”, consisting of loamy fine sand about 12 inches thick and underlain by a sandy clay loam about 20 inches thick (bgs). The soil occurs over cemented material (caliche) present at approximately 28 inches below ground surface (bgs);
- The surface geology is designated as eolian and piedmont deposits (Holocene to middle Pleistocene) interbedded eolian sands and piedmont-slope deposits of the Tertiary-age Blackwater Draw and Ogallala formations, in descending order;
- Groundwater occurs in the Ogallala formation at approximately 30 feet bgs based on a nearby monitoring well;
- The nearest freshwater well based on State of New Mexico Office of the State Engineer (OSE) records is located in Unit M (SW/4, SW/4), Section 2, Township 22 South, Range 37 East, approximately 2,060 feet south from the Site.

1.3 Remediation Action Levels

The following remediation standards are based on closure criteria for soils impacted by a release as presented in Table 1 of 19.15.29 NMAC:

- Benzene 10 mg/Kg
- BTEX 50 mg/Kg
- TPH 100 mg/Kg
- Chloride 600 mg/Kg

2.0 DELINEATION

On September 17 and 18, 2018, LAI personnel used direct push technology (DPT) to collect soil samples at seven (7) locations (DP-1 through DP-7) within the containment for vertical delineation and four (4) locations (DP-8 through DP-12) outside the containment for horizontal delineation including each cardinal direction (north, south, east and west). The samples were collected at 1 foot intervals to a depth of approximately 12 feet bgs depending on subsurface conditions. The upper soil sample (0 to 1 foot) from each location was analyzed for benzene, toluene, ethylbenzene and xylenes (BTEX). All samples were analyzed for total petroleum hydrocarbons (TPH), including gasoline range organics (C6-C12), diesel range organics (>C12-C28) and oil range organics (>C28-C35) and chloride by EPA Method E300. On November 7, 2018, additional soil samples were collected with a backhoe to complete vertical delineation. Table 1 presents the analytical data summary. Figure 2 presents an aerial map showing the soil sample locations. Appendix C presents laboratory reports. Appendix D presents photographs.

Benzene and BTEX were reported below the analytical method reporting limit (RL) and OCD closure criteria of 10 mg//Kg and 50 mg/Kg, respectively, in the upper samples from 0 to 1 foot bgs. TPH was reported above the OCD closure criteria (100 mg/Kg) in the following samples:

DP-5, 0 - 1’ (349.6 mg/Kg)	DP-6, 0 - 1’ (925 mg/Kg)
DP-6, 1 - 2’ (155.1 mg/Kg)	DP-6, 2’ (1,960 mg/Kg)
DP-6, 2 - 3’ (507 mg/Kg)	DP-6, 3 - 4’ (327.3 mg/Kg)
DP-6, 4’ (153 mg/Kg)	DP-6, 4 - 5’ (866.3mg/Kg)
DP-7, 0 - 1’ (2,969 mg/Kg)	DP-7, 1 - 2’ (330.2mg/Kg)
DP-7, 2 - 3’ (168.8 mg/Kg)	DP-7, 3 - 4’ (168 mg/Kg)
DP-7, 4 - 6’ (340.5 mg/Kg)	DP-8, 0 - 1’ (2,661 mg/Kg)
DP-8, 1 - 2’ (216.7 mg/Kg)	DP-9, 0 - 1’ (369.8 mg/Kg)
DP-9, 1 - 2’ (212.7mg/Kg)	DP-9, 2 - 3’ (161.7 mg/Kg)
DP-10, 0 - 1’ (678 mg/Kg)	DP-11, 0 - 1’ (5,199 mg/Kg)
DP-11, 1 - 2’ (3,112 mg/Kg)	DP-11, 2’ (1,960 mg/Kg)
DP-11, 2 - 3’ (2,330 mg/Kg)	DP-11, 3 - 4’ (5,587 mg/Kg)

DP-11, 4’ (2,560 mg/Kg) DP-11, 4 - 5’ (5,313 mg/Kg)

TPH was delineated horizontally and vertically to 100 mg/Kg, as required by 19.15.29 NMAC.
Chloride was reported above the OCD closure criteria (600 mg/Kg) in the following samples:

DP-6, 0 - 1’ (701 mg/Kg) DP-6, 1 - 2’ (665 mg/Kg)
DP-8, 3 - 4’ (673 mg/Kg) DP-9, 0 - 1’ (625 mg/Kg)
DP-9, 1 - 2’ (1,480 mg/Kg) DP-11, 0 - 1’ (3,150 mg/Kg)
DP-11, 1 - 2’ (1,790 mg/Kg) DP-11, 2 - 3’ (1,120 mg/Kg)
DP-11, 3 - 4’ (804 mg/Kg)

Chloride was delineated horizontally and vertically to 600 mg/Kg, as required by 19.15.29 NMAC.

3.0 DEFERRAL REQUEST

XTO does not feel that remediation of soil containing chloride is necessary due to existing chloride contamination of groundwater from a gas plant located approximately 3,000 feet hydraulically up gradient (northwest) of the Site and chloride (23,900 mg/L) reported in a monitoring well (MW-18) located near the Site (6/15/2018). XTO believes the concentration of chloride released in the soil at the New Mexico State S #5 battery will not significantly contribute to the impacted groundwater in this area. Additionally, due to proximity of the spill area to production equipment (i.e., tanks, underground piping, electrical, etc.) XTO requests a deferral to remediate for 1RP-5118 until the facility ceases production.

Once production at the facility has ceased, XTO proposes the following remedial actions:

- Excavate soil to the following depths:
  - DP-5 and DP-10 (10’ x 10’) to approximately 1 foot bgs;
  - DP-6 and DP-11 (10’ x 10’) to approximately 5 feet bgs;
  - DP-7 (10’ x 10’) to approximately 6 feet bgs;
  - DP-8 (10’ x 10’) to approximately 4 feet bgs; and
  - DP-9 (10’ x 10’) to approximately 3 feet bgs.
- Collect sidewall (north, south, east, and west) and bottom confirmation samples from each excavation and analyze for BTEX, TPH, and chloride;
- Request closure approval from OCD assuming no further excavation is necessary;
- Backfill excavations with clean caliche;
- No seeding is necessary until final closure since excavations are located inside and adjacent to containment;
- Submit remediation report with final C-141 upon completion.

Figure 3 presents the proposed excavations and confirmation sample locations.

Tables

Table 1
1RP-5118
Delineation Soil Sample Analytical Data Summary
XTO Energy, Inc., New Mexico State S Battery
Lea County, New Mexico

Sample	Depth (Feet)	Collection Date	Status	Benzene (mg/Kg	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
Remediation Level:				**10**	**50**				**100**	**600**
DP-1	0 - 1	09/17/2018	In-Situ	<0.00120	<0.00721	<30.1	86.4	<30.1	86.4	136
	1 - 2	09/17/2018	In-Situ	--	--	--	--	--	--	169
	2 - 3	01/19/2018	In-Situ	--	--	--	--	--	--	381
	3 - 4	01/19/2018	In-Situ	--	--	--	--	--	--	236
	4 - 6	09/17/2018	In-Situ	--	--	--	--	--	--	27.9
	6 - 8	09/17/2018	In-Situ	--	--	--	--	--	--	303
	8 - 10	09/17/2018	In-Situ	--	--	--	--	--	--	381
DP-2	0 - 1	09/17/2018	In-Situ	<0.00128	<0.03072	<32.1	<32.1	<32.1	<32.1	14.4
	1 - 2	09/17/2018	In-Situ	--	--	--	--	--	--	7.07
	2 - 3	09/17/2018	In-Situ	--	--	--	--	--	--	13.8
	3 - 4	09/17/2018	In-Situ	--	--	--	--	--	--	40
	4 - 6	09/17/2018	In-Situ	--	--	--	--	--	--	52.4
	6 -8	09/17/2018	In-Situ	--	--	--	--	--	--	32.5
DP-3	0 - 1	09/17/2018	In-Situ	<0.00123	<0.00739	<30.9	39.1	<30.9	39.1	18.5
	1 - 2	09/17/2018	In-Situ	--	--	--	--	--	--	32.4
	2 - 3	09/17/2018	In-Situ	--	--	--	--	--	--	70.2
	3 - 4	09/17/2018	In-Situ	--	--	--	--	--	--	103
	4 - 6	09/17/2018	In-Situ	--	--	--	--	--	--	91.5
	6 - 8	09/17/2018	In-Situ	--	--	--	--	--	--	83.4
	8 - 10	09/17/2018	In-Situ	--	--	--	--	--	--	191
DP-4	0 - 1	09/17/2018	In-Situ	<0.00111	<0.00666	<27.8	<27.8	<27.8	<27.8	5.00
	1 - 2	09/17/2018	In-Situ	--	--	--	--	--	--	4.35
	2 - 3	09/17/2018	In-Situ	--	--	--	--	--	--	1.76
	3 - 4	09/17/2018	In-Situ	--	--	--	--	--	--	7.60
	4 - 6	09/17/2018	In-Situ	--	--	--	--	--	--	8.69
	6 - 8	09/17/2018	In-Situ	--	--	--	--	--	--	8.53
	8 - 10	09/17/2018	In-Situ	--	--	--	--	--	--	8.07
	10 - 12	09/17/2018	In-Situ	--	--	--	--	--	--	3.86
DP-5	0 - 1	09/17/2018	In-Situ	<0.00104	<0.00624	<26.0	252	97.6	349.6	2.95
	1 - 2	09/17/2018	In-Situ	--	--	<26.9	39.7	<26.9	39.7	7.55
	2 - 3	09/17/2018	In-Situ	--	--	--	--	--	--	6.33
	3 - 4	09/17/2018	In-Situ	--	--	--	--	--	--	21.8
	4 - 6	09/17/2018	In-Situ	--	--	--	--	--	--	13.1
	6 - 8	09/17/2018	In-Situ	--	--	--	--	--	--	12.4
DP-6	0 - 1	09/18/2018	In-Situ	<0.00115	<0.0529	<28.7	683	242	925	701
	1 - 2	09/18/2018	In-Situ	--	--	<29.8	124	31.1	155.1	665
	2	11/7/2018	In-Situ	--	--	--	1450	506.0	1,960	--
	2 - 3	09/18/2018	In-Situ	--	--	<28.7	365	142	507	22.8
	3 - 4	09/18/2018	In-Situ	--	--	<28.4	238	89.3	327.3	69.8
	4	11/7/2018	In-Situ	--	--	--	117	35.4	153	--
	4 - 5	09/18/2018	In-Situ	--	--	41.3	690	135	866.3	57.8

Table 1
1RP-5118
Delineation Soil Sample Analytical Data Summary
XTO Energy, Inc., New Mexico State S Battery
Lea County, New Mexico

Sample	Depth (Feet)	Collection Date	Status	Benzene (mg/Kg	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
Remediation Level:				**10**	**50**				**100**	**600**
	6	11/7/2018	In-Situ	--	--	--	44	--	43.6	--
	8	11/7/2018	In-Situ	--	--	--	--	--	--	--
DP-7	0 - 1	09/17/2018	In-Situ	<0.00100	<0.00600	<25.0	2190	779	2,969	32.1
	1 - 2	09/17/2018	In-Situ	--	--	<29.4	256	74.2	330.2	21.5
	2 - 3	09/17/2018	In-Situ	--	--	<28.7	126	42.8	168.8	16.4
	3 - 4	09/17/2018	In-Situ	--	--	<28.7	120	48.0	168	15.9
	4 - 6	09/17/2018	In-Situ	--	--	<27.5	252	88.5	340.5	12.9
	6 - 8	09/17/2018	In-Situ	--	--	<27.8	76.5	<27.8	76.5	13.3
DP-8	0 - 1	09/18/2018	In-Situ	<0.00114	<0.05232	<28.4	2150	511	2,661	541
	1 - 2	09/18/2018	In-Situ	--	--	<29.1	153	63.7	216.7	225
	2 - 3	09/18/2018	In-Situ	--	--	<30.1	71.2	<30.1	71.2	516
	3 - 4	09/18/2018	In-Situ	--	--	--	--	--	--	673
	4 - 5	09/18/2018	In-Situ	--	--	--	--	--	--	222
DP-9	0 - 1	09/18/2018	In-Situ	<0.00123	<0.0567	<30.9	289	80.8	369.8	625
	1 - 2	09/18/2018	In-Situ	--	--	<27.8	153	59.1	212.1	1,480
	2 - 3	09/18/2018	In-Situ	--	--	<29.1	116	45.7	161.7	502
	3 - 4	09/18/2018	In-Situ	--	--	<30.5	56.4	<30.5	56.4	209
	4 - 5	09/18/2018	In-Situ	--	--	--	--	--	--	175
DP-10	0 - 1	09/17/2018	In-Situ	<0.00108	<0.00647	<26.9	499	179	678	76.0
	1 - 2	09/17/2018	In-Situ	--	--	<28.4	29.2	<28.4	29.2	138
	2 - 3	09/17/2018	In-Situ	--	--	--	--	--	--	316
	3 - 4	09/17/2018	In-Situ	--	--	--	--	--	--	485
	4 - 6	09/17/2018	In-Situ	--	--	--	--	--	--	359
	6 - 8	09/17/2018	In-Situ	--	--	--	--	--	--	297
DP-11	0 - 1	09/18/2018	In-Situ	0.155	22.605	9100	37800	5090	5,199	3,150
	1 - 2	09/18/2018	In-Situ	--	--	9770	18400	2950	3,112	1,790
	2	11/7/2018	In-Situ	--	--	180	1400	378	1,960	--
	2 - 3	09/18/2018	In-Situ	--	--	9300	12000	2000	2,330	1,120
	3 - 4	09/18/2018	In-Situ	--	--	1400	3640	547	5,587	804
	4	11/7/2018	In-Situ	--	--	395	1800	368	2,560	--
	4 - 5	09/18/2018	In-Situ	--	--	1080	3670	563	5,313	344
	6	11/7/2018	In-Situ	--	--	--	--	--	--	--
	8	11/7/2018	In-Situ	--	--	--	98	--	98.00	--
	9	11/7/2018	In-Situ	--	--	--	--	--	--	--

Notes: analysis performed by Permian Basin Environmental Lab, Midland, Texas by EPA SW-846 Method 8015M (TPH) and Method 300 (chloride)
Depth in feet below ground surface (bgs)
mg/Kg: milligrams per kilogram equivalent to parts per million (ppm)
<: denotes concentration less than analytical method reporting limit

Figures

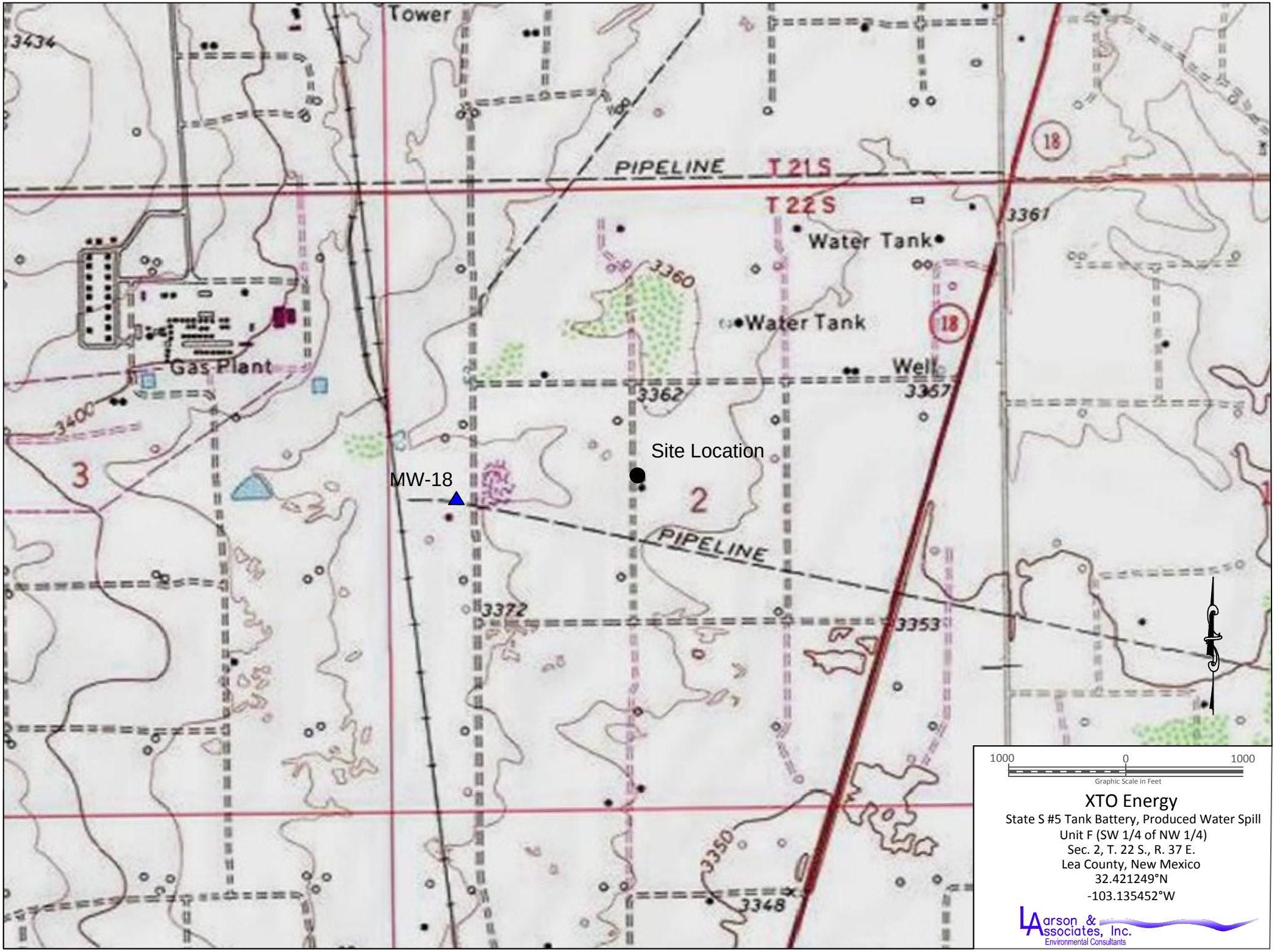

Figure 1 - Topographic Map

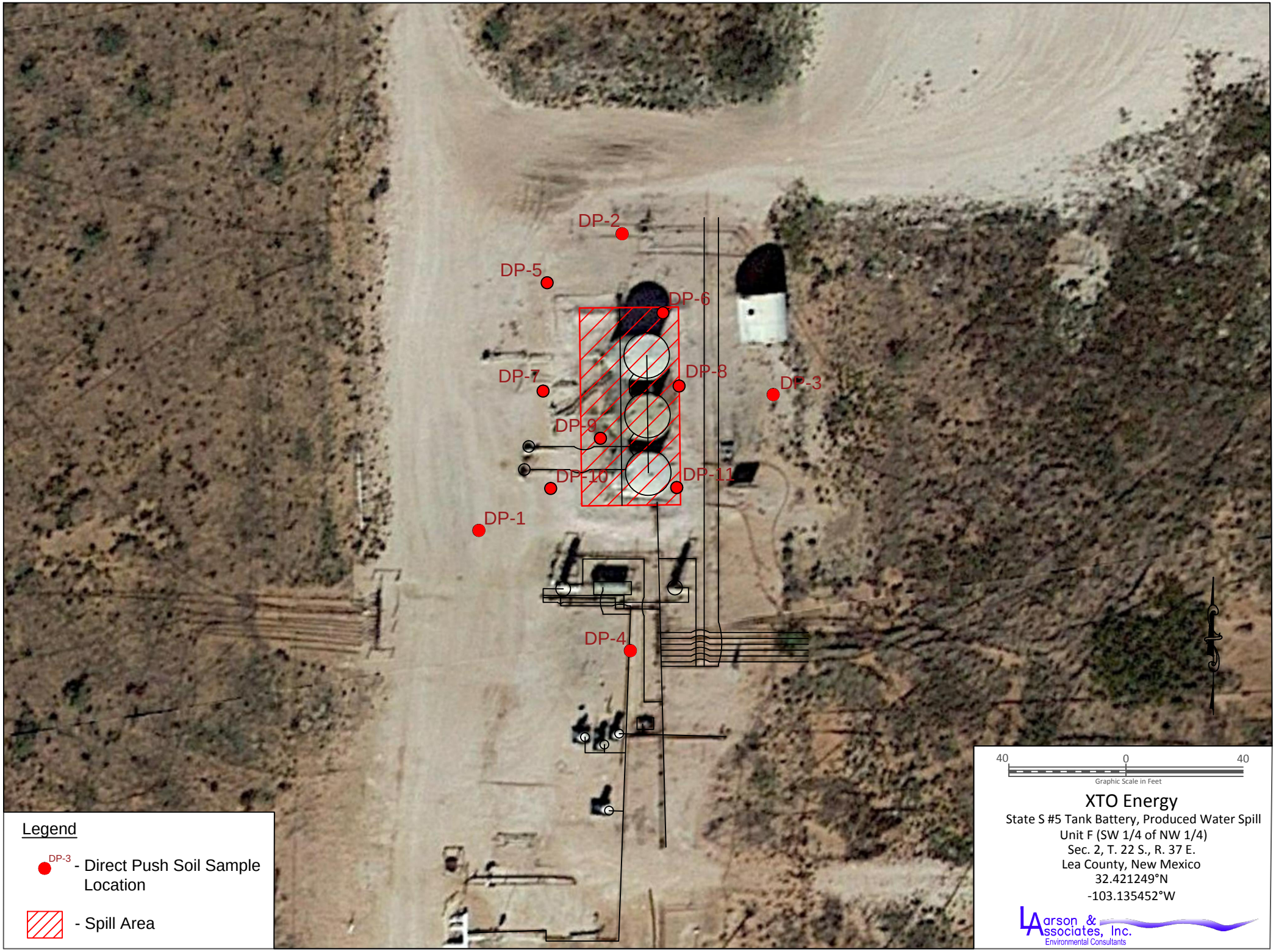

Figure 2 - Aerial Map Showing Soil Sample Locations

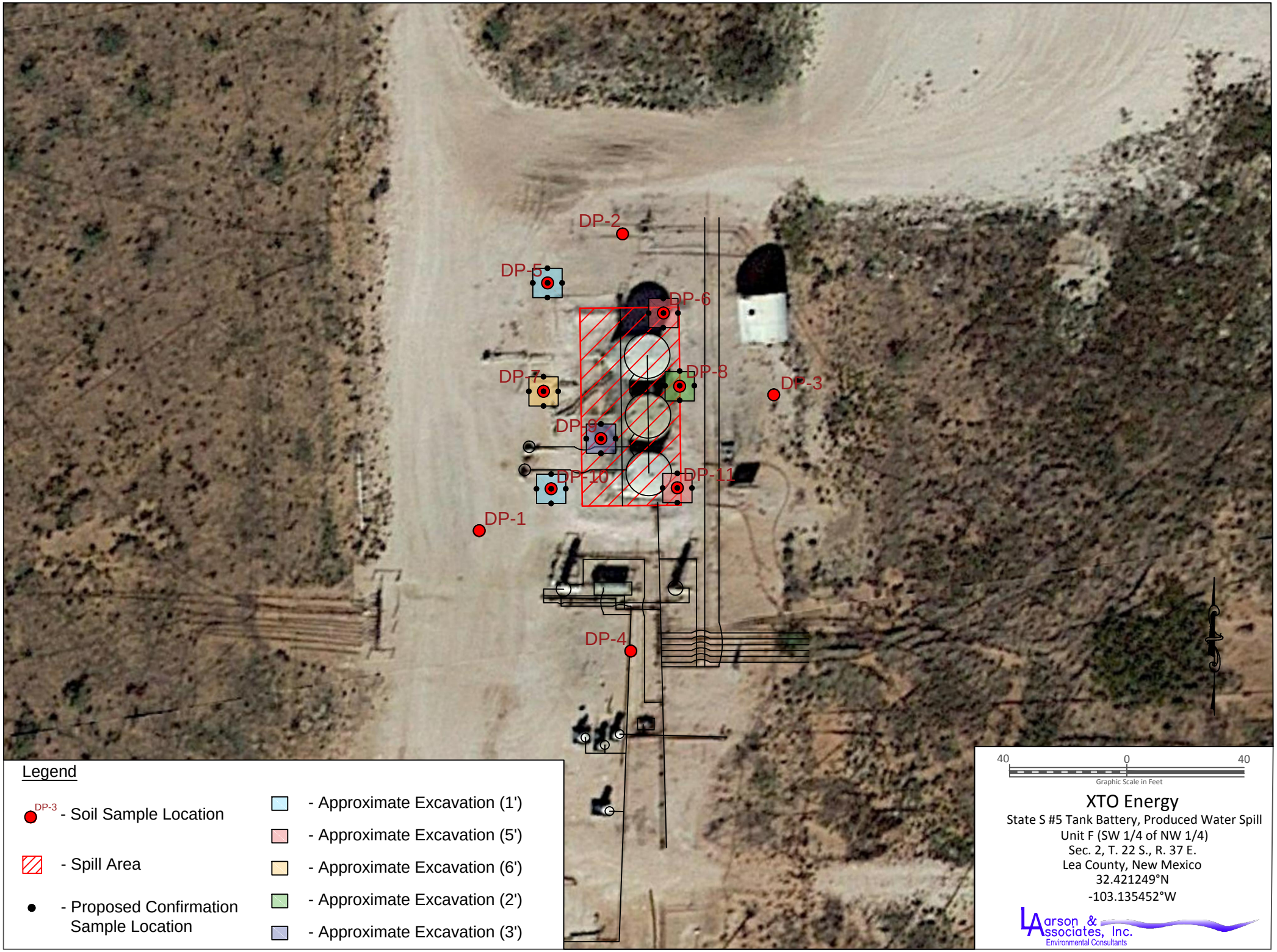

Figure 3 - Aerial Map Showing Proposed Excavation Locations and Confirmation Soil Sample Locations

Appendix A

Initial C-141

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised April 3, 2017

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

Release Notification and Corrective Action

OPERATOR

X Initial Report ☐ Final Report

Name of Company XTO Energy	Contact Scott Kaufman
Address 6401 Holiday Hill Rd. Building 5 Midland TX 79707	Telephone No. 432-234-3054
Facility Name NM State S Battery	Facility Type Tank Battery

Surface Owner New Mexico State	Mineral Owner New Mexico State	API No. 30-025-25268

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	2	22S	37E					Lea

Latitude 32.421249 **Longitude** -103.135452 NAD83

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 71.30 bbls.	Volume Recovered 70.00 bbls.
Source of Release Tank/ Nipple	Date and Hour of Occurrence 6/27/2018 4:30pm	Date and Hour of Discovery 6/27/2018 4:30pm
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Voice message to NM State Land (Ryan Mann), Voice message & Email to NMOCD Olivia Yu.	
By Whom? Scott Kaufman	Date and Hour 6/27/2018 6:00pm (MT)	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

N/A

RECEIVED
By Olivia Yu at 7:29 am, Jul 09, 2018

Describe Cause of Problem and Remedial Action Taken.*

Due to corrosion and age a 2" nipple coming out of a fiber glass tank that had the ball valve attached had broken off at the tank threads while electrician was servicing the head switch. Equipment was replaced immediately & leak was stopped.

Describe Area Affected and Cleanup Action Taken.*

1,458.26 ft² was affected and picked up by Vac trucks immediately. Once RP# is issued final clean up measures will be taken by XTO Energy to complete remediation.

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: Scott Kaufman

Printed Name: Scott Kaufman

Title: Oil Center Production Foreman

E-mail Address: scott_kaufman@xtoenergy.com

Date: 7/5/2018 Phone: 432-234-3054

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: 7/9/2018 Expiration Date:

Conditions of Approval: see attached directive

Attached ☒

* Attach Additional Sheets If Necessary

1RP-5118 nOY1819027249 pOY1819027667

Operator/Responsible Party,

The OCD has received the form C-141 you provided on _7/5/2018_ regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number _1RP-5118__ has been assigned. **Please refer to this case number in all future correspondence.**

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

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

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District _1_ office in __Hobbs____ on or before _8/9/2018_. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

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

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

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

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

● Composite sampling is not generally allowed.

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

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

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

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

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

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

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

From:	Kaufman, Scott
To:	Yu, Olivia, EMNRD
Cc:	Pennington, Shelby; Parks, Doug; Meadows, Derrick; Kemp, Deeann
Subject:	Unauthorized release on XTO Energy NM State S Battery follow up
Date:	Thursday, June 28, 2018 4:54:34 PM
Attachments:	image001.png NM State S Batt spill calc..png

Good afternoon Mrs. Yu,

I'm follow up to late yesterday's release that XTO Energy had on 6/27/2018 of produced water only from New Mexico State S battery GPS coordinates are as follow N 32.421269 & W -103.135447. The release was caused by an aged and corroded nipple on the tank holding the head switch assembly that had broken off causing a 2" hole inlet.

Approx. release total was 71.30 bbls of Produced water. We recovered 70.00 bbls total, I have attached Spill calc for you as well.

I have contacted Ryan Mann with State as this location is on State property, we will be remediating when approved and following up with a C-141 soon.

If you should have any further questions or need anything please feel free to contact me as always….E-mail address above and cell 432-234-3054.

Thank you,

Scott Kaufman

Production Foreman
Permian Division
Eunice & Oil Center NM, EMSU & AGU Leases

XTO ENERGY a subsidiary of ExxonMobil

Appendix B

OCD Correspondence

From: Hernandez, Christina, EMNRD
To: Mark Larson; Yu, Olivia, EMNRD
Cc: Pennington, Shelby; Rachel Owen
Subject: [Disarmed] RE: 1RP-5118 - XTO Energy, Inc., New Mexico State S Tank Battery Produced Water Spill, Final Delineation Plant, August 8, 2018
Date: Tuesday, August 28, 2018 4:10:33 PM

Dear Mr. Larson:

NMOCD approves the delineation plan submitted for 1RP-5118. Please note that NMAC 19.15.29 has been revised and is available at: **MailScanner warning: numerical links are often malicious:** http://164.64.110.134/parts/title19/19.015.0029.html

Please be advised that as of Friday, August 24, 2018, a revised C-141 form has been issued. Please submit the requisite information, regarding the aforementioned release using this version. The C-141 (ver. 2017) will no longer be accepted. C-141 available at: http://www.emnrd.state.nm.us/OCD/forms.html

Thanks,

Christina Hernandez
EMNRD-OCD
Environmental Specialist
1625 N. French Drive
Hobbs, NM 88240
575-393-6161 x111
Christina.Hernandez@state.nm.us

From: Mark Larson <Mark@laenvironmental.com>
Sent: Friday, August 10, 2018 1:45 PM
To: Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>; Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>
Cc: Pennington, Shelby <Shelby_Pennington@xtoenergy.com>; Rachel Owen <rowen@laenvironmental.com>
Subject: Re: 1RP-5118 - XTO Energy, Inc., New Mexico State S Tank Battery Produced Water Spill, Final Delineation Plant, August 8, 2018

Dear Ms. Yu and Ms. Hernandez,
Larson & Associates, Inc. (LAI), on behalf of XTO Energy, Inc. (XTO) submits the attached delineation

plan for a produced water spill at the New Mexico State S tank battery in Lea County, New Mexico. Please contact Shelby Pennington with XTO at (432) 571-8276 or Shelby_Pennington@xtoenergy.com or me if you have questions.
Respectfully,

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

www.LAEnvironmental.com

"Serving the Permian Basin Since 2000"

Appendix C

Laboratory Reports

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

PBELAB

Analytical Report

Prepared for:

Mark Larson

Larson & Associates, Inc.

P.O. Box 50685

Midland, TX 79710

Project: NM State S#5 Tank Battery

Project Number: 18-0153-01

Location:

Lab Order Number: 8I18022

NELAP ACCREDITED TNI LABORATORY

NELAP/TCEQ # T104704516-17-8

Report Date: 10/03/18

Larson & Associates, Inc.	Project: NM State S#5 Tank Battery	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 18-0153-01	
Midland TX, 79710	Project Manager: Mark Larson	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DP-1 (0-1)	8I18022-01	Soil	09/17/18 09:45	09-18-2018 16:21
DP-1 (1-2)	8I18022-02	Soil	09/17/18 09:48	09-18-2018 16:21
DP-1 (2-3)	8I18022-03	Soil	09/17/18 09:53	09-18-2018 16:21
DP-1 (3-4)	8I18022-04	Soil	09/17/18 09:56	09-18-2018 16:21
DP-1 (4-6)	8I18022-05	Soil	09/17/18 10:04	09-18-2018 16:21
DP-1 (6-8)	8I18022-06	Soil	09/17/18 10:06	09-18-2018 16:21
DP-1 (8-10)	8I18022-07	Soil	09/17/18 10:08	09-18-2018 16:21
DP-2 (0-1)	8I18022-08	Soil	09/17/18 10:13	09-18-2018 16:21
DP-2 (1-2)	8I18022-09	Soil	09/17/18 10:14	09-18-2018 16:21
DP-2 (2-3)	8I18022-10	Soil	09/17/18 10:17	09-18-2018 16:21
DP-2 (3-4)	8I18022-11	Soil	09/17/18 10:23	09-18-2018 16:21
DP-2 (4-6)	8I18022-12	Soil	09/17/18 10:34	09-18-2018 16:21
DP-2 (6-8)	8I18022-13	Soil	09/17/18 10:39	09-18-2018 16:21
DP-3 (0-1)	8I18022-14	Soil	09/17/18 10:42	09-18-2018 16:21
DP-3 (1-2)	8I18022-15	Soil	09/17/18 10:46	09-18-2018 16:21
DP-3 (2-3)	8I18022-16	Soil	09/17/18 00:00	09-18-2018 16:21
DP-3 (3-4)	8I18022-17	Soil	09/17/18 00:00	09-18-2018 16:21
DP-3 (4-6)	8I18022-18	Soil	09/17/18 00:00	09-18-2018 16:21
DP- 3 (6-8)	8I18022-19	Soil	09/17/18 00:00	09-18-2018 16:21
DP-3 (8-10)	8I18022-20	Soil	09/17/18 00:00	09-18-2018 16:21
DP-5 (0-1)	8I18022-21	Soil	09/17/18 00:00	09-18-2018 16:21
DP-5 (1-2)	8I18022-22	Soil	09/17/18 00:00	09-18-2018 16:21
DP-5 (2-3)	8I18022-23	Soil	09/17/18 00:00	09-18-2018 16:21
DP-5 (3-4)	8I18022-24	Soil	09/17/18 00:00	09-18-2018 16:21
DP-5 (4-6)	8I18022-25	Soil	09/17/18 00:00	09-18-2018 16:21
DP-5 (6-8)	8I18022-26	Soil	09/17/18 00:00	09-18-2018 16:21
DP-7 (0-1)	8I18022-27	Soil	09/17/18 11:52	09-18-2018 16:21
DP-7 (1-2)	8I18022-28	Soil	09/17/18 00:00	09-18-2018 16:21
DP-7 (2-3)	8I18022-29	Soil	09/17/18 00:00	09-18-2018 16:21
DP-7 (3-4)	8I18022-30	Soil	09/17/18 00:00	09-18-2018 16:21
DP-7 (4-6)	8I18022-31	Soil	09/17/18 11:52	09-18-2018 16:21
DP-7 (6-8)	8I18022-32	Soil	09/17/18 11:54	09-18-2018 16:21
DP-10 (0-1)	8I18022-33	Soil	09/17/18 12:00	09-18-2018 16:21
DP-10 (1-2)	8I18022-34	Soil	09/17/18 12:03	09-18-2018 16:21

Larson & Associates, Inc.	Project: NM State S#5 Tank Battery	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 18-0153-01	
Midland TX, 79710	Project Manager: Mark Larson	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DP-10 (2-3)	8I18022-35	Soil	09/17/18 12:06	09-18-2018 16:21
DP-10 (3-4)	8I18022-36	Soil	09/17/18 12:08	09-18-2018 16:21
DP-10 (4-6)	8I18022-37	Soil	09/17/18 12:10	09-18-2018 16:21
DP-10 (6-8)	8I18022-38	Soil	09/17/18 12:13	09-18-2018 16:21
DP-4 (0-1)	8I18022-39	Soil	09/17/18 12:15	09-18-2018 16:21
DP-4 (1-2)	8I18022-40	Soil	09/17/18 12:18	09-18-2018 16:21
DP-4(2-3)	8I18022-41	Soil	09/17/18 12:20	09-18-2018 16:21
DP-4(3-4)	8I18022-42	Soil	09/17/18 12:23	09-18-2018 16:21
DP-4 (4-6)	8I18022-43	Soil	09/17/18 12:25	09-18-2018 16:21
DP-4(6-8)	8I18022-44	Soil	09/17/18 12:27	09-18-2018 16:21
DP-4 (8-10)	8I18022-45	Soil	09/17/18 12:28	09-18-2018 16:21
DP-4 (10-12)	8I18022-46	Soil	09/17/18 12:30	09-18-2018 16:21
DP-9 (0-1)	8I18022-47	Soil	09/18/18 08:59	09-18-2018 16:21
DP-9 (1-2)	8I18022-48	Soil	09/18/18 09:00	09-18-2018 16:21
DP-9 (2-3)	8I18022-49	Soil	09/18/18 09:02	09-18-2018 16:21
DP-9 (3-4)	8I18022-50	Soil	09/18/18 09:04	09-18-2018 16:21
DP-9 (4-5)	8I18022-51	Soil	09/18/18 09:07	09-18-2018 16:21
DP-11 (0-1)	8I18022-52	Soil	09/18/18 09:10	09-18-2018 16:21
DP-11 (1-2)	8I18022-53	Soil	09/18/18 09:18	09-18-2018 16:21
DP-11 (2-3)	8I18022-54	Soil	09/18/18 09:21	09-18-2018 16:21
DP-11 (3-4)	8I18022-55	Soil	09/18/18 09:24	09-18-2018 16:21
DP-11 (4-5)	8I18022-56	Soil	09/18/18 09:30	09-18-2018 16:21
DP-8 (0-1)	8I18022-57	Soil	09/18/18 10:22	09-18-2018 16:21
DP-8 (1-2)	8I18022-58	Soil	09/18/18 10:25	09-18-2018 16:21
DP-8 (2-3)	8I18022-59	Soil	09/18/18 10:29	09-18-2018 16:21
DP-8 (3-4)	8I18022-60	Soil	09/18/18 10:33	09-18-2018 16:21
DP-8 (4-5)	8I18022-61	Soil	09/18/18 10:37	09-18-2018 16:21
DP-6 (0-1)	8I18022-62	Soil	09/18/18 10:40	09-18-2018 16:21
DP-6 (1-2)	8I18022-63	Soil	09/18/18 10:42	09-18-2018 16:21
DP-6 (2-3)	8I18022-64	Soil	09/18/18 10:45	09-18-2018 16:21
DP-6 (3-4)	8I18022-65	Soil	09/18/18 10:50	09-18-2018 16:21
DP-6 (4-5)	8I18022-66	Soil	09/18/18 10:58	09-18-2018 16:21

DP-1 (0-1)

8I18022-01 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00120	mg/kg dry	1	P8I1908	09/19/18	09/20/18	EPA 8021B	
Toluene	ND	0.00120	mg/kg dry	1	P8I1908	09/19/18	09/20/18	EPA 8021B	
Ethylbenzene	ND	0.00120	mg/kg dry	1	P8I1908	09/19/18	09/20/18	EPA 8021B	
Xylene (p/m)	ND	0.00241	mg/kg dry	1	P8I1908	09/19/18	09/20/18	EPA 8021B	
Xylene (o)	ND	0.00120	mg/kg dry	1	P8I1908	09/19/18	09/20/18	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*125 %*	*75-125*		*P8I1908*	*09/19/18*	*09/20/18*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*96.5 %*	*75-125*		*P8I1908*	*09/19/18*	*09/20/18*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**136**	1.20	mg/kg dry	1	P8I2002	09/20/18	09/20/18	EPA 300.0	
% Moisture	**17.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	30.1	mg/kg dry	1	P8I2404	09/19/18	09/20/18	TPH 8015M	
>C12-C28	**86.4**	30.1	mg/kg dry	1	P8I2404	09/19/18	09/20/18	TPH 8015M	
>C28-C35	ND	30.1	mg/kg dry	1	P8I2404	09/19/18	09/20/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*100 %*	*70-130*		*P8I2404*	*09/19/18*	*09/20/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*115 %*	*70-130*		*P8I2404*	*09/19/18*	*09/20/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**86.4**	30.1	mg/kg dry	1	[CALC]	09/19/18	09/20/18	calc	

Larson & Associates, Inc.	Project: NM State S#5 Tank Battery	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 18-0153-01	
Midland TX, 79710	Project Manager: Mark Larson	

DP-1 (1-2)

8I18022-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**169**	1.19	mg/kg dry	1	P8I2002	09/20/18	09/20/18	EPA 300.0	
% Moisture	**16.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

Larson & Associates, Inc.	Project: NM State S#5 Tank Battery	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 18-0153-01	
Midland TX, 79710	Project Manager: Mark Larson	

DP-1 (2-3)

8I18022-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**381**	1.16	mg/kg dry	1	P8I2002	09/20/18	09/20/18	EPA 300.0	
% Moisture	**14.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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DP-1 (3-4)

8I18022-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**236**	1.14	mg/kg dry	1	P8I2002	09/20/18	09/20/18	EPA 300.0	
% Moisture	**12.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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Midland TX, 79710	Project Manager: Mark Larson	

DP-1 (4-6)

8I18022-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**27.9**	1.23	mg/kg dry	1	P8I2002	09/20/18	09/20/18	EPA 300.0	
% Moisture	**19.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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Midland TX, 79710	Project Manager: Mark Larson	

DP-1 (6-8)

8I18022-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	**303**	1.32	mg/kg dry	1	P8I2008	09/20/18	09/21/18	EPA 300.0	
% Moisture	**24.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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P.O. Box 50685	Project Number: 18-0153-01	
Midland TX, 79710	Project Manager: Mark Larson	

DP-1 (8-10)

8I18022-07 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**381**	1.35	mg/kg dry	1	P8I2008	09/20/18	09/21/18	EPA 300.0	
% Moisture	**26.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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Project Manager: Mark Larson

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DP-2 (0-1)

8I18022-08 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00128	mg/kg dry	1	P8I1908	09/19/18	09/20/18	EPA 8021B	
Toluene	ND	0.00128	mg/kg dry	1	P8I1908	09/19/18	09/20/18	EPA 8021B	
Ethylbenzene	ND	0.00128	mg/kg dry	1	P8I1908	09/19/18	09/20/18	EPA 8021B	
Xylene (p/m)	ND	0.00256	mg/kg dry	1	P8I1908	09/19/18	09/20/18	EPA 8021B	
Xylene (o)	ND	0.00128	mg/kg dry	1	P8I1908	09/19/18	09/20/18	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*94.1 %*	*75-125*		*P8I1908*	*09/19/18*	*09/20/18*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*114 %*	*75-125*		*P8I1908*	*09/19/18*	*09/20/18*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**14.4**	1.28	mg/kg dry	1	P8I2008	09/20/18	09/21/18	EPA 300.0	
% Moisture	**22.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	32.1	mg/kg dry	1	P8I2404	09/19/18	09/20/18	TPH 8015M	
>C12-C28	ND	32.1	mg/kg dry	1	P8I2404	09/19/18	09/20/18	TPH 8015M	
>C28-C35	ND	32.1	mg/kg dry	1	P8I2404	09/19/18	09/20/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*99.8 %*	*70-130*		*P8I2404*	*09/19/18*	*09/20/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*113 %*	*70-130*		*P8I2404*	*09/19/18*	*09/20/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	32.1	mg/kg dry	1	[CALC]	09/19/18	09/20/18	calc	

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DP-2 (1-2)

8I18022-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**7.07**	1.20	mg/kg dry	1	P8I2008	09/20/18	09/21/18	EPA 300.0	
% Moisture	**17.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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DP-2 (2-3)

8I18022-10 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**13.8**	1.27	mg/kg dry	1	P8I2008	09/20/18	09/21/18	EPA 300.0	
% Moisture	**21.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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DP-2 (3-4)

8I18022-11 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**40.0**	1.22	mg/kg dry	1	P8I2008	09/20/18	09/21/18	EPA 300.0	
% Moisture	**18.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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DP-2 (4-6)

8I18022-12 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**52.4**	1.12	mg/kg dry	1	P8I2008	09/20/18	09/24/18	EPA 300.0	
% Moisture	**11.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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DP-2 (6-8)

8I18022-13 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**32.5**	1.20	mg/kg dry	1	P8I2008	09/20/18	09/24/18	EPA 300.0	
% Moisture	**17.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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DP-3 (0-1)

8I18022-14 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00123	mg/kg dry	1	P8I1908	09/19/18	09/20/18	EPA 8021B	
Toluene	ND	0.00123	mg/kg dry	1	P8I1908	09/19/18	09/20/18	EPA 8021B	
Ethylbenzene	ND	0.00123	mg/kg dry	1	P8I1908	09/19/18	09/20/18	EPA 8021B	
Xylene (p/m)	ND	0.00247	mg/kg dry	1	P8I1908	09/19/18	09/20/18	EPA 8021B	
Xylene (o)	ND	0.00123	mg/kg dry	1	P8I1908	09/19/18	09/20/18	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*92.6 %*	*75-125*		*P8I1908*	*09/19/18*	*09/20/18*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*114 %*	*75-125*		*P8I1908*	*09/19/18*	*09/20/18*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**18.5**	1.23	mg/kg dry	1	P8I2008	09/20/18	09/24/18	EPA 300.0	
% Moisture	**19.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	30.9	mg/kg dry	1	P8I2404	09/19/18	09/20/18	TPH 8015M	
>C12-C28	**39.1**	30.9	mg/kg dry	1	P8I2404	09/19/18	09/20/18	TPH 8015M	
>C28-C35	ND	30.9	mg/kg dry	1	P8I2404	09/19/18	09/20/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*102 %*	*70-130*		*P8I2404*	*09/19/18*	*09/20/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*114 %*	*70-130*		*P8I2404*	*09/19/18*	*09/20/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**39.1**	30.9	mg/kg dry	1	[CALC]	09/19/18	09/20/18	calc	

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DP-3 (1-2)

8I18022-15 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**32.4**	1.12	mg/kg dry	1	P8I2008	09/20/18	09/24/18	EPA 300.0	
% Moisture	**11.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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DP-3 (2-3)

8I18022-16 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**70.2**	1.15	mg/kg dry	1	P8I2008	09/20/18	09/24/18	EPA 300.0	
% Moisture	**13.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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DP-3 (3-4)

8I18022-17 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**103**	1.14	mg/kg dry	1	P8I2008	09/20/18	09/24/18	EPA 300.0	
% Moisture	**12.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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DP-3 (4-6)

8I18022-18 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**91.5**	1.09	mg/kg dry	1	P8I2008	09/20/18	09/24/18	EPA 300.0	
% Moisture	**8.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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DP- 3 (6-8)

8I18022-19 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**83.4**	1.06	mg/kg dry	1	P8I2008	09/20/18	09/24/18	EPA 300.0	
% Moisture	**6.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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DP-3 (8-10)

8I18022-20 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**191**	1.11	mg/kg dry	1	P8I2008	09/20/18	09/24/18	EPA 300.0	
% Moisture	**10.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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DP-5 (0-1)

8I18022-21 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00104	mg/kg dry	1	P8I1908	09/19/18	09/20/18	EPA 8021B	
Toluene	ND	0.00104	mg/kg dry	1	P8I1908	09/19/18	09/20/18	EPA 8021B	
Ethylbenzene	ND	0.00104	mg/kg dry	1	P8I1908	09/19/18	09/20/18	EPA 8021B	
Xylene (p/m)	ND	0.00208	mg/kg dry	1	P8I1908	09/19/18	09/20/18	EPA 8021B	
Xylene (o)	ND	0.00104	mg/kg dry	1	P8I1908	09/19/18	09/20/18	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*96.0 %*	*75-125*		*P8I1908*	*09/19/18*	*09/20/18*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*119 %*	*75-125*		*P8I1908*	*09/19/18*	*09/20/18*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**2.95**	1.04	mg/kg dry	1	P8I2008	09/20/18	09/24/18	EPA 300.0	
% Moisture	**4.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	26.0	mg/kg dry	1	P8I2404	09/19/18	09/24/18	TPH 8015M	
>C12-C28	**252**	26.0	mg/kg dry	1	P8I2404	09/19/18	09/24/18	TPH 8015M	
>C28-C35	**97.6**	26.0	mg/kg dry	1	P8I2404	09/19/18	09/24/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*93.3 %*	*70-130*		*P8I2404*	*09/19/18*	*09/24/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*94.0 %*	*70-130*		*P8I2404*	*09/19/18*	*09/24/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**350**	26.0	mg/kg dry	1	[CALC]	09/19/18	09/24/18	calc	

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DP-5 (1-2)

8I18022-22 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**7.55**	1.08	mg/kg dry	1	P8I2110	09/21/18	09/22/18	EPA 300.0	
% Moisture	**7.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	26.9	mg/kg dry	1	P8I2710	09/26/18	09/26/18	TPH 8015M	
>C12-C28	**39.7**	26.9	mg/kg dry	1	P8I2710	09/26/18	09/26/18	TPH 8015M	
>C28-C35	ND	26.9	mg/kg dry	1	P8I2710	09/26/18	09/26/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*89.9 %*	*70-130*		*P8I2710*	*09/26/18*	*09/26/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*89.5 %*	*70-130*		*P8I2710*	*09/26/18*	*09/26/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**39.7**	26.9	mg/kg dry	1	[CALC]	09/26/18	09/26/18	calc	

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DP-5 (2-3)

8I18022-23 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**6.33**	1.14	mg/kg dry	1	P8I2110	09/21/18	09/22/18	EPA 300.0	
% Moisture	**12.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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DP-5 (3-4)

8I18022-24 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**21.8**	1.18	mg/kg dry	1	P8I2110	09/21/18	09/22/18	EPA 300.0	
% Moisture	**15.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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DP-5 (4-6)

8I18022-25 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**13.1**	1.11	mg/kg dry	1	P8I2110	09/21/18	09/22/18	EPA 300.0	
% Moisture	**10.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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DP-5 (6-8)

8I18022-26 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**12.4**	1.10	mg/kg dry	1	P8I2110	09/21/18	09/22/18	EPA 300.0	
% Moisture	**9.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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DP-7 (0-1)

8I18022-27 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00100	mg/kg dry	1	P8I1908	09/19/18	09/20/18	EPA 8021B	
Toluene	ND	0.00100	mg/kg dry	1	P8I1908	09/19/18	09/20/18	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	P8I1908	09/19/18	09/20/18	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	P8I1908	09/19/18	09/20/18	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	P8I1908	09/19/18	09/20/18	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*95.1 %*	*75-125*		*P8I1908*	*09/19/18*	*09/20/18*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*120 %*	*75-125*		*P8I1908*	*09/19/18*	*09/20/18*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**32.1**	1.00	mg/kg dry	1	P8I2110	09/21/18	09/22/18	EPA 300.0	
% Moisture	ND	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	25.0	mg/kg dry	1	P8I2404	09/19/18	09/24/18	TPH 8015M	
>C12-C28	**2190**	25.0	mg/kg dry	1	P8I2404	09/19/18	09/24/18	TPH 8015M	
>C28-C35	**779**	25.0	mg/kg dry	1	P8I2404	09/19/18	09/24/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*103 %*	*70-130*		*P8I2404*	*09/19/18*	*09/24/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*106 %*	*70-130*		*P8I2404*	*09/19/18*	*09/24/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**2970**	25.0	mg/kg dry	1	[CALC]	09/19/18	09/24/18	calc	

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Midland TX, 79710	Project Manager: Mark Larson	

DP-7 (1-2)

8I18022-28 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**21.5**	1.18	mg/kg dry	1	P8I2110	09/21/18	09/22/18	EPA 300.0	
% Moisture	**15.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	29.4	mg/kg dry	1	P8I2710	09/26/18	09/27/18	TPH 8015M	
>C12-C28	**256**	29.4	mg/kg dry	1	P8I2710	09/26/18	09/27/18	TPH 8015M	
>C28-C35	**74.2**	29.4	mg/kg dry	1	P8I2710	09/26/18	09/27/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*93.4 %*	*70-130*		*P8I2710*	*09/26/18*	*09/27/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*92.2 %*	*70-130*		*P8I2710*	*09/26/18*	*09/27/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**331**	29.4	mg/kg dry	1	[CALC]	09/26/18	09/27/18	calc	

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Midland TX, 79710	Project Manager: Mark Larson	

DP-7 (2-3)

8I18022-29 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**16.4**	1.15	mg/kg dry	1	P8I2110	09/21/18	09/22/18	EPA 300.0	
% Moisture	**13.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	28.7	mg/kg dry	1	P8I2710	09/26/18	09/27/18	TPH 8015M	
>C12-C28	**126**	28.7	mg/kg dry	1	P8I2710	09/26/18	09/27/18	TPH 8015M	
>C28-C35	**42.8**	28.7	mg/kg dry	1	P8I2710	09/26/18	09/27/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*86.8 %*	*70-130*		*P8I2710*	*09/26/18*	*09/27/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*85.7 %*	*70-130*		*P8I2710*	*09/26/18*	*09/27/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**169**	28.7	mg/kg dry	1	[CALC]	09/26/18	09/27/18	calc	

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DP-7 (3-4)

8I18022-30 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**15.9**	1.15	mg/kg dry	1	P8I2110	09/21/18	09/22/18	EPA 300.0	
% Moisture	**13.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	28.7	mg/kg dry	1	P8I2710	09/26/18	09/27/18	TPH 8015M	
>C12-C28	**120**	28.7	mg/kg dry	1	P8I2710	09/26/18	09/27/18	TPH 8015M	
>C28-C35	**48.0**	28.7	mg/kg dry	1	P8I2710	09/26/18	09/27/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*89.3 %*	*70-130*		*P8I2710*	*09/26/18*	*09/27/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*88.7 %*	*70-130*		*P8I2710*	*09/26/18*	*09/27/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**168**	28.7	mg/kg dry	1	[CALC]	09/26/18	09/27/18	calc	

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Midland TX, 79710	Project Manager: Mark Larson	

DP-7 (4-6)

8I18022-31 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**12.9**	1.10	mg/kg dry	1	P8I2110	09/21/18	09/22/18	EPA 300.0	
% Moisture	**9.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.5	mg/kg dry	1	P8I2710	09/26/18	09/27/18	TPH 8015M	
>C12-C28	**252**	27.5	mg/kg dry	1	P8I2710	09/26/18	09/27/18	TPH 8015M	
>C28-C35	**88.5**	27.5	mg/kg dry	1	P8I2710	09/26/18	09/27/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*91.4 %*	*70-130*		*P8I2710*	*09/26/18*	*09/27/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*90.5 %*	*70-130*		*P8I2710*	*09/26/18*	*09/27/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**340**	27.5	mg/kg dry	1	[CALC]	09/26/18	09/27/18	calc	

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Midland TX, 79710	Project Manager: Mark Larson	

DP-7 (6-8)

8I18022-32 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**13.3**	1.11	mg/kg dry	1	P8I2110	09/21/18	09/22/18	EPA 300.0	
% Moisture	**10.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.8	mg/kg dry	1	P8I2710	09/26/18	09/27/18	TPH 8015M	
>C12-C28	**76.5**	27.8	mg/kg dry	1	P8I2710	09/26/18	09/27/18	TPH 8015M	
>C28-C35	ND	27.8	mg/kg dry	1	P8I2710	09/26/18	09/27/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*105 %*	*70-130*		*P8I2710*	*09/26/18*	*09/27/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*106 %*	*70-130*		*P8I2710*	*09/26/18*	*09/27/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**76.5**	27.8	mg/kg dry	1	[CALC]	09/26/18	09/27/18	calc	

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Project Manager: Mark Larson

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DP-10 (0-1)

8I18022-33 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00108	mg/kg dry	1	P8I1908	09/19/18	09/20/18	EPA 8021B	
Toluene	ND	0.00108	mg/kg dry	1	P8I1908	09/19/18	09/20/18	EPA 8021B	
Ethylbenzene	ND	0.00108	mg/kg dry	1	P8I1908	09/19/18	09/20/18	EPA 8021B	
Xylene (p/m)	ND	0.00215	mg/kg dry	1	P8I1908	09/19/18	09/20/18	EPA 8021B	
Xylene (o)	ND	0.00108	mg/kg dry	1	P8I1908	09/19/18	09/20/18	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*120 %*	*75-125*		*P8I1908*	*09/19/18*	*09/20/18*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*95.5 %*	*75-125*		*P8I1908*	*09/19/18*	*09/20/18*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**76.0**	1.08	mg/kg dry	1	P8I2110	09/21/18	09/22/18	EPA 300.0	
% Moisture	**7.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	26.9	mg/kg dry	1	P8I2404	09/19/18	09/24/18	TPH 8015M	
>C12-C28	**499**	26.9	mg/kg dry	1	P8I2404	09/19/18	09/24/18	TPH 8015M	
>C28-C35	**179**	26.9	mg/kg dry	1	P8I2404	09/19/18	09/24/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*93.9 %*	*70-130*		*P8I2404*	*09/19/18*	*09/24/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*94.0 %*	*70-130*		*P8I2404*	*09/19/18*	*09/24/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**678**	26.9	mg/kg dry	1	[CALC]	09/19/18	09/24/18	calc	

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DP-10 (1-2)

8I18022-34 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**138**	1.14	mg/kg dry	1	P8I2110	09/21/18	09/22/18	EPA 300.0	
% Moisture	**12.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	28.4	mg/kg dry	1	P8I2710	09/26/18	09/27/18	TPH 8015M	
>C12-C28	**29.2**	28.4	mg/kg dry	1	P8I2710	09/26/18	09/27/18	TPH 8015M	
>C28-C35	ND	28.4	mg/kg dry	1	P8I2710	09/26/18	09/27/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*93.9 %*	*70-130*		*P8I2710*	*09/26/18*	*09/27/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*94.2 %*	*70-130*		*P8I2710*	*09/26/18*	*09/27/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**29.2**	28.4	mg/kg dry	1	[CALC]	09/26/18	09/27/18	calc	

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DP-10 (2-3)

8I18022-35 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**316**	1.20	mg/kg dry	1	P8I2110	09/21/18	09/22/18	EPA 300.0	
% Moisture	**17.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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Midland TX, 79710	Project Manager: Mark Larson	

DP-10 (3-4)

8I18022-36 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**485**	1.15	mg/kg dry	1	P8I2110	09/21/18	09/22/18	EPA 300.0	
% Moisture	**13.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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DP-10 (4-6)

8I18022-37 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**359**	1.10	mg/kg dry	1	P8I2110	09/21/18	09/22/18	EPA 300.0	
% Moisture	**9.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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DP-10 (6-8)

8I18022-38 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**297**	1.14	mg/kg dry	1	P8I2110	09/21/18	09/22/18	EPA 300.0	
% Moisture	**12.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

DP-4 (0-1)

8I18022-39 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00111	mg/kg dry	1	P8I1908	09/19/18	09/21/18	EPA 8021B	
Toluene	ND	0.00111	mg/kg dry	1	P8I1908	09/19/18	09/21/18	EPA 8021B	
Ethylbenzene	ND	0.00111	mg/kg dry	1	P8I1908	09/19/18	09/21/18	EPA 8021B	
Xylene (p/m)	ND	0.00222	mg/kg dry	1	P8I1908	09/19/18	09/21/18	EPA 8021B	
Xylene (o)	ND	0.00111	mg/kg dry	1	P8I1908	09/19/18	09/21/18	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*92.8 %*	*75-125*		*P8I1908*	*09/19/18*	*09/21/18*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*115 %*	*75-125*		*P8I1908*	*09/19/18*	*09/21/18*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**5.00**	1.11	mg/kg dry	1	P8I2110	09/21/18	09/22/18	EPA 300.0	
% Moisture	**10.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.8	mg/kg dry	1	P8I2404	09/19/18	09/20/18	TPH 8015M	
>C12-C28	ND	27.8	mg/kg dry	1	P8I2404	09/19/18	09/20/18	TPH 8015M	
>C28-C35	ND	27.8	mg/kg dry	1	P8I2404	09/19/18	09/20/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*98.5 %*	*70-130*		*P8I2404*	*09/19/18*	*09/20/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*111 %*	*70-130*		*P8I2404*	*09/19/18*	*09/20/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	27.8	mg/kg dry	1	[CALC]	09/19/18	09/20/18	calc	

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Midland TX, 79710	Project Manager: Mark Larson	

DP-4 (1-2)

8I18022-40 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**4.35**	1.05	mg/kg dry	1	P8I2406	09/24/18	09/24/18	EPA 300.0	
% Moisture	**5.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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Midland TX, 79710	Project Manager: Mark Larson	

DP-4(2-3)

8I18022-41 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**1.76**	1.12	mg/kg dry	1	P8I2406	09/24/18	09/24/18	EPA 300.0	
% Moisture	**11.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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DP-4(3-4)

8I18022-42 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**7.60**	1.19	mg/kg dry	1	P8I2406	09/24/18	09/24/18	EPA 300.0	
% Moisture	**16.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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Midland TX, 79710	Project Manager: Mark Larson	

DP-4 (4-6)

8I18022-43 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**8.69**	1.18	mg/kg dry	1	P8I2406	09/24/18	09/24/18	EPA 300.0	
% Moisture	**15.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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DP-4(6-8)

8I18022-44 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**8.53**	1.14	mg/kg dry	1	P8I2406	09/24/18	09/24/18	EPA 300.0	
% Moisture	**12.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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DP-4 (8-10)

8I18022-45 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**8.07**	1.14	mg/kg dry	1	P8I2406	09/24/18	09/24/18	EPA 300.0	
% Moisture	**12.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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DP-4 (10-12)

8I18022-46 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**3.86**	1.11	mg/kg dry	1	P8I2406	09/24/18	09/24/18	EPA 300.0	
% Moisture	**10.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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Project Manager: Mark Larson

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DP-9 (0-1)

8I18022-47 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00123	mg/kg dry	1	P8I2003	09/21/18	09/21/18	EPA 8021B	
Toluene	ND	0.0123	mg/kg dry	1	P8I2003	09/21/18	09/21/18	EPA 8021B	
Ethylbenzene	ND	0.00617	mg/kg dry	1	P8I2003	09/21/18	09/21/18	EPA 8021B	
Xylene (p/m)	ND	0.0247	mg/kg dry	1	P8I2003	09/21/18	09/21/18	EPA 8021B	
Xylene (o)	ND	0.0123	mg/kg dry	1	P8I2003	09/21/18	09/21/18	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*114 %*	*75-125*		*P8I2003*	*09/21/18*	*09/21/18*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*104 %*	*75-125*		*P8I2003*	*09/21/18*	*09/21/18*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**625**	1.23	mg/kg dry	1	P8I2406	09/24/18	09/24/18	EPA 300.0	
% Moisture	**19.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	30.9	mg/kg dry	1	P8I2404	09/19/18	09/24/18	TPH 8015M	
>C12-C28	**289**	30.9	mg/kg dry	1	P8I2404	09/19/18	09/24/18	TPH 8015M	
>C28-C35	**80.8**	30.9	mg/kg dry	1	P8I2404	09/19/18	09/24/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*93.1 %*	*70-130*		*P8I2404*	*09/19/18*	*09/24/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*93.6 %*	*70-130*		*P8I2404*	*09/19/18*	*09/24/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**370**	30.9	mg/kg dry	1	[CALC]	09/19/18	09/24/18	calc	

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DP-9 (1-2)

8I18022-48 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**1480**	5.56	mg/kg dry	5	P8I2406	09/24/18	09/24/18	EPA 300.0	
% Moisture	**10.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.8	mg/kg dry	1	P8I2710	09/26/18	09/27/18	TPH 8015M	
>C12-C28	**153**	27.8	mg/kg dry	1	P8I2710	09/26/18	09/27/18	TPH 8015M	
>C28-C35	**59.1**	27.8	mg/kg dry	1	P8I2710	09/26/18	09/27/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*84.7 %*	*70-130*		*P8I2710*	*09/26/18*	*09/27/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*83.9 %*	*70-130*		*P8I2710*	*09/26/18*	*09/27/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**213**	27.8	mg/kg dry	1	[CALC]	09/26/18	09/27/18	calc	

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DP-9 (2-3)

8I18022-49 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**502**	1.16	mg/kg dry	1	P8I2406	09/24/18	09/24/18	EPA 300.0	
% Moisture	**14.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	29.1	mg/kg dry	1	P8I2710	09/26/18	09/27/18	TPH 8015M	
>C12-C28	**116**	29.1	mg/kg dry	1	P8I2710	09/26/18	09/27/18	TPH 8015M	
>C28-C35	**45.7**	29.1	mg/kg dry	1	P8I2710	09/26/18	09/27/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*87.9 %*	*70-130*		*P8I2710*	*09/26/18*	*09/27/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*90.7 %*	*70-130*		*P8I2710*	*09/26/18*	*09/27/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**162**	29.1	mg/kg dry	1	[CALC]	09/26/18	09/27/18	calc	

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DP-9 (3-4)

8I18022-50 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**209**	1.22	mg/kg dry	1	P8I2406	09/24/18	09/24/18	EPA 300.0	
% Moisture	**18.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	30.5	mg/kg dry	1	P8I2710	09/26/18	09/27/18	TPH 8015M	
>C12-C28	**56.4**	30.5	mg/kg dry	1	P8I2710	09/26/18	09/27/18	TPH 8015M	
>C28-C35	ND	30.5	mg/kg dry	1	P8I2710	09/26/18	09/27/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*85.9 %*	*70-130*		*P8I2710*	*09/26/18*	*09/27/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*89.7 %*	*70-130*		*P8I2710*	*09/26/18*	*09/27/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**56.4**	30.5	mg/kg dry	1	[CALC]	09/26/18	09/27/18	calc	

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DP-9 (4-5)

8I18022-51 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**175**	1.18	mg/kg dry	1	P8I2406	09/24/18	09/24/18	EPA 300.0	
% Moisture	**15.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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DP-11 (0-1)

8I18022-52 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	**0.155**	0.0230	mg/kg dry	20	P8I2003	09/21/18	09/21/18	EPA 8021B	
Toluene	**1.96**	0.230	mg/kg dry	20	P8I2003	09/21/18	09/21/18	EPA 8021B	
Ethylbenzene	**1.47**	0.115	mg/kg dry	20	P8I2003	09/21/18	09/21/18	EPA 8021B	
Xylene (p/m)	**11.7**	0.460	mg/kg dry	20	P8I2003	09/21/18	09/21/18	EPA 8021B	
Xylene (o)	**7.32**	0.230	mg/kg dry	20	P8I2003	09/21/18	09/21/18	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*90.5 %*	*75-125*		*P8I2003*	*09/21/18*	*09/21/18*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*91.6 %*	*75-125*		*P8I2003*	*09/21/18*	*09/21/18*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**3150**	11.5	mg/kg dry	10	P8I2406	09/24/18	09/24/18	EPA 300.0	
% Moisture	**13.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	**9100**	575	mg/kg dry	20	P8I2404	09/19/18	09/20/18	TPH 8015M	
>C12-C28	**37800**	575	mg/kg dry	20	P8I2404	09/19/18	09/20/18	TPH 8015M	
>C28-C35	**5090**	575	mg/kg dry	20	P8I2404	09/19/18	09/20/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*99.4 %*	*70-130*		*P8I2404*	*09/19/18*	*09/20/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*108 %*	*70-130*		*P8I2404*	*09/19/18*	*09/20/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**52000**	575	mg/kg dry	20	[CALC]	09/19/18	09/20/18	calc	

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DP-11 (1-2)

8I18022-53 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**1790**	5.81	mg/kg dry	5	P8I2406	09/24/18	09/24/18	EPA 300.0	
% Moisture	**14.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	**9770**	581	mg/kg dry	20	P8I2404	09/19/18	09/24/18	TPH 8015M	
>C12-C28	**18400**	581	mg/kg dry	20	P8I2404	09/19/18	09/24/18	TPH 8015M	
>C28-C35	**2950**	581	mg/kg dry	20	P8I2404	09/19/18	09/24/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*96.4 %*	*70-130*		*P8I2404*	*09/19/18*	*09/24/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*92.0 %*	*70-130*		*P8I2404*	*09/19/18*	*09/24/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**31100**	581	mg/kg dry	20	[CALC]	09/19/18	09/24/18	calc	

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DP-11 (2-3)

8I18022-54 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**1120**	5.81	mg/kg dry	5	P8I2406	09/24/18	09/24/18	EPA 300.0	
% Moisture	**14.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	**9300**	581	mg/kg dry	20	P8I2404	09/19/18	09/21/18	TPH 8015M	
>C12-C28	**12000**	581	mg/kg dry	20	P8I2404	09/19/18	09/21/18	TPH 8015M	
>C28-C35	**2000**	581	mg/kg dry	20	P8I2404	09/19/18	09/21/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*90.0 %*	*70-130*		*P8I2404*	*09/19/18*	*09/21/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*128 %*	*70-130*		*P8I2404*	*09/19/18*	*09/21/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**23300**	581	mg/kg dry	20	[CALC]	09/19/18	09/21/18	calc	

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DP-11 (3-4)

8I18022-55 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**804**	1.20	mg/kg dry	1	P8I2406	09/24/18	09/25/18	EPA 300.0	
% Moisture	**17.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	**1400**	151	mg/kg dry	5	P8I2404	09/19/18	09/21/18	TPH 8015M	
>C12-C28	**3640**	151	mg/kg dry	5	P8I2404	09/19/18	09/21/18	TPH 8015M	
>C28-C35	**547**	151	mg/kg dry	5	P8I2404	09/19/18	09/21/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*127 %*	*70-130*		*P8I2404*	*09/19/18*	*09/21/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*104 %*	*70-130*		*P8I2404*	*09/19/18*	*09/21/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**5590**	151	mg/kg dry	5	[CALC]	09/19/18	09/21/18	calc	

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DP-11 (4-5)

8I18022-56 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**344**	1.19	mg/kg dry	1	P8I2406	09/24/18	09/25/18	EPA 300.0	
% Moisture	**16.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	**1080**	149	mg/kg dry	5	P8I2404	09/19/18	09/21/18	TPH 8015M	
>C12-C28	**3670**	149	mg/kg dry	5	P8I2404	09/19/18	09/21/18	TPH 8015M	
>C28-C35	**563**	149	mg/kg dry	5	P8I2404	09/19/18	09/21/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*127 %*	*70-130*		*P8I2404*	*09/19/18*	*09/21/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*102 %*	*70-130*		*P8I2404*	*09/19/18*	*09/21/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**5320**	149	mg/kg dry	5	[CALC]	09/19/18	09/21/18	calc	

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DP-8 (0-1)

8I18022-57 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00114	mg/kg dry	1	P8I2003	09/21/18	09/21/18	EPA 8021B	
Toluene	ND	0.0114	mg/kg dry	1	P8I2003	09/21/18	09/21/18	EPA 8021B	
Ethylbenzene	ND	0.00568	mg/kg dry	1	P8I2003	09/21/18	09/21/18	EPA 8021B	
Xylene (p/m)	ND	0.0227	mg/kg dry	1	P8I2003	09/21/18	09/21/18	EPA 8021B	
Xylene (o)	ND	0.0114	mg/kg dry	1	P8I2003	09/21/18	09/21/18	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*110 %*	*75-125*		*P8I2003*	*09/21/18*	*09/21/18*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*102 %*	*75-125*		*P8I2003*	*09/21/18*	*09/21/18*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**541**	1.14	mg/kg dry	1	P8I2406	09/24/18	09/25/18	EPA 300.0	
% Moisture	**12.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	28.4	mg/kg dry	1	P8I2404	09/19/18	09/24/18	TPH 8015M	
>C12-C28	**2150**	28.4	mg/kg dry	1	P8I2404	09/19/18	09/24/18	TPH 8015M	
>C28-C35	**511**	28.4	mg/kg dry	1	P8I2404	09/19/18	09/24/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*113 %*	*70-130*		*P8I2404*	*09/19/18*	*09/24/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*112 %*	*70-130*		*P8I2404*	*09/19/18*	*09/24/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**2660**	28.4	mg/kg dry	1	[CALC]	09/19/18	09/24/18	calc	

DP-8 (1-2)

8I18022-58 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**225**	1.16	mg/kg dry	1	P8I2406	09/24/18	09/25/18	EPA 300.0	
% Moisture	**14.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	29.1	mg/kg dry	1	P8I2009	09/19/18	10/03/18	TPH 8015M	
>C12-C28	**153**	29.1	mg/kg dry	1	P8I2009	09/19/18	10/03/18	TPH 8015M	
>C28-C35	**63.7**	29.1	mg/kg dry	1	P8I2009	09/19/18	10/03/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*110 %*	*70-130*		*P8I2009*	*09/19/18*	*10/03/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*112 %*	*70-130*		*P8I2009*	*09/19/18*	*10/03/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**216**	29.1	mg/kg dry	1	[CALC]	09/19/18	10/03/18	calc	

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DP-8 (2-3)

8I18022-59 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**516**	1.20	mg/kg dry	1	P8I2406	09/24/18	09/25/18	EPA 300.0	
% Moisture	**17.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	30.1	mg/kg dry	1	P8I2009	09/19/18	10/03/18	TPH 8015M	
>C12-C28	**71.2**	30.1	mg/kg dry	1	P8I2009	09/19/18	10/03/18	TPH 8015M	
>C28-C35	ND	30.1	mg/kg dry	1	P8I2009	09/19/18	10/03/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*99.1 %*	*70-130*		*P8I2009*	*09/19/18*	*10/03/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*99.8 %*	*70-130*		*P8I2009*	*09/19/18*	*10/03/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**71.2**	30.1	mg/kg dry	1	[CALC]	09/19/18	10/03/18	calc	

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P.O. Box 50685	Project Number: 18-0153-01	
Midland TX, 79710	Project Manager: Mark Larson	

DP-8 (3-4)

8I18022-60 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**673**	1.16	mg/kg dry	1	P8I2407	09/24/18	09/25/18	EPA 300.0	
% Moisture	**14.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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DP-8 (4-5)

8I18022-61 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**222**	1.19	mg/kg dry	1	P8I2407	09/24/18	09/25/18	EPA 300.0	
% Moisture	**16.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	

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Midland TX, 79710	Project Manager: Mark Larson	

DP-6 (0-1)

8I18022-62 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00115	mg/kg dry	1	P8I2003	09/21/18	09/21/18	EPA 8021B	
Toluene	ND	0.0115	mg/kg dry	1	P8I2003	09/21/18	09/21/18	EPA 8021B	
Ethylbenzene	ND	0.00575	mg/kg dry	1	P8I2003	09/21/18	09/21/18	EPA 8021B	
Xylene (p/m)	ND	0.0230	mg/kg dry	1	P8I2003	09/21/18	09/21/18	EPA 8021B	
Xylene (o)	ND	0.0115	mg/kg dry	1	P8I2003	09/21/18	09/21/18	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*99.4 %*	*75-125*		*P8I2003*	*09/21/18*	*09/21/18*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*122 %*	*75-125*		*P8I2003*	*09/21/18*	*09/21/18*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**701**	1.15	mg/kg dry	1	P8I2407	09/24/18	09/25/18	EPA 300.0	
% Moisture	**13.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	28.7	mg/kg dry	1	P8I2404	09/19/18	09/24/18	TPH 8015M	
>C12-C28	**683**	28.7	mg/kg dry	1	P8I2404	09/19/18	09/24/18	TPH 8015M	
>C28-C35	**242**	28.7	mg/kg dry	1	P8I2404	09/19/18	09/24/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*107 %*	*70-130*		*P8I2404*	*09/19/18*	*09/24/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*107 %*	*70-130*		*P8I2404*	*09/19/18*	*09/24/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**925**	28.7	mg/kg dry	1	[CALC]	09/19/18	09/24/18	calc	

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Midland TX, 79710	Project Manager: Mark Larson	

DP-6 (1-2)

8I18022-63 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**665**	1.19	mg/kg dry	1	P8I2407	09/24/18	09/25/18	EPA 300.0	
% Moisture	**16.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	29.8	mg/kg dry	1	P8I2009	09/19/18	10/03/18	TPH 8015M	
>C12-C28	**124**	29.8	mg/kg dry	1	P8I2009	09/19/18	10/03/18	TPH 8015M	
>C28-C35	**31.1**	29.8	mg/kg dry	1	P8I2009	09/19/18	10/03/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*99.1 %*	*70-130*		*P8I2009*	*09/19/18*	*10/03/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*101 %*	*70-130*		*P8I2009*	*09/19/18*	*10/03/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**155**	29.8	mg/kg dry	1	[CALC]	09/19/18	10/03/18	calc	

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DP-6 (2-3)

8I18022-64 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**22.8**	1.15	mg/kg dry	1	P8I2407	09/24/18	09/25/18	EPA 300.0	
% Moisture	**13.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	28.7	mg/kg dry	1	P8I2009	09/19/18	10/03/18	TPH 8015M	
>C12-C28	**365**	28.7	mg/kg dry	1	P8I2009	09/19/18	10/03/18	TPH 8015M	
>C28-C35	**142**	28.7	mg/kg dry	1	P8I2009	09/19/18	10/03/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*108 %*	*70-130*		*P8I2009*	*09/19/18*	*10/03/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*110 %*	*70-130*		*P8I2009*	*09/19/18*	*10/03/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**507**	28.7	mg/kg dry	1	[CALC]	09/19/18	10/03/18	calc	

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DP-6 (3-4)

8I18022-65 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**69.8**	1.14	mg/kg dry	1	P8I2407	09/24/18	09/25/18	EPA 300.0	
% Moisture	**12.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	28.4	mg/kg dry	1	P8I2009	09/19/18	10/03/18	TPH 8015M	
>C12-C28	**238**	28.4	mg/kg dry	1	P8I2009	09/19/18	10/03/18	TPH 8015M	
>C28-C35	**89.3**	28.4	mg/kg dry	1	P8I2009	09/19/18	10/03/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*99.8 %*	*70-130*		*P8I2009*	*09/19/18*	*10/03/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*101 %*	*70-130*		*P8I2009*	*09/19/18*	*10/03/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**327**	28.4	mg/kg dry	1	[CALC]	09/19/18	10/03/18	calc	

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DP-6 (4-5)

8I18022-66 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**57.8**	1.20	mg/kg dry	1	P8I2407	09/24/18	09/25/18	EPA 300.0	
% Moisture	**17.0**	0.1	%	1	P8I2005	09/20/18	09/20/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	**41.3**	30.1	mg/kg dry	1	P8I2009	09/19/18	10/03/18	TPH 8015M	
>C12-C28	**690**	30.1	mg/kg dry	1	P8I2009	09/19/18	10/03/18	TPH 8015M	
>C28-C35	**135**	30.1	mg/kg dry	1	P8I2009	09/19/18	10/03/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*95.9 %*	*70-130*		*P8I2009*	*09/19/18*	*10/03/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*99.9 %*	*70-130*		*P8I2009*	*09/19/18*	*10/03/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**866**	30.1	mg/kg dry	1	[CALC]	09/19/18	10/03/18	calc	

Organics by GC - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P8I1908 - General Preparation (GC)										
Blank (P8I1908-BLK1)				Prepared: 09/19/18 Analyzed: 09/20/18						
Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	*0.0575*		*"*	*0.0600*		*95.9*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0653*		*"*	*0.0600*		*109*	*75-125*			
LCS (P8I1908-BS1)				Prepared: 09/19/18 Analyzed: 09/20/18						
Benzene	0.106	0.00100	mg/kg wet	0.100		106	70-130			
Toluene	0.114	0.00100	"	0.100		114	70-130			
Ethylbenzene	0.115	0.00100	"	0.100		115	70-130			
Xylene (p/m)	0.238	0.00200	"	0.200		119	70-130			
Xylene (o)	0.115	0.00100	"	0.100		115	70-130			
Surrogate: 4-Bromofluorobenzene	*0.0711*		*"*	*0.0600*		*119*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.0622*		*"*	*0.0600*		*104*	*75-125*			
LCS Dup (P8I1908-BSD1)				Prepared: 09/19/18 Analyzed: 09/20/18						
Benzene	0.107	0.00100	mg/kg wet	0.100		107	70-130	0.328	20	
Toluene	0.115	0.00100	"	0.100		115	70-130	1.11	20	
Ethylbenzene	0.111	0.00100	"	0.100		111	70-130	4.08	20	
Xylene (p/m)	0.234	0.00200	"	0.200		117	70-130	1.89	20	
Xylene (o)	0.116	0.00100	"	0.100		116	70-130	0.407	20	
Surrogate: 4-Bromofluorobenzene	*0.0746*		*"*	*0.0600*		*124*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.0687*		*"*	*0.0600*		*115*	*75-125*			
Matrix Spike (P8I1908-MS1)		**Source: 8I18022-01**		Prepared: 09/19/18 Analyzed: 09/21/18						
Benzene	0.0756	0.00120	mg/kg dry	0.120	ND	62.7	80-120			QM-07
Toluene	0.0700	0.00120	"	0.120	ND	58.1	80-120			QM-07
Ethylbenzene	0.0709	0.00120	"	0.120	ND	58.8	80-120			QM-07
Xylene (p/m)	0.124	0.00241	"	0.241	ND	51.6	80-120			QM-07
Xylene (o)	0.0627	0.00120	"	0.120	ND	52.1	80-120			QM-07
Surrogate: 1,4-Difluorobenzene	*0.0820*		*"*	*0.0723*		*113*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0927*		*"*	*0.0723*		*128*	*75-125*			*S-GC*

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 P8I1908 - General Preparation (GC)										
Matrix Spike Dup (P8I1908-MSD1)	**Source: 8I18022-01**			Prepared: 09/19/18 Analyzed: 09/21/18						
Benzene	0.0597	0.00120	mg/kg dry	0.120	ND	49.5	80-120	23.6	20	QM-07
Toluene	0.0533	0.00120	"	0.120	ND	44.3	80-120	27.0	20	QM-07
Ethylbenzene	0.0552	0.00120	"	0.120	ND	45.8	80-120	24.9	20	QM-07
Xylene (p/m)	0.103	0.00241	"	0.241	ND	42.8	80-120	18.7	20	QM-07
Xylene (o)	0.0490	0.00120	"	0.120	ND	40.6	80-120	24.6	20	QM-07
Surrogate: 4-Bromofluorobenzene	*0.0909*		*"*	*0.0723*		*126*	*75-125*			*S-GC*
Surrogate: 1,4-Difluorobenzene	*0.0784*		*"*	*0.0723*		*108*	*75-125*			
Batch P8I2003 - General Preparation (GC)										
Blank (P8I2003-BLK1)				Prepared & Analyzed: 09/21/18						
Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.0100	"							
Ethylbenzene	ND	0.00500	"							
Xylene (p/m)	ND	0.0200	"							
Xylene (o)	ND	0.0100	"							
Surrogate: 4-Bromofluorobenzene	*0.0678*		*"*	*0.0600*		*113*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.0563*		*"*	*0.0600*		*93.8*	*75-125*			
LCS (P8I2003-BS1)				Prepared & Analyzed: 09/21/18						
Benzene	0.109	0.00100	mg/kg wet	0.100		109	70-130			
Toluene	0.117	0.0100	"	0.100		117	70-130			
Ethylbenzene	0.117	0.00500	"	0.100		117	70-130			
Xylene (p/m)	0.237	0.0200	"	0.200		118	70-130			
Xylene (o)	0.120	0.0100	"	0.100		120	70-130			
Surrogate: 4-Bromofluorobenzene	*0.0740*		*"*	*0.0600*		*123*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.0669*		*"*	*0.0600*		*112*	*75-125*			

Larson & Associates, Inc.
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Midland TX, 79710

Project: NM State S#5 Tank Battery
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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
Batch P8I2003 - General Preparation (GC)										
LCS Dup (P8I2003-BSD1)				Prepared & Analyzed: 09/21/18						
Benzene	0.107	0.00100	mg/kg wet	0.100		107	70-130	1.87	20	
Toluene	0.116	0.0100	"	0.100		116	70-130	0.686	20	
Ethylbenzene	0.111	0.00500	"	0.100		111	70-130	5.32	20	
Xylene (p/m)	0.217	0.0200	"	0.200		108	70-130	8.80	20	
Xylene (o)	0.117	0.0100	"	0.100		117	70-130	1.87	20	
Surrogate: 1,4-Difluorobenzene	*0.0654*		*"*	*0.0600*		*109*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0688*		*"*	*0.0600*		*115*	*75-125*			
Matrix Spike (P8I2003-MS1)		**Source: 8I18022-62**		Prepared & Analyzed: 09/21/18						
Benzene	0.116	0.00115	mg/kg dry	0.115	ND	101	80-120			R3
Toluene	0.101	0.0115	"	0.115	ND	87.9	80-120			R3
Ethylbenzene	0.0540	0.00575	"	0.115	ND	47.0	80-120			QM-07, R3
Xylene (p/m)	0.117	0.0230	"	0.230	ND	50.9	80-120			QM-07, R3
Xylene (o)	0.0733	0.0115	"	0.115	ND	63.8	80-120			QM-07, R3
Surrogate: 1,4-Difluorobenzene	*0.0945*		*"*	*0.0690*		*137*	*75-125*			*S-GC*
Surrogate: 4-Bromofluorobenzene	*0.0792*		*"*	*0.0690*		*115*	*75-125*			
Matrix Spike Dup (P8I2003-MSD1)		**Source: 8I18022-62**		Prepared & Analyzed: 09/21/18						
Benzene	0.0552	0.00115	mg/kg dry	0.115	ND	48.0	80-120	70.7	20	QM-07, R3
Toluene	0.0327	0.0115	"	0.115	ND	28.4	80-120	102	20	QM-07, R3
Ethylbenzene	0.0231	0.00575	"	0.115	ND	20.1	80-120	80.2	20	QM-07, R3
Xylene (p/m)	0.0398	0.0230	"	0.230	ND	17.3	80-120	98.5	20	QM-07, R3
Xylene (o)	0.0170	0.0115	"	0.115	ND	14.8	80-120	125	20	QM-07, R3
Surrogate: 1,4-Difluorobenzene	*0.0783*		*"*	*0.0690*		*114*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0870*		*"*	*0.0690*		*126*	*75-125*			*S-GC*

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 P8I2002 - * DEFAULT PREP *** **										
Blank (P8I2002-BLK1)				Prepared: 09/20/18 Analyzed: 09/21/18						
Chloride	ND	1.00	mg/kg wet							
LCS (P8I2002-BS1)				Prepared & Analyzed: 09/20/18						
Chloride	401	1.00	mg/kg wet	400		100	80-120			
LCS Dup (P8I2002-BSD1)				Prepared & Analyzed: 09/20/18						
Chloride	403	1.00	mg/kg wet	400		101	80-120	0.654	20	
Duplicate (P8I2002-DUP1)		**Source: 8I18014-08**		Prepared & Analyzed: 09/20/18						
Chloride	125	1.08	mg/kg dry		118			5.83	20	
Duplicate (P8I2002-DUP2)		**Source: 8I18017-05**		Prepared & Analyzed: 09/20/18						
Chloride	6330	56.8	mg/kg dry		6190			2.13	20	
Matrix Spike (P8I2002-MS1)		**Source: 8I18014-08**		Prepared & Analyzed: 09/20/18						
Chloride	667	1.08	mg/kg dry	538	118	102	80-120			
Batch P8I2005 - * DEFAULT PREP *** **										
Blank (P8I2005-BLK1)				Prepared & Analyzed: 09/20/18						
% Moisture	ND	0.1	%							
Duplicate (P8I2005-DUP1)		**Source: 8I18022-26**		Prepared & Analyzed: 09/20/18						
% Moisture	9.0	0.1	%		9.0			0.00	20	
Duplicate (P8I2005-DUP2)		**Source: 8I18022-53**		Prepared & Analyzed: 09/20/18						
% Moisture	13.0	0.1	%		14.0			7.41	20	

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 P8I2005 - * DEFAULT PREP *** **										
Duplicate (P8I2005-DUP3)	**Source: 8I18022-66**			Prepared & Analyzed: 09/20/18						
% Moisture	17.0	0.1	%		17.0			0.00	20	
Batch P8I2008 - * DEFAULT PREP *** **										
Blank (P8I2008-BLK1)				Prepared: 09/20/18 Analyzed: 09/21/18						
Chloride	ND	1.00	mg/kg wet							
LCS (P8I2008-BS1)				Prepared: 09/20/18 Analyzed: 09/21/18						
Chloride	408	1.00	mg/kg wet	400		102	80-120			
LCS Dup (P8I2008-BSD1)				Prepared: 09/20/18 Analyzed: 09/21/18						
Chloride	408	1.00	mg/kg wet	400		102	80-120	0.0931	20	
Duplicate (P8I2008-DUP1)	**Source: 8I20006-21**			Prepared: 09/20/18 Analyzed: 09/21/18						
Chloride	1150	27.5	mg/kg dry		1190			3.42	20	
Duplicate (P8I2008-DUP2)	**Source: 8I18022-12**			Prepared: 09/20/18 Analyzed: 09/24/18						
Chloride	55.0	1.12	mg/kg dry		52.4			4.87	20	
Matrix Spike (P8I2008-MS1)	**Source: 8I20006-21**			Prepared: 09/20/18 Analyzed: 09/21/18						
Chloride	3960	27.5	mg/kg dry	2750	1190	101	80-120			
Batch P8I2110 - * DEFAULT PREP *** **										
Blank (P8I2110-BLK1)				Prepared: 09/21/18 Analyzed: 09/22/18						
Chloride	ND	1.00	mg/kg wet							

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 P8I2110 - * DEFAULT PREP *** **										
LCS (P8I2110-BS1)				Prepared: 09/21/18 Analyzed: 09/22/18						
Chloride	406	1.00	mg/kg wet	400		102	80-120			
LCS Dup (P8I2110-BSD1)				Prepared: 09/21/18 Analyzed: 09/22/18						
Chloride	407	1.00	mg/kg wet	400		102	80-120	0.162	20	
Duplicate (P8I2110-DUP1)		**Source: 8I21005-01**		Prepared: 09/21/18 Analyzed: 09/22/18						
Chloride	32.3	1.16	mg/kg dry		30.8			4.94	20	
Duplicate (P8I2110-DUP2)		**Source: 8I18022-30**		Prepared: 09/21/18 Analyzed: 09/22/18						
Chloride	19.4	1.15	mg/kg dry		15.9			20.1	20	
Matrix Spike (P8I2110-MS1)		**Source: 8I21005-01**		Prepared: 09/21/18 Analyzed: 09/22/18						
Chloride	2900	29.1	mg/kg dry	2910	30.8	98.6	80-120			
Batch P8I2406 - * DEFAULT PREP *** **										
Blank (P8I2406-BLK1)				Prepared & Analyzed: 09/24/18						
Chloride	ND	1.00	mg/kg wet							
LCS (P8I2406-BS1)				Prepared & Analyzed: 09/24/18						
Chloride	402	1.00	mg/kg wet	400		100	80-120			
LCS Dup (P8I2406-BSD1)				Prepared & Analyzed: 09/24/18						
Chloride	404	1.00	mg/kg wet	400		101	80-120	0.489	20	
Duplicate (P8I2406-DUP1)		**Source: 8I18022-40**		Prepared & Analyzed: 09/24/18						
Chloride	5.76	1.05	mg/kg dry		4.35			27.9	20	

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 P8I2406 - * DEFAULT PREP *** **										
Duplicate (P8I2406-DUP2)		**Source: 8I18022-50**		Prepared & Analyzed: 09/24/18						
Chloride	125	1.22	mg/kg dry		209			50.7	20	
Matrix Spike (P8I2406-MS1)		**Source: 8I18022-40**		Prepared & Analyzed: 09/24/18						
Chloride	518	1.05	mg/kg dry	526	4.35	97.6	80-120			
Batch P8I2407 - * DEFAULT PREP *** **										
Blank (P8I2407-BLK1)				Prepared: 09/24/18 Analyzed: 09/25/18						
Chloride	ND	1.00	mg/kg wet							
LCS (P8I2407-BS1)				Prepared: 09/24/18 Analyzed: 09/25/18						
Chloride	406	1.00	mg/kg wet	400		101	80-120			
LCS Dup (P8I2407-BSD1)				Prepared: 09/24/18 Analyzed: 09/25/18						
Chloride	404	1.00	mg/kg wet	400		101	80-120	0.375	20	
Duplicate (P8I2407-DUP1)		**Source: 8I24008-01**		Prepared: 09/24/18 Analyzed: 09/25/18						
Chloride	5650	26.9	mg/kg dry		5800			2.67	20	
Duplicate (P8I2407-DUP2)		**Source: 8I18022-61**		Prepared: 09/24/18 Analyzed: 09/25/18						
Chloride	176	1.19	mg/kg dry		222			23.1	20	
Matrix Spike (P8I2407-MS1)		**Source: 8I24008-01**		Prepared: 09/24/18 Analyzed: 09/25/18						
Chloride	8350	26.9	mg/kg dry	2690	5800	94.9	80-120			

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 P8I2404 - TX 1005										
Blank (P8I2404-BLK1)				Prepared: 09/19/18 Analyzed: 09/20/18						
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	*101*		*"*	*100*		*101*	*70-130*			
Surrogate: o-Terphenyl	*57.3*		*"*	*50.0*		*115*	*70-130*			
LCS (P8I2404-BS1)				Prepared: 09/19/18 Analyzed: 09/20/18						
C6-C12	981	25.0	mg/kg wet	1000		98.1	75-125			
>C12-C28	1110	25.0	"	1000		111	75-125			
Surrogate: 1-Chlorooctane	*122*		*"*	*100*		*122*	*70-130*			
Surrogate: o-Terphenyl	*53.2*		*"*	*50.0*		*106*	*70-130*			
LCS Dup (P8I2404-BSD1)				Prepared: 09/19/18 Analyzed: 09/20/18						
C6-C12	899	25.0	mg/kg wet	1000		89.9	75-125	8.70	20	
>C12-C28	995	25.0	"	1000		99.5	75-125	10.4	20	
Surrogate: 1-Chlorooctane	*112*		*"*	*100*		*112*	*70-130*			
Surrogate: o-Terphenyl	*47.1*		*"*	*50.0*		*94.2*	*70-130*			
Batch P8I2710 - TX 1005										
Blank (P8I2710-BLK1)				Prepared & Analyzed: 09/26/18						
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	*79.7*		*"*	*100*		*79.7*	*70-130*			
Surrogate: o-Terphenyl	*39.9*		*"*	*50.0*		*79.8*	*70-130*			

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P8I2710 - TX 1005										
LCS (P8I2710-BS1)				Prepared & Analyzed: 09/26/18						
C6-C12	900	25.0	mg/kg wet	1000		90.0	75-125			
>C12-C28	979	25.0	"	1000		97.9	75-125			
Surrogate: 1-Chlorooctane	*101*		*"*	*100*		*101*	*70-130*			
Surrogate: o-Terphenyl	*44.4*		*"*	*50.0*		*88.7*	*70-130*			
LCS Dup (P8I2710-BSD1)				Prepared & Analyzed: 09/26/18						
C6-C12	824	25.0	mg/kg wet	1000		82.4	75-125	8.90	20	
>C12-C28	927	25.0	"	1000		92.7	75-125	5.46	20	
Surrogate: 1-Chlorooctane	*95.9*		*"*	*100*		*95.9*	*70-130*			
Surrogate: o-Terphenyl	*40.6*		*"*	*50.0*		*81.3*	*70-130*			
Duplicate (P8I2710-DUP1)	**Source: 8I18022-51**			Prepared: 09/26/18 Analyzed: 09/27/18						
C6-C12	16.1	29.4	mg/kg dry		15.9			1.40	20	
>C12-C28	43.9	29.4	"		73.0			49.7	20	
Surrogate: 1-Chlorooctane	*120*		*"*	*118*		*102*	*70-130*			
Surrogate: o-Terphenyl	*61.0*		*"*	*58.8*		*104*	*70-130*			

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

Project: NM State S#5 Tank Battery
Project Number: 18-0153-01
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.
R3	The RPD exceeded the acceptance limit due to sample matrix effects.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
BULK	Samples received in Bulk soil containers
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By: Brent Barron Date: 10/3/2018

Brent Barron, Laboratory Director/Technical Director

[redacted]

Nº 0320

CHAIN-OF-CUSTOD

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

DATE: 9-18-18 PAGE 1 OF 5

PO#: _____ LAB WORK ORDER#: 8I18022

PROJECT LOCATION OR NAME: NM State S #5 Tank Battery

LAI PROJECT #: 18-0153-01 COLLECTOR: Casey

Data Reported to:

TRRP report? ☐ Yes ☒ No

TIME ZONE: Time zone/State: MST

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

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

ANALYSES: BTEX ☒ MTBE ☐ | TRPH 418.1 ☐ | TPH 1005 ☐ TPH 1006 ☐ | GASOLINE MOD 8015 ☒ | DIESEL - MOD 8015 ☒ | OIL - MOD 8015 ☐ | VOC 8260 ☐ | SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐ | 8081 PESTICIDES ☐ 8151 HERBICIDES ☐ | 8082 PCBS ☐ | TBLP - METALS (RCRA) ☐ TCLP VOC ☐ | TCLP - PEST ☐ HERB ☐ Semi-VOC ☐ | TOTAL METALS (RCRA) ☐ OTHER LIST ☐ | LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐ | RCI ☐ TOX ☐ FLASHPOINT ☐ | TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐ | pH ☐ HEXAVALENT CHROMIUM ☐ | EXPLOSIVES ☐ PECHLORATE ☐ | CHLORIDES ☒ ANIONS ☐ ALKALINITY ☐

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESSERVED	FIELD NOTES
DP-1 (0-1)		9-17-18	9:45	S	1				X		
(1-2)			9:48								
(2-3)			9:53								
(3-4)			9:56								
(4-6)			10:04								
(6-8)			10:06								
(8-10)			10:08								
DP-2 (0-1)			10:13								
(1-2)			10:14								
(2-3)			10:17								
(3-4)			10:23								
(4-6)			10:34								
(6-8)			10:39								
DP-3 (0-1)			10:42								
(1-2)			10:46								
TOTAL											

RELINQUISHED BY:(Signature) DATE/TIME 9-18-18 RECEIVED BY: (Signature)

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

RELINQUISHED BY:(Signature) DATE/TIME 9-18-18 9:21 RECEIVED BY: (Signature) Ashley Ager

LABORATORY: PBEL

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

LABORATORY USE ONLY: M
RECEIVING TEMP: 1-2 THERM#: _____
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL # _____
☒ HAND DELIVERED

Nº 0321

CHAIN-OF-CUSTOD

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

DATE: 9-18-18 PAGE 2 OF 5

PO#: LAB WORK ORDER#: 8J18022

PROJECT LOCATION OR NAME: NM State S#5 Tank Battery

LAI PROJECT #: 18-0153-01 COLLECTOR: Casey

Data Reported to:

TRRP report? ☐ Yes ☒ No

TIME ZONE: Time zone/State: MST

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

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

ANALYSES: BTEX ☒ MTBE ☐ | TRPH 418.1 ☐ | TPH 1005 ☐ TPH 1006 ☐ | GASOLINE MOD 8015 ☒ | DIESEL - MOD 8015 ☒ | OIL - MOD 8015 ☐ | VOC 8260 ☐ | SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐ | 8081 PESTICIDES ☐ 8151 HERBICIDES ☐ | 8082 PCBS ☐ | TBLP - METALS (RCRA) ☐ TCLP VOC ☐ | TCLP - PEST ☐ HERB ☐ Semi-VOC ☐ | TOTAL METALS (RCRA) ☐ OTHER LIST ☐ | LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐ | RCI ☐ TOX ☐ FLASHPOINT ☐ | TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐ | pH ☐ HEXAVALENT CHROMIUM ☐ | EXPLOSIVES ☐ PECHLORATE ☐ | CHLORIDE ☒ ANIONS ☐ ALKALINITY ☐

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESSERVED	ANALYSES	FIELD NOTES
DP-3 (2-3)		9-17-18		S	1				X		CHLORIDE ☒	
(3-4)												
(4-6)												
(6-8)												
(8-10)												
DP-5 (0-1)											BTEX ☒ GASOLINE MOD 8015 ☒ DIESEL - MOD 8015 ☒	
(1-2)												
(2-3)												
(3-4)												
(4-6)												
(6-8)												
DP-7 (0-1)											BTEX ☒ GASOLINE MOD 8015 ☒ DIESEL - MOD 8015 ☒	
(1-2)												
(2-3)												
(3-4)					1				1		CHLORIDE ☒	
TOTAL												

RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)
[signature]	9-18-18	
RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)
RELINQUISHED BY:(Signature)	9-18-18 9:21	[signature]

LABORATORY: PBEL

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

LABORATORY USE ONLY:
RECEIVING TEMP: 1.2 °C THERM#:
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL #
☒ HAND DELIVERED

Nº 0322

CHAIN-OF-CUSTODY

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

DATE: 9-18-18 PAGE 3 OF 5

PO#: LAB WORK ORDER#: 8J18022

PROJECT LOCATION OR NAME: NM State S#5 Tank Battery

LAI PROJECT #: 18-0153-01 COLLECTOR: Casey

Data Reported to:

TRRP report? ☐ Yes ☒ No

TIME ZONE: Time zone/State: MST

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

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

ANALYSES: BTEX ☒ MTBE ☐ | TRPH 418.1 ☐ | TPH 1005 ☐ TPH 1006 ☐ | GASOLINE MOD 8015 ☒ | DIESEL - MOD 8015 ☒ | OIL - MOD 8015 ☒ | VOC 8260 ☐ | SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐ | 8081 PESTICIDES ☐ 8151 HERBICIDES ☐ | 8082 PCBS ☐ | TCLP - METALS (RCRA) ☐ TCLP VOC ☐ | TCLP - PEST ☐ HERB ☐ Semi-VOC ☐ | TOTAL METALS (RCRA) ☐ OTHER LIST ☐ | LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐ | RCI ☐ TOX ☐ FLASHPOINT ☐ | TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐ | pH ☐ HEXAVALENT CHROMIUM ☐ | EXPLOSIVES ☐ PECHLORATE ☐ | CHLORIDE ☒ ANIONS ☐ ALKALINITY ☐

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESSERVED	ANALYSES	FIELD NOTES
DP-7 (4-6)		9-17-18	11:52	S	1				X			
(6-8)			11:54									
DP-10 (0-1)			12:00								X X X X	
(1-2)			12:03									
(2-3)			12:06									
(3-4)			12:08									
(4-6)			12:10									
(6-8)			12:13									
DP-4 (0-1)			12:15								X X X X	
(1-2)			12:18									
(2-3)			12:20									
(3-4)			12:23									
(4-6)			12:25									
(6-8)			12:27									
(8-10)			12:28		1				1			
TOTAL												

RELINQUISHED BY:(Signature) DATE/TIME 9-18-18 RECEIVED BY: (Signature)

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

RELINQUISHED BY:(Signature) DATE/TIME 9-18-18 9:21 RECEIVED BY: (Signature)

LABORATORY: PBEL

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

LABORATORY USE ONLY:
RECEIVING TEMP: 1.2 +1 THERM#:
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL #
☒ HAND DELIVERED

№ 0323

CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants

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

Data Reported to:

DATE: 9-18-18 PAGE 4 OF 5

PO#: LAB WORK ORDER#: 81 18022

PROJECT LOCATION OR NAME: NM State S#5 Tank Battery

LAI PROJECT #: 18-0153-01 COLLECTOR: Lacy

TRRP report? ☐ Yes ☒ No

TIME ZONE: Time zone/State: MST

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

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

ANALYSES: BTEX ☒ MTBE ☐ | TRPH 418.1 ☐ | TPH 1005 ☐ TPH 1006 ☐ | GASOLINE MOD 8015 ☐ | DIESEL - MOD 8015 ☐ | OIL - MOD 8015 ☐ | VOC 8260 ☐ | SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐ | 8081 PESTICIDES ☐ 8151 HERBICIDES ☐ | 8082 PCBS ☐ | TCLP - METALS (RCRA) ☐ TCLP VOC ☐ | TCLP - PEST ☐ HERB ☐ Semi-VOC ☐ | TOTAL METALS (RCRA) ☐ OTHER LIST ☐ | LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐ | RCI ☐ TOX ☐ FLASHPOINT ☐ | TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐ | pH ☐ HEXAVALENT CHROMIUM ☐ | EXPLOSIVES ☐ PECHLORATE ☐ | CHLORIDE ☒ ANIONS ☐ ALKALINITY ☐

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESSERVED	BTEX ☒ MTBE ☐	TRPH 418.1 ☐	TPH 1005 ☐ TPH 1006 ☐	GASOLINE MOD 8015 ☐	DIESEL - MOD 8015 ☐	OIL - MOD 8015 ☐	VOC 8260 ☐	SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐	8081 PESTICIDES ☐ 8151 HERBICIDES ☐	8082 PCBS ☐	TCLP - METALS (RCRA) ☐ TCLP VOC ☐	TCLP - PEST ☐ HERB ☐ Semi-VOC ☐	TOTAL METALS (RCRA) ☐ OTHER LIST ☐	LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐	RCI ☐ TOX ☐ FLASHPOINT ☐	TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐	pH ☐ HEXAVALENT CHROMIUM ☐	EXPLOSIVES ☐ PECHLORATE ☐	CHLORIDE ☒ ANIONS ☐ ALKALINITY ☐	FIELD NOTES
DP-4 (10-12)		9-17-18	12:30	S	1				X																				X	
DP-9 (0-1)		9-18-18	8:59								X		X	X	X	X														
(1-2)			9:00																											
(2-3)			9:02																											
(3-4)			9:04																											
(4-5)			9:07																											
DP-11 (0-1)			9:10								X		X	X	X	X														
(1-2)			9:18																											
(2-3)			9:21																											
(3-4)			9:24																											
(4-5)			9:30																											
DP-8 (0-1)			10:22								X		X	X	X	X														
(1-2)			10:25																											
(2-3)			10:29																											
(3-4)			10:33																											
TOTAL																														

RELINQUISHED BY:(Signature) DATE/TIME 9-18-18 RECEIVED BY: (Signature)

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

RELINQUISHED BY:(Signature) DATE/TIME 9-19-18 4:22 RECEIVED BY: (Signature) Ashley Ager

LABORATORY: PBEL

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

LABORATORY USE ONLY:
RECEIVING TEMP: 1.2 / 1 THERM#:
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL #
☒ HAND DELIVERED

Nº 0324

CHAIN-OF-CUSTOD

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

DATE: 9-18-18 PAGE 5 OF 5

PO#: LAB WORK ORDER#: 81 18022

PROJECT LOCATION OR NAME: NM State S#5 Tank Battery

LAI PROJECT #: 18-0153-01 COLLECTOR: Casey

Data Reported to:

TRRP report? ☐ Yes ☒ No

TIME ZONE: Time zone/State: MST

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

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

ANALYSES: BTEX ☒ MTBE ☐ | TRPH 418.1 ☐ | TPH 1005 ☐ TPH 1006 ☐ | GASOLINE MOD 8015 ☒ | DIESEL - MOD 8015 ☒ | OIL - MOD 8015 ☐ | VOC 8260 ☐ | SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐ | 8081 PESTICIDES ☐ 8151 HERBICIDES ☐ | 8082 PCBS ☐ | TBLP - METALS (RCRA) ☐ TCLP VOC ☐ | TCLP - PEST ☐ HERB ☐ Semi-VOC ☐ | TOTAL METALS (RCRA) ☐ OTHER LIST ☐ | LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐ | RCI ☐ TOX ☐ FLASHPOINT ☐ | TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐ | pH ☐ HEXAVALENT CHROMIUM ☐ | EXPLOSIVES ☐ PECHLORATE ☐ | CHLORIDES ☒ ANIONS ☐ ALKALINITY ☐

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES	FIELD NOTES
DP-8 (4-5)		9-18-18	10:37	S	1				X			
DP-6 (0-1)			10:40								X XXX	
(1-2)			10:42									
(2-3)			10:45									
(3-4)			10:50									
(4-5)			10:58									
TOTAL												

RELINQUISHED BY:(Signature) DATE/TIME 9-18-18 RECEIVED BY: (Signature)

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

RELINQUISHED BY:(Signature) DATE/TIME 9-18-18 4:22 RECEIVED BY: (Signature) Ashley Ager

LABORATORY: PBEL

TURN AROUND TIME

NORMAL ☒

1 DAY ☐

2 DAY ☐

OTHER ☐

LABORATORY USE ONLY:

RECEIVING TEMP: 6.2 THERM#:

CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED

☐ CARRIER BILL #

☒ HAND DELIVERED

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

PBELAB

Analytical Report

Prepared for:

Mark Larson

Larson & Associates, Inc.

P.O. Box 50685

Midland, TX 79710

Project: New Mexico States #5 Battery

Project Number: 18-0153-01

Location:

Lab Order Number: 8K08005

NELAP ACCREDITED TNI LABORATORY

NELAP/TCEQ # T104704516-17-8

Report Date: 11/12/18

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

Project: New Mexico States #5 Battery
Project Number: 18-0153-01
Project Manager: Mark Larson

Fax: (432) 687-0456

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DP-11 (2')	8K08005-01	Soil	11/07/18 10:01	11-08-2018 09:15
DP-11 (4')	8K08005-02	Soil	11/07/18 10:06	11-08-2018 09:15
DP-11 (6')	8K08005-03	Soil	11/07/18 10:13	11-08-2018 09:15
DP-11 (8')	8K08005-04	Soil	11/07/18 10:24	11-08-2018 09:15
DP-11 (9')	8K08005-05	Soil	11/07/18 10:40	11-08-2018 09:15
DP-6 (2')	8K08005-06	Soil	11/07/18 10:59	11-08-2018 09:15
DP-6 (4')	8K08005-07	Soil	11/07/18 11:11	11-08-2018 09:15
DP-6 (6')	8K08005-08	Soil	11/07/18 11:20	11-08-2018 09:15
DP-6 (8')	8K08005-09	Soil	11/07/18 11:27	11-08-2018 09:15

DP-11 (2')

8K08005-01 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
General Chemistry Parameters by EPA / Standard Methods									
% Moisture	**11.0**	0.1	%	1	P8K0901	11/09/18	11/09/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	**180**	140	mg/kg dry	5	P8K0809	11/08/18	11/08/18	TPH 8015M	
>C12-C28	**1400**	140	mg/kg dry	5	P8K0809	11/08/18	11/08/18	TPH 8015M	
>C28-C35	**378**	140	mg/kg dry	5	P8K0809	11/08/18	11/08/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*110 %*	*70-130*		*P8K0809*	*11/08/18*	*11/08/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*118 %*	*70-130*		*P8K0809*	*11/08/18*	*11/08/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**1960**	140	mg/kg dry	5	[CALC]	11/08/18	11/08/18	calc	

Larson & Associates, Inc.	Project: New Mexico States #5 Battery	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 18-0153-01	
Midland TX, 79710	Project Manager: Mark Larson	

DP-11 (4')

8K08005-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
% Moisture	**14.0**	0.1	%	1	P8K0901	11/09/18	11/09/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	**395**	145	mg/kg dry	5	P8K0809	11/08/18	11/08/18	TPH 8015M	
>C12-C28	**1800**	145	mg/kg dry	5	P8K0809	11/08/18	11/08/18	TPH 8015M	
>C28-C35	**368**	145	mg/kg dry	5	P8K0809	11/08/18	11/08/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*112 %*	*70-130*		*P8K0809*	*11/08/18*	*11/08/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*114 %*	*70-130*		*P8K0809*	*11/08/18*	*11/08/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**2560**	145	mg/kg dry	5	[CALC]	11/08/18	11/08/18	calc	

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

Project: New Mexico States #5 Battery
Project Number: 18-0153-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP-11 (6')

8K08005-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
% Moisture	**12.0**	0.1	%	1	P8K0901	11/09/18	11/09/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	28.4	mg/kg dry	1	P8K0809	11/08/18	11/09/18	TPH 8015M	
>C12-C28	ND	28.4	mg/kg dry	1	P8K0809	11/08/18	11/09/18	TPH 8015M	
>C28-C35	ND	28.4	mg/kg dry	1	P8K0809	11/08/18	11/09/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*112 %*	*70-130*		*P8K0809*	*11/08/18*	*11/09/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*121 %*	*70-130*		*P8K0809*	*11/08/18*	*11/09/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	28.4	mg/kg dry	1	[CALC]	11/08/18	11/09/18	calc	

Larson & Associates, Inc.	Project: New Mexico States #5 Battery	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 18-0153-01	
Midland TX, 79710	Project Manager: Mark Larson	

DP-11 (8')

8K08005-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
% Moisture	**10.0**	0.1	%	1	P8K0901	11/09/18	11/09/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.8	mg/kg dry	1	P8K0809	11/08/18	11/09/18	TPH 8015M	
>C12-C28	**97.7**	27.8	mg/kg dry	1	P8K0809	11/08/18	11/09/18	TPH 8015M	
>C28-C35	ND	27.8	mg/kg dry	1	P8K0809	11/08/18	11/09/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*113 %*	*70-130*		*P8K0809*	*11/08/18*	*11/09/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*123 %*	*70-130*		*P8K0809*	*11/08/18*	*11/09/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**97.7**	27.8	mg/kg dry	1	[CALC]	11/08/18	11/09/18	calc	

Larson & Associates, Inc.	Project: New Mexico States #5 Battery	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 18-0153-01	
Midland TX, 79710	Project Manager: Mark Larson	

DP-11 (9')

8K08005-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
% Moisture	**10.0**	0.1	%	1	P8K0901	11/09/18	11/09/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.8	mg/kg dry	1	P8K0809	11/08/18	11/09/18	TPH 8015M	
>C12-C28	ND	27.8	mg/kg dry	1	P8K0809	11/08/18	11/09/18	TPH 8015M	
>C28-C35	ND	27.8	mg/kg dry	1	P8K0809	11/08/18	11/09/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*112 %*	*70-130*		*P8K0809*	*11/08/18*	*11/09/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*119 %*	*70-130*		*P8K0809*	*11/08/18*	*11/09/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	27.8	mg/kg dry	1	[CALC]	11/08/18	11/09/18	calc	

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

Project: New Mexico States #5 Battery
Project Number: 18-0153-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP-6 (2')

8K08005-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
% Moisture	**7.0**	0.1	%	1	P8K0901	11/09/18	11/09/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	26.9	mg/kg dry	1	P8K0809	11/08/18	11/09/18	TPH 8015M	
>C12-C28	**1450**	26.9	mg/kg dry	1	P8K0809	11/08/18	11/09/18	TPH 8015M	
>C28-C35	**506**	26.9	mg/kg dry	1	P8K0809	11/08/18	11/09/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*118 %*	*70-130*		*P8K0809*	*11/08/18*	*11/09/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*129 %*	*70-130*		*P8K0809*	*11/08/18*	*11/09/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**1960**	26.9	mg/kg dry	1	[CALC]	11/08/18	11/09/18	calc	

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

Project: New Mexico States #5 Battery
Project Number: 18-0153-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP-6 (4')

8K08005-07 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
% Moisture	**14.0**	0.1	%	1	P8K0901	11/09/18	11/09/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	29.1	mg/kg dry	1	P8K0809	11/08/18	11/09/18	TPH 8015M	
>C12-C28	**117**	29.1	mg/kg dry	1	P8K0809	11/08/18	11/09/18	TPH 8015M	
>C28-C35	**35.4**	29.1	mg/kg dry	1	P8K0809	11/08/18	11/09/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*115 %*	*70-130*		*P8K0809*	*11/08/18*	*11/09/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*123 %*	*70-130*		*P8K0809*	*11/08/18*	*11/09/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**153**	29.1	mg/kg dry	1	[CALC]	11/08/18	11/09/18	calc	

Larson & Associates, Inc.	Project: New Mexico States #5 Battery	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 18-0153-01	
Midland TX, 79710	Project Manager: Mark Larson	

DP-6 (6')

8K08005-08 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
% Moisture	**11.0**	0.1	%	1	P8K0901	11/09/18	11/09/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	28.1	mg/kg dry	1	P8K0809	11/08/18	11/09/18	TPH 8015M	
>C12-C28	**43.6**	28.1	mg/kg dry	1	P8K0809	11/08/18	11/09/18	TPH 8015M	
>C28-C35	ND	28.1	mg/kg dry	1	P8K0809	11/08/18	11/09/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*116 %*	*70-130*		*P8K0809*	*11/08/18*	*11/09/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*125 %*	*70-130*		*P8K0809*	*11/08/18*	*11/09/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**43.6**	28.1	mg/kg dry	1	[CALC]	11/08/18	11/09/18	calc	

Larson & Associates, Inc.	Project: New Mexico States #5 Battery	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 18-0153-01	
Midland TX, 79710	Project Manager: Mark Larson	

DP-6 (8')

8K08005-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
% Moisture	**25.0**	0.1	%	1	P8K0901	11/09/18	11/09/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	33.3	mg/kg dry	1	P8K0809	11/08/18	11/09/18	TPH 8015M	
>C12-C28	ND	33.3	mg/kg dry	1	P8K0809	11/08/18	11/09/18	TPH 8015M	
>C28-C35	ND	33.3	mg/kg dry	1	P8K0809	11/08/18	11/09/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*118 %*	*70-130*		*P8K0809*	*11/08/18*	*11/09/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*126 %*	*70-130*		*P8K0809*	*11/08/18*	*11/09/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	33.3	mg/kg dry	1	[CALC]	11/08/18	11/09/18	calc	

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

Project: New Mexico States #5 Battery
Project Number: 18-0153-01
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 P8K0901 - * DEFAULT PREP *** **										
Blank (P8K0901-BLK1)				Prepared & Analyzed: 11/09/18						
% Moisture	ND	0.1	%							
Duplicate (P8K0901-DUP1)		**Source: 8K08005-05**		Prepared & Analyzed: 11/09/18						
% Moisture	10.0	0.1	%		10.0			0.00	20	
Duplicate (P8K0901-DUP2)		**Source: 8K08011-10**		Prepared & Analyzed: 11/09/18						
% Moisture	10.0	0.1	%		10.0			0.00	20	
Duplicate (P8K0901-DUP3)		**Source: 8K08011-14**		Prepared & Analyzed: 11/09/18						
% Moisture	14.0	0.1	%		14.0			0.00	20	

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 P8K0809 - TX 1005										
Blank (P8K0809-BLK1)				Prepared & Analyzed: 11/08/18						
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	*110*		*"*	*100*		*110*	*70-130*			
Surrogate: o-Terphenyl	*60.0*		*"*	*50.0*		*120*	*70-130*			
LCS (P8K0809-BS1)				Prepared & Analyzed: 11/08/18						
C6-C12	816	25.0	mg/kg wet	1000		81.6	75-125			
>C12-C28	1060	25.0	"	1000		106	75-125			
Surrogate: 1-Chlorooctane	*128*		*"*	*100*		*128*	*70-130*			
Surrogate: o-Terphenyl	*63.8*		*"*	*50.0*		*128*	*70-130*			
LCS Dup (P8K0809-BSD1)				Prepared & Analyzed: 11/08/18						
C6-C12	818	25.0	mg/kg wet	1000		81.8	75-125	0.303	20	
>C12-C28	1080	25.0	"	1000		108	75-125	1.92	20	
Surrogate: 1-Chlorooctane	*127*		*"*	*100*		*127*	*70-130*			
Surrogate: o-Terphenyl	*62.8*		*"*	*50.0*		*126*	*70-130*			
Matrix Spike (P8K0809-MS1)	**Source: 8K08005-09**			Prepared: 11/08/18 Analyzed: 11/09/18						
C6-C12	1110	33.3	mg/kg dry	1330	20.7	82.0	75-125			
>C12-C28	1140	33.3	"	1330	30.7	82.9	75-125			
Surrogate: 1-Chlorooctane	*148*		*"*	*133*		*111*	*70-130*			
Surrogate: o-Terphenyl	*73.7*		*"*	*66.7*		*111*	*70-130*			
Matrix Spike Dup (P8K0809-MSD1)	**Source: 8K08005-09**			Prepared: 11/08/18 Analyzed: 11/09/18						
C6-C12	1190	33.3	mg/kg dry	1330	20.7	87.9	75-125	6.95	20	
>C12-C28	1240	33.3	"	1330	30.7	90.7	75-125	8.98	20	
Surrogate: 1-Chlorooctane	*165*		*"*	*133*		*124*	*70-130*			
Surrogate: o-Terphenyl	*80.8*		*"*	*66.7*		*121*	*70-130*			

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

Project: New Mexico States #5 Battery
Project Number: 18-0153-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Notes and Definitions

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

Report Approved By:  Date: 11/12/2018

Brent Barron, Laboratory Director/Technical Director

Nº 0152

CHAIN-OF-CUSTODY

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

DATE: 11/8/2018 PAGE 1 OF 1

PO#: LAB WORK ORDER#:

PROJECT LOCATION OR NAME: New Mexico States #5 Battery

LAI PROJECT #: 18-0153-01 COLLECTOR: RO

Data Reported to:

TRRP report? ☐ Yes ☒ No

TIME ZONE: Time zone/State: MST

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

#81C08005

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESSERVED	ANALYSES: BTEX ☐ MTBE ☐	TRPH 418.1 ☐	TPH 1005 ☐	TPH 1006 ☐	GASOLINE MOD 8015 ☒	DIESEL - MOD 8015 ☒	OIL - MOD 8015 ☒	VOC 8260 ☐	SVOC 8270 ☐	PAH 8270 ☐	HOLDPAH ☐	8081 PESTICIDES ☐	8082 PCBS ☐	8151 HERBICIDES ☐	TBLP - METALS (RCRA) ☐	TCLP VOC ☐	TCLP - PEST ☐	HERB ☐	TOTAL METALS (RCRA) ☐	Semi-VOC ☐	LEAD - TOTAL ☐	D.W. 200.8 ☐	OTHER LIST ☐	RCI ☐	TOX ☐	TCLP ☐	TDS ☐	TSS ☐	FLASHPOINT ☐	pH ☐	% MOISTURE ☐	HEXAVALENT CHROMIUM ☐	EXPLOSIVES ☐	CYANIDE ☐	CHLORIDE ☐	PECHLORATE ☐	ANIONS ☐	ALKALINITY ☐	FIELD NOTES
DP-11 (2')		11/7/18	10:01	S	1				X						X	X	X																														
(4')			10:06																																												
(6')			10:13																																												
(8')			10:24																																												
(9')			10:40																																												
DP-6 (2')			10:59																																											
(4')			11:11																																												
(6')			11:20																																												
(8')			11:27																																												
TOTAL				9	9				9						9	9	9																														

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

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

RELINQUISHED BY:(Signature) DATE/TIME 11-8-18 9:15 RECEIVED BY: (Signature) Ashley C

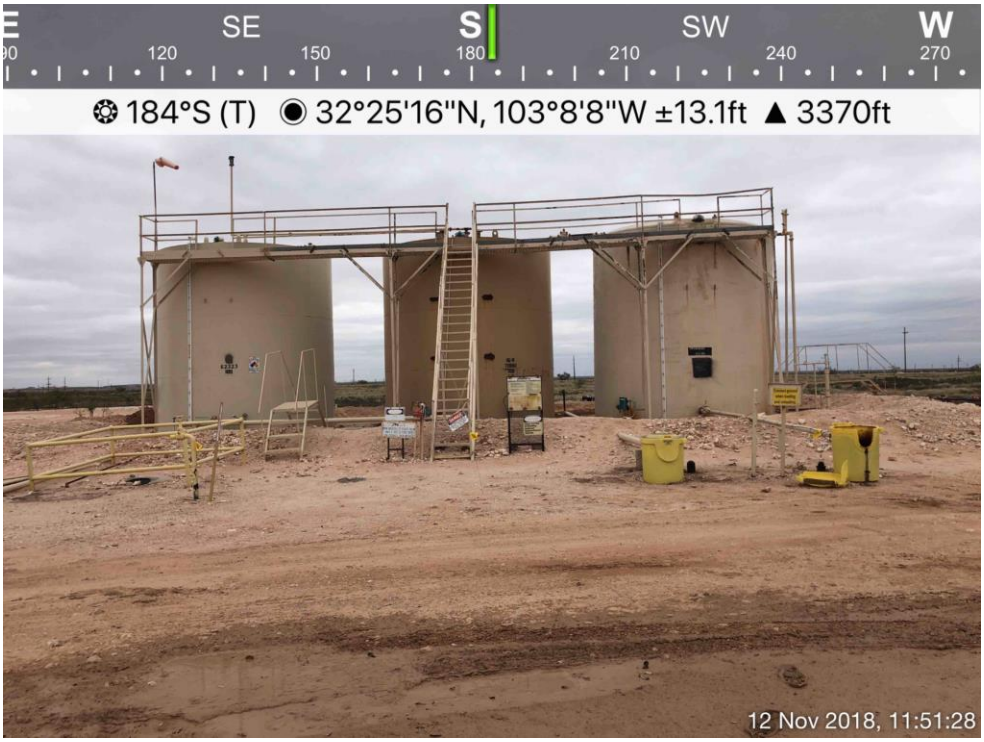
LABORATORY: PBEL

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

LABORATORY USE ONLY:
RECEIVING TEMP: 26 THERM#:
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL #
☒ HAND DELIVERED

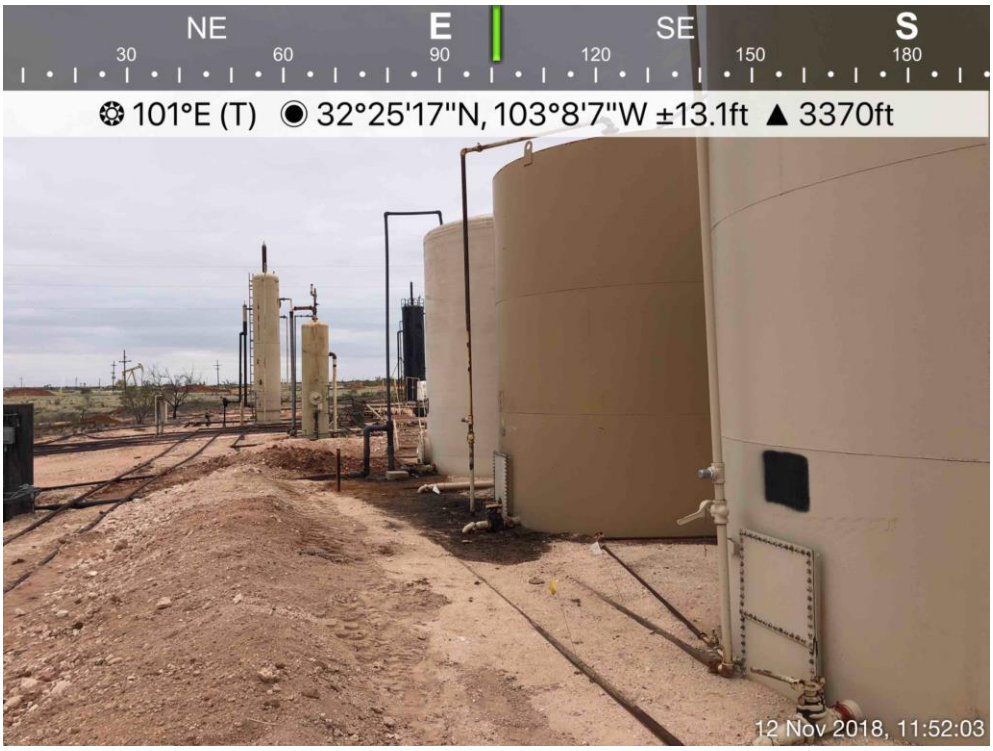
Appendix D

Photographs



New Mexico "S" State Tank Battery #5 Viewing East, November 12, 2018

Spill Area Viewing Southwest, June 28, 2018



Spill Area Viewing South, November 12, 2018

Spill Area Viewing Southeast, November 12, 2018