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	

Release Notification

Responsible Party

Responsible Party Legacy Reserves, L.P.	OGRID 240974
Contact Name Steven Dittman	Contact Telephone 432-312-4757
Contact email sdittman@legacylp.com	Incident # *(assigned by OCD)* 2RP-5244
Contact mailing address 303 West Wall Street, Suite 1300	

Location of Release Source

Latitude 32.57086° N Longitude -104.13790° W
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Indigo Federal #1	Site Type Tank Battery
Date Release Discovered November 13, 2018	API# *(if applicable)* 30-015-26478

Unit Letter	Section	Township	Range	County
E	13	20S	28E	Eddy

Surface Owner: ☐ 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) 29 bbls	Volume Recovered (bbls) 0 bbls
☒ Produced Water	Volume Released (bbls) 60 bbls	Volume Recovered (bbls) 0 bbls
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ 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

A leak formed in the heater treater.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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 greater than 25 bbls of liquid.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Larson and Associates personnel called Olivia Yu on 11/13/2018 at 15:41 MST.	

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: Steven Dittman Title: Production Foreman

Signature: Steven Dittman Date: 2/22/2019

email: sdittman@legacylp.com Telephone: 432-312-4757

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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?	140 (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

Incident ID	
District RP	
Facility ID	
Application ID	

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: Steven Dittman Title: Production Foreman

Signature: Steven Dittman Date: 2/22/2019

email: sdittman@legacylp.com Telephone: 432-312-4757

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
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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.*

- [ ] Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- [ ] Extents of contamination must be fully delineated.
- [ ] 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: Steven Dittman Title: Production Foreman

Signature: Steven Dittman Date: 2/22/2019

email: sdittman@legacylp.com Telephone: 432-312-4757

OCD Only

Received by: _____ Date: _____

- [ ] Approved
- [ ] Approved with Attached Conditions of Approval
- [ ] Denied
- [ ] Deferral Approved

Signature: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

[X] A scaled site and sampling diagram as described in 19.15.29.11 NMAC

[X] Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

[X] Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

[X] Description of remediation activities

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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Steven Dittman Title: Production Foreman

Signature: Date: 2/22/2019

email: sdittman@legacylp.com Telephone: 432-312-4757

OCD Only

Received by: Date:

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Date:

Printed Name: Title:

2RP-5244
CLOSURE REPORT
Indigo Federal #1
Crude Oil and Produced Water Spill
Eddy County, New Mexico

Latitude: N 32.57086°
Longitude: W -104.13790°

LAI Project No. 18-0138-05

October 10, 2019

Prepared for:
Legacy Reserves Operating, LP
303 West Wall Street, Suite 1300
Midland, Texas 79701

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

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

Rachel E. Owen
Sr. Geoscientist

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Table of Contents

Tables

Figures

Appendices

1.0 INTRODUCTION

Larson & Associates, Inc. (LAI) has prepared this closure report on behalf of Legacy Reserves, LP (Legacy) for submittal to the New Mexico Oil Conservation Division (OCD) District 2 for a crude oil and produced water spill at the Indigo Federal #1 Battery (Site) located in Unit E (SW/4, NW/4), Section 13, Township 20 South, Range 28 East in Eddy County, New Mexico. The geodetic position is North 32.57086° and West -104.13790°. Figure 1 presents a topographic map. Figure 2 presents an aerial map.

1.1 Background

The spill occurred on November 13, 2018, due to a malfunction in the heater treater. The release was initially reported as approximately 20 barrels (bbls) of crude oil and 40 bbls of produced water. However, upon evaluation of the aerial extent of the spill (2,826 ft^2), depth of penetration (1 to 2 feet vertical) and soil moisture content (14%), LAI calculated the spill volume at approximately 89 bbls with no liquid recovered. The spill is considered a major release due to the volume of released fluids greater than 25 bbls. LAI, on behalf of Legacy, called the spill into the OCD District 1 the same day (Olivia Yu, verbal communication, November 13, 2018, 15:41 MST). The initial C-141 was inadvertently submitted to OCD District 1 on November 21, 2018, and transferred to District 2 on December 20, 2018. The spill was assigned a remediation permit number of 2RP-5244. Appendix A presents the initial C-141. Appendix B presents OCD communications

1.2 Physical Setting

The physical setting is as follows:

- The surface elevation is approximately 3,255 feet above mean sea level (msl);
- The topography slopes gently towards the southwest;
- There are no surface water features within 1,000 feet of the Site;
- The soils are designated as “Gypsum land- Reeves complex, 0 to 3 percent slopes”;
- The surface geology consists of Piedmont Alluvial Deposits (Holocene to lower Pliocene);
- Groundwater occurs at approximately 140 feet below ground surface (bgs) based on Office of the New Mexico State Engineer (OSE) records for a well (CP 00525) located in Unit C (NE/4, NW/4), Section 14, Township 20 South, Range 28 East, approximately 0.91 miles or about 4,825 feet northwest of the Site.

1.3 Remediation 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 2,500 mg/Kg
- Chloride 10,000 mg/Kg

2.0 DELINEATION

On December 11 and 12, 2018, LAI personnel used direct push technology (DPT) to collect soil samples at six (6) locations inside of the spill area (DP-1, DP-3, DP-6 through DP-8) and at four (4) locations in

each cardinal direction (north, south, east and west) outside of the spill area (DP-2, DP-4, DP-5, and DP-9) for horizontal delineation. The samples were collected at 1 foot intervals to approximately 3 feet bgs. The soil samples were delivered under chain of custody and preservation to Xenco Laboratories (Xenco) in Midland, Texas. The upper samples (0 to 1 foot) were analyzed for benzene, toluene, ethylbenzene and xylenes (BTEX), total petroleum hydrocarbons (TPH), including gasoline range organics (C6-C12), diesel range organics (>C12-C28) and oil range organics (>C28-C35) by EPA SW-846 8021B and 8015M, respectively. All samples were analyzed for chloride by EPA Method 300. Figure 2 presents an aerial map showing the soil sample locations. Appendix C presents laboratory reports.

Benzene was reported below the OCD closure criteria in Table 1, 19.15.29 NMAC, for the upper (0 to 1 foot) samples. BTEX was reported above the OCD closure criteria (Table 1, 19.15.29 NMAC) of 50 milligrams per kilogram (mg/Kg) in the upper (0 to 1 foot) samples from DP-3 (100 mg/Kg) and DP-8(93.4 mg/Kg). TPH reported above the OCD closure criteria (Table 1, 19.15.29 NMAC) of 2,500 mg/Kg in the upper (0 to 1 foot) samples from DP-3 (124,000 mg/Kg), DP-6 (9,570 mg/Kg), DP-7(4,980 mg/Kg), and DP-8(54,700 mg/Kg). Chloride exceeded the OCD delineation limit of 600 mg/Kg in the deepest sample from DP-6, 1 to 2 feet bgs (1,350 mg/Kg) and required further delineation. Under the current rule (19.15.29.11(5)(C), delineation for chloride to 600 mg/Kg is not required where groundwater exceeds 100 feet in depth and the unrecovered portion of produced water is greater than 200 bbls therefore the release was delineated vertically for chloride.

On January 3, 2019, Superior Oilfield Services (SOS), under supervision from LAI, used a backhoe to collect additional soil samples from DP-3, DP-6, and DP-8. BTEX reported below the OCD closure criteria (50 mg/Kg) in samples DP-3, 2.5 feet bgs (<0.05059 mg/Kg) and DP-8, 2 feet bgs (0.0418 mg/Kg). Chloride reported below 600 mg/Kg at DP-6, 2 to 3 feet bgs (77.40 mg/Kg). Table 1 presents the laboratory analytical data summary. Appendix C presents laboratory reports.

3.0 REMEDIATION

Between January 29 and April 1, 2019, SOS, under supervision from LAI, excavated soil from the area encompassing DP-3 and DP-6 to approximately 3 feet bgs and around DP-7 and DP-8 to approximately 2 feet bgs. The excavations measured approximately 2,175 square feet collectively. Approximately 250 cubic yards of contaminated soil were disposed at R360 Halfway located between Hobbs and Carlsbad, New Mexico. Appendix D presents photographs. Appendix E presents the waste manifests.

LAI personnel collected five-point composite confirmation samples for approximately every 200 square feet of the excavation sidewalls and bottom. The samples were delivered under chain of custody and preservation to Permian Basin Environmental Lab (PBEL) and were analyzed for BTEX and TPH, including GRO (C6-C12), DRO (>C12-C28) and ORO (>C28-C35) by EPA SW-846 Methods 8021B and 8015M, respectively. Chloride was analyzed by Method 300. Table 1 presents the confirmation soil sample analytical data summary. Figure 3 presents the excavation areas and confirmation soil sample locations. Appendix C presents the laboratory report.

4.0 CLOSURE

All confirmation sample concentrations reported benzene, BTEX, TPH and chloride below the OCD closure criteria (Table 1, 19.15.29NMAC). Verbal notification of final sampling and backfill was given to Mr. Robert Hamlet with OCD on September 19, 2019, via voicemail. Since the release was contained to

the production pad, Legacy backfilled the excavation with clean caliche from a pit located approximately 5.4 miles southeast of the site. PBEL analyzed a sample of the backfill and reported chloride below 600 mg/Kg. Legacy requests closure for 2RP-5244. Table 2 presents the analytical data of the backfill material. Appendix C presents the laboratory report.

Tables

Table 1
Soil Sample Analytical Data Summary
Legacy Reserves, Indigo Federal
Lea County, New Mexico
18-0138-05

Sample	Depth (Feet)	Collection Date	Status	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	C6 - C35 (mg/Kg)	Chloride (mg/Kg)
RRAL				**10**	**50**				**2,500**	**10,000**
Delineation										
DP-1	0 - 1	12/11/2018	In-situ	0.00601	0.0563	61.5	1,100	66.1	1,230	7.34
DP-2	0 - 1	12/11/2018	In-situ	<0.00199	0.00598	<14.9	317	35.1	352	49.9
DP-3	0 - 1	12/11/2018	In-situ	2.54	100	36,800	82,800	4,860	124,000	999
	1 - 2	12/11/2018	In-situ	--	--	<14.9	173	38.0	211	6.36
	2.5	1/3/2019	In-situ	<0.00110	<0.05059	--	--	--	--	--
	4	3/21/2019	In-situ	--	--	--	--	--	--	50.3
DP-4	0 - 1	12/11/2018	In-situ	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	293
DP-5	0 - 1	12/12/2018	In-situ	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	119
DP-6	0 - 1	12/12/2018	In-situ	<0.200	33.4	1,720	7,330	522	9,570	5,510
	1 - 2	12/12/2018	In-situ	--	--	<14.9	61.9	17.5	79.4	1,350
	2 - 3	1/3/2019	In-situ	--	--	--	--	--	--	77.40
	4	3/21/2019	In-situ	--	--	--	--	--	--	178
DP-7	0 - 1	12/12/2018	In-situ	1.35	24.3	1,890	2,930	161	4,980	706
	1 - 2	12/12/2018	In-situ	--	--	<15.0	53.8	21.5	75.3	6.65
	4	3/21/2018	In-situ	--	--	--	--	--	--	195
DP-8	0 - 1	12/11/2018	In-situ	3.26	93.4	31,500	83,400	5,310	120,000	6,090
	1 - 2	12/11/2018	In-situ	--	--	19,300	32,700	2,690	54,700	487
	2	1/3/2019	In-situ	<0.00114	0.0418	--	--	--	--	--
	2 - 3	12/11/2018	In-situ	--	--	<15.0	37.8	19.1	56.9	--
	4	3/21/2019	In-situ	--	--	--	--	--	--	71.5
DP-9	0 - 1	12/11/2018	In-situ	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	26.5
DP-10	0 - 1	12/11/2018	In-situ	0.00989	0.0202	<15.0	<15.0	<15.0	<15.0	14.1

Method 8015M (TPH) and 300 (chloride)
Depth in feet below ground surface (bgs)
mg/Kg: milligrams per kilogram equivalent to parts per million (ppm)
Bold and highlited denote concentration above RRAL
Bold and highlited denote concentration above OCD delineation limit

Table 2
Confirmation Analytical Data Summary
Legacy Reserves, Indigo Federal
Lea County, New Mexico
18-0138-05

Sample	Collection Date	Status	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	C6 - C35 (mg/Kg)	Chloride (mg/Kg)
RRAL			**10**	**50**				**2,500**	**10,000**
Remediation									
DP-3.1 (Sidewall North)	1/29/2019	In-situ	<0.0215	<0.129	<26.9	35.3	<26.9	35.3	17.9
DP-3.2 (Sidewall East)	1/29/2019	In-situ	<0.00109	<0.00653	<27.2	<27.2	<27.2	<27.2	<1.09
DP-3.3 (Sidewall South)	1/29/2019	In-situ	<0.00141	<0.00846	<35.2	<35.2	<35.2	<35.2	45.9
DP-3.4 (Sidewall West)	1/29/2019	In-situ	<0.0256	<0.1537	<32.1	<32.1	<32.1	<32.1	9.10
DP-3.5 (Bottom)	1/29/2019	In-situ	<0.0241	<0.1446	<30.1	147	37.5	184	44.1
DP-6.1 (Sidewall North)	1/29/2019	Excavated	--	--	<28.4	<28.4	<28.4	<28.4	3,490
	3/21/2019	In-situ	<0.00127	<0.00761	<31.6	<31.6	<31.6	<31.6	14.5
DP-6.2 (Sidewall Southeast)	1/29/2019	In-situ	--	--	<28.1	52.7	<28.1	52.7	15.6
	3/21/2019	In-situ	<0.00114	<0.00683	--	--	--	--	--
DP-6.3 (Sidewall South)	1/29/2019	Excavated	--	--	<29.4	<29.4	<29.4	<29.4	1,770
	3/21/2019	Excavated	<0.00125	<0.0075	<31.2	<31.2	<31.2	<31.2	2,040
	9/24/2019	In-situ	--	--	--	--	--	--	1,790
DP-6.4 (Sidewall West)	1/29/2019	In-situ	--	--	<27.2	<27.2	<27.2	<27.2	29.2
	3/21/2019	In-situ	<0.00112	<0.00673	--	--	--	--	--
DP-6.5 (Bottom)	1/29/2019	In-situ	--	--	<27.8	<27.8	<27.8	<27.8	28.8
	3/21/2019	In-situ	<0.00112	<0.00673	--	--	--	--	--
DP-7.1 (Sidewall North)	1/29/2019	In-situ	--	--	<27.8	<27.8	<27.8	<27.8	38.3
	3/21/2019	In-situ	<0.00112	<0.00673	--	--	--	--	--
DP-7.3 (Sidewall South)	1/29/2019	In-situ	--	--	<28.1	62.2	<28.1	62.2	35.7
	3/21/2019	In-situ	<0.227	<0.5458	--	--	--	--	--
DP-7.4 (Bottom)	1/29/2019	In-situ	--	--	<28.7	37.0	<28.7	37.0	101
	3/21/2019	In-situ	<0.00120	<0.00721	--	--	--	--	--
DP-7.5 (Sidewall North)	4/2/2019	In-situ	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	39.1
DP-7.6 (Bottom)	4/2/2019	In-situ	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	102
DP-7.7 (Sidewall South)	4/2/2019	In-situ	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<9.98
DP-8.1 (Sidewall North)	1/29/2019	In-situ	<0.00110	<0.0066	<27.5	33.8	<27.5	33.8	11.4

Table 2
Confirmation Analytical Data Summary
Legacy Reserves, Indigo Federal
Lea County, New Mexico
18-0138-05

Sample	Collection Date	Status	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	C6 - C35 (mg/Kg)	Chloride (mg/Kg)
RRAL			**10**	**50**				**2,500**	**10,000**
DP-8.2 (Sidewall East)	1/29/2019	In-situ	<0.00123	<0.00739	<30.9	<30.9	<30.9	<30.9	2.75
DP-8.3 (Sidewall South)	1/29/2019	In-situ	<0.0250	<0.1500	<31.2	37.8	<31.2	37.8	9.42
DP-8.4 (Sidewall West)	1/29/2019	In-situ	<0.0244	0.1464	<30.5	130	<30.5	130	405
DP-8.5 (Bottom)	1/29/2019	In-situ	<0.0244	<0.1464	<30.5	138	<30.5	138	164
Caliche Backfill 1	9/24/2019	In-situ	--	--	--	--	--	--	138
Caliche Backfill 2	9/24/2019	In-situ	--	--	--	--	--	--	177
Caliche Backfill 3	9/24/2019	In-situ	--	--	--	--	--	--	194
Caliche Backfill 4	9/24/2019	In-situ	--	--	--	--	--	--	97.1

Method 8015M (TPH) and 300 (chloride)
Depth in feet below ground surface (bgs)
mg/Kg: milligrams per kilogram equivalent to parts per million (ppm)

Figures

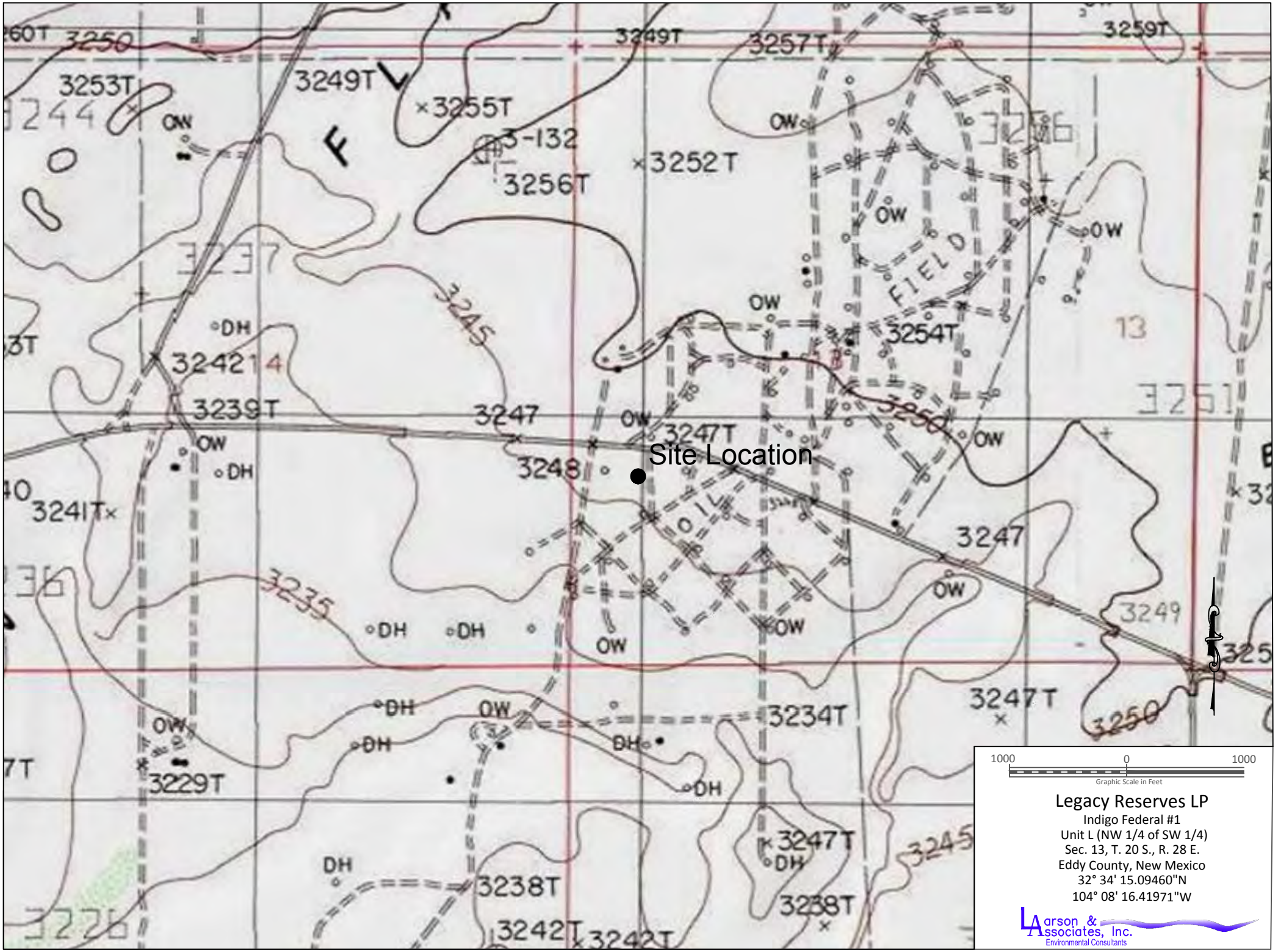

Figure 1 - Topographic Map

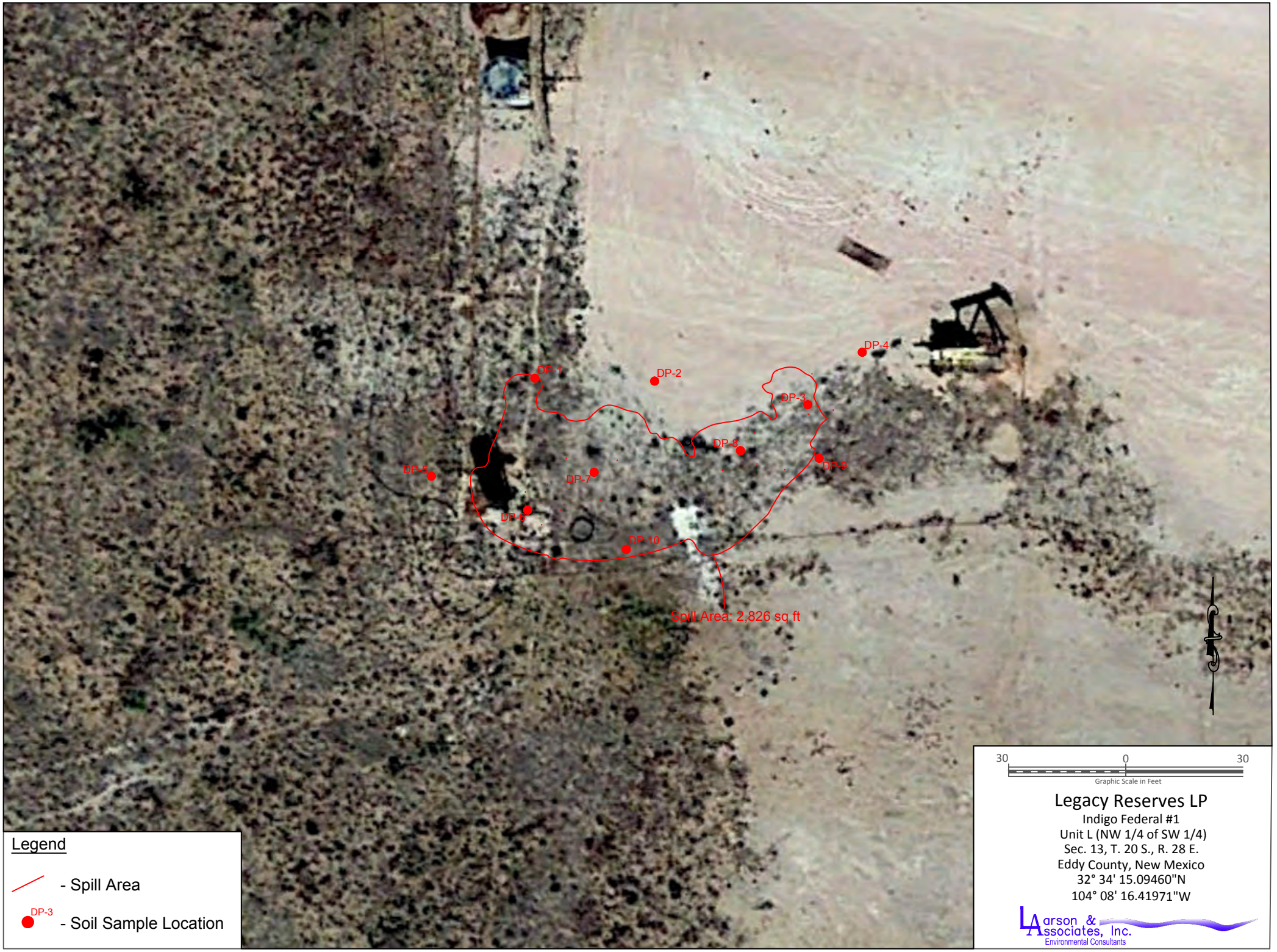

Figure 2 - Aerial Map Showing Soil Sample Locations

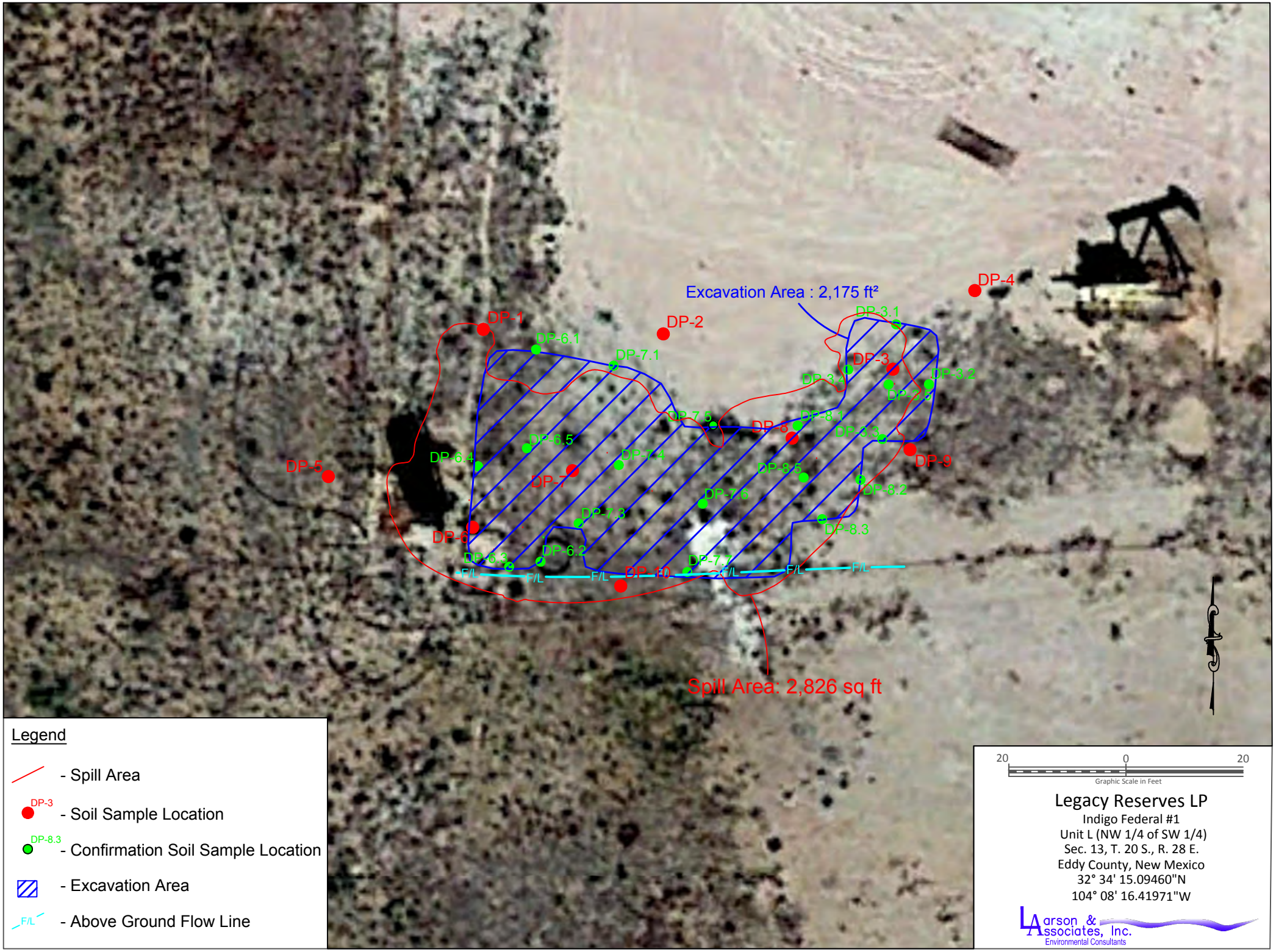

Figure 3 - Aerial Map Showing Excavation Location and Confirmation Soil Sample Locations

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 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	NAB1904938358
District RP	2RP-5244
Facility ID	
Application ID	pAB1904938019

Release Notification

Responsible Party

Responsible Party Legacy Reserves Operating, LP	OGRID 240974
Contact Name Brian Cunningham	Contact Telephone 432-234-9450
Contact email bcunningham@legacylp.com	Incident # *(assigned by OCD)* NAB1904938358
Contact mailing address 303 W. Wall St. Midland TX 79701	

Location of Release Source

Latitude 32.57086° N Longitude -104.13790° W

(NAD 83 in decimal degrees to 5 decimal places)

Site Name Indigo Federal #1	Site Type Tank Battery
Date Release Discovered November 13, 2018	API# *(if applicable)* 30-015-26478

Unit Letter	Section	Township	Range	County
E	13	20S	28E	Eddy

Surface Owner: ☐ 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) 20 bbls	Volume Recovered (bbls) 0 bbls
☒ Produced Water	Volume Released (bbls) 40 bbls	Volume Recovered (bbls) 0 bbls
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ 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

A leak formed in the heater treater.

State of New Mexico
Oil Conservation Division

Incident ID	NAB1904938358
District RP	2RP--5244
Facility ID	
Application ID	pAB1904938019

Was this a major release as defined by 19.15.29.7(A) NMAC? [X] Yes [ ] No	If YES, for what reason(s) does the responsible party consider this a major release? The release was greater than 25 bbls of liquid.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Larson and Associates personnel called Olivia Yu on 11/13/2018 at 15:41 MST.	

Initial Response

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

[X] The source of the release has been stopped.
[X] The impacted area has been secured to protect human health and the environment.
[X] Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
[X] 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: Brian Cunningham Title: Production Foreman

Signature: Brian Cunningham Date: 11/19/2018

email: bcunningham@legacylp.com Telephone: 432-234-9450

OCD Only

Received by: Amalia Barrameda Date: 2/18/2019

Appendix B

OCD Communications

Rachel Owen

From: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Sent: Thursday, December 20, 2018 10:32 AM
To: Mark Larson; 'bcunningham@legacylp.com'; Rachel Owen
Cc: Hamlet, Robert, EMNRD; Griswold, Jim, EMNRD
Subject: [Disarmed] C-141 for Indigo Fed 1 & Shugart A State 1

Good Morning all,

Christina in NMOCD District 1 has forwarded the following Form C-141's to the Artesia NMOCD District 2 office. Both of these releases are in Eddy County and will be administered by the District 2 office. Please note the dividing line for D1 and D2 is the Eddy/Lea County line. Range 31 and down is Eddy County. Range 32 and up is Lea County. The division is slightly different in Chaves County.

Indigo Federal 1 * Date of Release: 11/13/18 * **NOTE: No API number listed on form – If applicable, please provide that as soon as possible. If not applicable, please advise.**

Shugart A State 1 * 30-015-32438 * Date of Release: 11/14/18 * **NOTE: There are no release/recovery volumes listed on this C-141. This form can not be processed until that data is received. If the volume is unknown, that must be stated on the form.**

Please note that on the first page of the Form C-141, just under the heading "Nature and Volume of Release" the following:

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

Please provide that information for each release as soon as possible. Be advised that under the current spill rule (19.15.29 NMAC) effective August 14, 2018, there are time sensitive dates for various submittals. To remain in compliance with current rules, it is important to submit complete documents in a timely manner, and, to the correct NMOCD District office. Once District 2 receives the requested additional information, these forms will be processed. After processing, we will try to send you the OCD Tracking Number, but that number may also be searched for and viewed on the OCD Website.

For District 2, the current Environmental Specialist is Rob Hamlet. Please address environmental correspondence to him and continue to copy me as well. **NOTE:** Maria Pruett is no longer with the OCD.

Rob's email: robert.hamlet@state.nm.us

The current spill rule may be viewed here: **MailScanner warning: numerical links are often malicious:** http://164.64.110.134/parts/title19/19.015.0029.html

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

Thank you,

Mike Bratcher
NMOCD District 2
811 South First Street

Artesia, NM 88210
575-748-1283 Ext 108

Rachel Owen

From: Venegas, Victoria, EMNRD <Victoria.Venegas@state.nm.us>
Sent: Monday, February 18, 2019 11:51 AM
To: Rachel Owen; Bratcher, Mike, EMNRD; Hamlet, Robert, EMNRD
Cc: Mark Larson; bcunningham@legacylp.com
Subject: FW: Revised C-141, Indigo Federal #1, Legacy Reserves

Follow Up Flag: Follow up
Flag Status: Flagged

FW: Revised C-141, Indigo Federal #1, Legacy Reserves

All,
The OCD tracking number for this release event is **2RP-5244**.
Thank you,

Victoria Venegas
EMNRD
OCD-District II
811 S First St. Artesia
NM 88210

From: Bustamante, Amalia, EMNRD
Sent: Monday, February 18, 2019 10:46 AM
To: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Cc: Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Venegas, Victoria, EMNRD <Victoria.Venegas@state.nm.us>
Subject: RE: Revised C-141, Indigo Federal #1, Legacy Reserves

2RP-5244

Amalia Bustamante
Oil Conservation Division-District II

From: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Sent: Wednesday, February 13, 2019 2:28 PM
To: Bustamante, Amalia, EMNRD <Amalia.Bustamante@state.nm.us>
Cc: Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Venegas, Victoria, EMNRD <Victoria.Venegas@state.nm.us>
Subject: FW: Revised C-141, Indigo Federal #1, Legacy Reserves
Importance: High

We really missed this one.

From: Rachel Owen <rowen@laenvironmental.com>
Sent: Friday, December 21, 2018 2:19 PM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>
Cc: Mark Larson <Mark@laenvironmental.com>; bcunningham@legacylp.com; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Subject: [EXT] Revised C-141, Indigo Federal #1, Legacy Reserves
Importance: High

Good Afternoon Mr. Hamlet,

Larson & Associates, Inc. (LAI), on behalf of Legacy Reserves Operating L.P. (Legacy) submits the revised C-141 for a spill at the Indigo Federal #1 located in Eddy County, New Mexico. Please contact Brian Cunningham with Legacy at (432) 234-9450, Mark Larson, or myself if you have questions.

Respectfully,

Rachel Owen
Staff Geologist
Larson & Associates
Phone: 432.664.5357
Email: rowen@laenvironmental.com

Appendix C

Laboratory Reports

Certificate of Analysis Summary 608540

Larson and Associates, Inc., Midland, TX

Project Name: Indigo Federal #1

Project Id: 18-0138-05
Contact: Mark Larson
Project Location:

Date Received in Lab: Thu Dec-13-18 11:00 am
Report Date: 16-JAN-19
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	608540-001		608540-004		608540-007		608540-012		608540-013		608540-018	
	Field Id:	DP-4 (0'-1')		DP-2 (0'-1')		DP-9 (0'-1')		DP-3 (0'-1')		DP-3 (1'-2')		DP-8 (0'-1')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Dec-11-18 12:52		Dec-11-18 14:54		Dec-11-18 15:03		Dec-11-18 15:22		Dec-11-18 15:24		Dec-11-18 15:38	
BTEX by EPA 8021B	***Extracted:***	Dec-17-18 09:45		Dec-17-18 09:45		Dec-17-18 09:45		Dec-17-18 09:45				Dec-17-18 09:45	
	Analyzed:	Dec-17-18 11:55		Dec-17-18 12:17		Dec-17-18 13:00		Dec-17-18 19:49				Dec-17-18 20:11	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL			mg/kg	RL
Benzene		<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	2.54	0.998			3.26	0.996
Toluene		<0.00202	0.00202	0.00598	0.00199	<0.00201	0.00201	30.3	0.998			30.0	0.996
Ethylbenzene		<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	13.4	0.998			12.4	0.996
m,p-Xylenes		<0.00403	0.00403	<0.00398	0.00398	<0.00402	0.00402	40.5	2.00			35.6	1.99
o-Xylene		<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	13.5	0.998			12.1	0.996
Total Xylenes		<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	54.0	0.998			47.7	0.996
Total BTEX		<0.00202	0.00202	0.00598	0.00199	<0.00201	0.00201	100	0.998			93.4	0.996
Chloride by EPA 300	***Extracted:***	Dec-17-18 14:00		Dec-17-18 14:00		Dec-17-18 14:00		Dec-17-18 14:00		Dec-17-18 14:00		Dec-17-18 14:00	
	Analyzed:	Dec-17-18 18:43		Dec-17-18 19:01		Dec-18-18 08:57		Dec-17-18 19:44		Dec-17-18 19:56		Dec-17-18 19:50	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		293	49.7	49.9	49.9	26.5	4.96	999	50.0	6.36	4.96	6090	100
TPH by SW8015 Mod	***Extracted:***	Dec-13-18 17:00		Dec-13-18 17:00		Dec-13-18 17:00		Dec-13-18 17:00		Dec-13-18 17:00		Dec-13-18 17:00	
	Analyzed:	Dec-13-18 20:13		Dec-13-18 21:30		Dec-13-18 22:17		Dec-13-18 23:49		Dec-14-18 00:05		Dec-14-18 01:22	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<14.9	14.9	<15.0	15.0	36800	375	<14.9	14.9	31500	375
Diesel Range Organics (DRO)		<15.0	15.0	317	14.9	<15.0	15.0	82800	375	173	14.9	83400	375
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	35.1	14.9	<15.0	15.0	4860	375	38.0	14.9	5310	375
Total TPH		<15.0	15.0	352	14.9	<15.0	15.0	124000	375	211	14.9	120000	375

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 608540

Larson and Associates, Inc., Midland, TX

Project Name: Indigo Federal #1

Project Id: 18-0138-05
Contact: Mark Larson
Project Location:

Date Received in Lab: Thu Dec-13-18 11:00 am
Report Date: 16-JAN-19
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	608540-019		608540-020		608540-024		608540-028		608540-030		608540-031	
	Field Id:	DP-8 (1'-2')		DP-8 (2'-3')		DP-10 (0'-1')		DP-1 (0'-1')		DP-6 (0'-1')		DP-6 (1'-2')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Dec-11-18 15:41		Dec-11-18 15:43		Dec-11-18 15:52		Dec-11-18 12:52		Dec-12-18 12:52		Dec-12-18 12:52	
BTEX by EPA 8021B	***Extracted:***					Dec-17-18 09:45		Dec-17-18 09:45		Dec-17-18 09:45			
	Analyzed:					Dec-17-18 13:21		Dec-17-18 13:42		Dec-17-18 19:06			
	Units/RL:					mg/kg	RL	mg/kg	RL	mg/kg	RL		
Benzene						0.00989	0.00200	0.00601	0.00199	<0.200	0.200		
Toluene						0.0103	0.00200	0.0106	0.00199	4.01	0.200		
Ethylbenzene						<0.00200	0.00200	0.00405	0.00199	4.85	0.200		
m,p-Xylenes						<0.00401	0.00401	0.0206	0.00398	17.4	0.399		
o-Xylene						<0.00200	0.00200	0.0150	0.00199	7.10	0.200		
Total Xylenes						<0.00200	0.00200	0.0356	0.00199	24.5	0.200		
Total BTEX						0.0202	0.00200	0.0563	0.00199	33.4	0.200		
Chloride by EPA 300	***Extracted:***	Dec-17-18 14:00				Dec-17-18 14:00		Dec-17-18 14:00		Dec-17-18 14:00		Dec-17-18 14:00	
	Analyzed:	Dec-17-18 20:14				Dec-18-18 09:03		Dec-18-18 09:10		Dec-17-18 21:03		Dec-17-18 21:09	
	Units/RL:	mg/kg	RL			mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		487	5.00			14.1	4.97	7.34	4.97	5510	99.8	1350	25.0
TPH by SW8015 Mod	***Extracted:***	Dec-13-18 17:00		Dec-13-18 17:00		Dec-13-18 17:00		Dec-13-18 17:00		Dec-13-18 17:00		Dec-13-18 17:00	
	Analyzed:	Dec-14-18 01:38		Dec-14-18 01:53		Dec-13-18 21:30		Dec-13-18 22:32		Dec-13-18 23:03		Dec-13-18 23:34	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		19300	375	<15.0	15.0	<15.0	15.0	61.5	15.0	1720	74.8	<14.9	14.9
Diesel Range Organics (DRO)		32700	375	37.8	15.0	<15.0	15.0	1100	15.0	7330	74.8	61.9	14.9
Motor Oil Range Hydrocarbons (MRO)		2690	375	19.1	15.0	<15.0	15.0	66.1	15.0	522	74.8	17.5	14.9
Total TPH		54700	375	56.9	15.0	<15.0	15.0	1230	15.0	9570	74.8	79.4	14.9

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 608540

Larson and Associates, Inc., Midland, TX

Project Name: Indigo Federal #1

Project Id: 18-0138-05
Contact: Mark Larson
Project Location:

Date Received in Lab: Thu Dec-13-18 11:00 am
Report Date: 16-JAN-19
Project Manager: Kelsey Brooks

Analysis Requested											
	Lab Id:	608540-033		608540-034		608540-036					
	Field Id:	DP-7 (0'-1')		DP-7 (1'-2')		DP-5 (0'-1')					
	Depth:										
	Matrix:	SOIL		SOIL		SOIL					
	Sampled:	Dec-12-18 12:52		Dec-12-18 12:52		Dec-12-18 12:52					
BTEX by EPA 8021B	***Extracted:***	Dec-17-18 09:45				Dec-17-18 09:45					
	Analyzed:	Dec-17-18 19:27				Dec-17-18 14:25					
	Units/RL:	mg/kg	RL			mg/kg	RL				
Benzene		1.35	0.199			<0.00201	0.00201				
Toluene		8.81	0.199			<0.00201	0.00201				
Ethylbenzene		2.80	0.199			<0.00201	0.00201				
m,p-Xylenes		8.36	0.398			<0.00402	0.00402				
o-Xylene		3.01	0.199			<0.00201	0.00201				
Total Xylenes		11.4	0.199			<0.00201	0.00201				
Total BTEX		24.3	0.199			<0.00201	0.00201				
Chloride by EPA 300	***Extracted:***	Dec-17-18 14:00		Dec-28-18 12:30		Dec-17-18 15:30					
	Analyzed:	Dec-17-18 21:21		Dec-28-18 14:24		Dec-18-18 00:23					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		706	5.00	6.65	5.00	119	4.96				
TPH by SW8015 Mod	***Extracted:***	Dec-13-18 17:00		Dec-13-18 17:00		Dec-13-18 17:00					
	Analyzed:	Dec-14-18 00:05		Dec-14-18 00:20		Dec-14-18 00:51					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		1890	15.0	<15.0	15.0	<15.0	15.0				
Diesel Range Organics (DRO)		2930	15.0	53.8	15.0	<15.0	15.0				
Motor Oil Range Hydrocarbons (MRO)		161	15.0	21.5	15.0	<15.0	15.0				
Total TPH		4980	15.0	75.3	15.0	<15.0	15.0				

Kelsey Brooks
Project Manager

Analytical Report 608540

for

Larson and Associates, Inc.

Project Manager: Mark Larson

Indigo Federal #1

18-0138-05

16-JAN-19

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

16-JAN-19

Project Manager: **Mark Larson**
Larson and Associates, Inc.
P. O. Box 50685
Midland, TX 79710

Reference: XENCO Report No(s): **608540**
Indigo Federal #1
Project Address:

Mark Larson :

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 608540. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 608540 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 608540

Larson and Associates, Inc., Midland, TX

Indigo Federal #1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
DP-4 (0'-1')	S	12-11-18 12:52		608540-001
DP-2 (0'-1')	S	12-11-18 14:54		608540-004
DP-9 (0'-1')	S	12-11-18 15:03		608540-007
DP-3 (0'-1')	S	12-11-18 15:22		608540-012
DP-3 (1'-2')	S	12-11-18 15:24		608540-013
DP-8 (0'-1')	S	12-11-18 15:38		608540-018
DP-8 (1'-2')	S	12-11-18 15:41		608540-019
DP-8 (2'-3')	S	12-11-18 15:43		608540-020
DP-10 (0'-1')	S	12-11-18 15:52		608540-024
DP-1 (0'-1')	S	12-11-18 12:52		608540-028
DP-6 (0'-1')	S	12-12-18 12:52		608540-030
DP-6 (1'-2')	S	12-12-18 12:52		608540-031
DP-7 (0'-1')	S	12-12-18 12:52		608540-033
DP-7 (1'-2')	S	12-12-18 12:52		608540-034
DP-5 (0'-1')	S	12-12-18 12:52		608540-036
DP-4 (1'-2')	S	12-11-18 12:54		Not Analyzed
DP-4 (2'-3')	S	12-11-18 12:56		Not Analyzed
DP-2 (1'-2')	S	12-11-18 14:57		Not Analyzed
DP-2 (2'-3')	S	12-11-18 14:58		Not Analyzed
DP-9 (1'-2')	S	12-11-18 15:07		Not Analyzed
DP-9 (2'-3')	S	12-11-18 15:09		Not Analyzed
DP-9 (3'-4')	S	12-11-18 15:12		Not Analyzed
DP-9 (4'-6')	S	12-11-18 15:19		Not Analyzed
DP-3 (2'-3')	S	12-11-18 15:26		Not Analyzed
DP-3 (3'-4')	S	12-11-18 15:30		Not Analyzed
DP-3 (4'-6')	S	12-11-18 15:31		Not Analyzed
DP-3 (6'-7')	S	12-11-18 15:37		Not Analyzed
DP-8 (3'-4')	S	12-11-18 15:46		Not Analyzed
DP-8 (4'-6')	S	12-11-18 15:48		Not Analyzed
DP-8 (6'-8')	S	12-11-18 15:50		Not Analyzed
DP-10 (1'-2')	S	12-11-18 15:54		Not Analyzed
DP-10 (2'-3')	S	12-11-18 15:55		Not Analyzed
DP-10 (3'-4')	S	12-12-18 08:41		Not Analyzed
DP-1 (1'-2')	S	12-12-18 12:52		Not Analyzed
DP-6 (2'-3')	S	12-12-18 12:52		Not Analyzed
DP-7 (2'-3')	S	12-12-18 12:52		Not Analyzed
DP-5 (1'-2')	S	12-12-18 12:52		Not Analyzed
DP-5 (2'-3')	S	12-12-18 12:52		Not Analyzed
DP-5 (3'-4')	S	12-12-18 12:52		Not Analyzed

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3072893 TPH by SW8015 Mod
Motor Oil Range Hydrocarbons (MRO) RPD was outside laboratory control limits.
Samples in the analytical batch are: 608540-001, -004, -007, -012, -013, -018, -019, -020

Surrogate 1-Chlorooctane, Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 608540-012,608540-018,608540-019.

Batch: LBA-3073154 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Dilutions due to excessive hydrocarbons.

Batch: LBA-3073184 Chloride by EPA 300
Nitrite as N RPD was outside laboratory control limits.
Samples in the analytical batch are: 608540-001, -004, -006, -007, -012, -013, -018, -019, -024, -028, -030, -031, -032, -033

Lab Sample ID 608540-013 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD).
Chloride recovered below QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference.
Samples in the analytical batch are: 608540-001, -004, -006, -007, -012, -013, -018, -019, -024, -028, -030, -031, -032, -033.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analytical Results 608540

Larson and Associates, Inc., Midland, TX

Indigo Federal #1

Sample Id:	**DP-4 (0'-1')**	Matrix:	Soil	Date Received:	12.13.18 11.00
Lab Sample Id:	608540-001	Date Collected:	12.11.18 12.52		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	12.17.18 14.00	Basis:	Wet Weight
Seq Number:	3073184				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**293**	49.7	mg/kg	12.17.18 18.43		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	12.13.18 17.00	Basis:	Wet Weight
Seq Number:	3072893				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.13.18 20.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.13.18 20.13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.13.18 20.13	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.13.18 20.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	12.13.18 20.13	
o-Terphenyl	84-15-1	89	%	70-135	12.13.18 20.13	

Certificate of Analytical Results 608540

Larson and Associates, Inc., Midland, TX

Indigo Federal #1

Sample Id:	**DP-4 (0'-1')**	Matrix:	Soil	Date Received:	12.13.18 11.00
Lab Sample Id:	608540-001	Date Collected:	12.11.18 12.52		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	12.17.18 09.45	Basis:	Wet Weight
Seq Number:	3073154				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.17.18 11.55	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.17.18 11.55	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.17.18 11.55	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.17.18 11.55	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.17.18 11.55	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.17.18 11.55	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.17.18 11.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	12.17.18 11.55	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.17.18 11.55	

Certificate of Analytical Results 608540

Larson and Associates, Inc., Midland, TX

Indigo Federal #1

Sample Id:	**DP-2 (0'-1')**	Matrix:	Soil	Date Received:	12.13.18 11.00
Lab Sample Id:	608540-004	Date Collected:	12.11.18 14.54		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	12.17.18 14.00	Basis:	Wet Weight
Seq Number:	3073184				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**49.9**	49.9	mg/kg	12.17.18 19.01		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	12.13.18 17.00	Basis:	Wet Weight
Seq Number:	3072893				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	12.13.18 21.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	**317**	14.9	mg/kg	12.13.18 21.30		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**35.1**	14.9	mg/kg	12.13.18 21.30		1
Total TPH	PHC635	**352**	14.9	mg/kg	12.13.18 21.30		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	12.13.18 21.30	
o-Terphenyl	84-15-1	109	%	70-135	12.13.18 21.30	

Certificate of Analytical Results 608540

Larson and Associates, Inc., Midland, TX

Indigo Federal #1

Sample Id:	**DP-2 (0'-1')**	Matrix:	Soil	Date Received:	12.13.18 11.00
Lab Sample Id:	608540-004	Date Collected:	12.11.18 14.54		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	12.17.18 09.45	Basis:	Wet Weight
Seq Number:	3073154				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.17.18 12.17	U	1
Toluene	108-88-3	**0.00598**	0.00199	mg/kg	12.17.18 12.17		1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.17.18 12.17	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.17.18 12.17	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.17.18 12.17	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.17.18 12.17	U	1
Total BTEX		**0.00598**	0.00199	mg/kg	12.17.18 12.17		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.17.18 12.17	
4-Bromofluorobenzene	460-00-4	94	%	70-130	12.17.18 12.17	

Certificate of Analytical Results 608540

Larson and Associates, Inc., Midland, TX

Indigo Federal #1

Sample Id:	**DP-9 (0'-1')**	Matrix:	Soil	Date Received:	12.13.18 11.00
Lab Sample Id:	608540-007	Date Collected:	12.11.18 15.03		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	12.17.18 14.00	Basis:	Wet Weight
Seq Number:	3073184				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**26.5**	4.96	mg/kg	12.18.18 08.57		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	12.13.18 17.00	Basis:	Wet Weight
Seq Number:	3072893				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.13.18 22.17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.13.18 22.17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.13.18 22.17	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.13.18 22.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	12.13.18 22.17	
o-Terphenyl	84-15-1	102	%	70-135	12.13.18 22.17	

Certificate of Analytical Results 608540

Larson and Associates, Inc., Midland, TX

Indigo Federal #1

Sample Id:	**DP-9 (0'-1')**	Matrix:	Soil	Date Received:	12.13.18 11.00
Lab Sample Id:	608540-007	Date Collected:	12.11.18 15.03		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	12.17.18 09.45	Basis:	Wet Weight
Seq Number:	3073154				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.17.18 13.00	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.17.18 13.00	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.17.18 13.00	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.17.18 13.00	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.17.18 13.00	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	12.17.18 13.00	U	1
Total BTEX		<0.00201	0.00201	mg/kg	12.17.18 13.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	85	%	70-130	12.17.18 13.00	
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.17.18 13.00	

Certificate of Analytical Results 608540

Larson and Associates, Inc., Midland, TX

Indigo Federal #1

Sample Id:	**DP-3 (0'-1')**	Matrix:	Soil	Date Received:	12.13.18 11.00
Lab Sample Id:	608540-012	Date Collected:	12.11.18 15.22		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	12.17.18 14.00	Basis:	Wet Weight
Seq Number:	3073184				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**999**	50.0	mg/kg	12.17.18 19.44		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	12.13.18 17.00	Basis:	Wet Weight
Seq Number:	3072893				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**36800**	375	mg/kg	12.13.18 23.49		25
Diesel Range Organics (DRO)	C10C28DRO	**82800**	375	mg/kg	12.13.18 23.49		25
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**4860**	375	mg/kg	12.13.18 23.49		25
Total TPH	PHC635	**124000**	375	mg/kg	12.13.18 23.49		25

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	715	%	70-135	12.13.18 23.49	**
o-Terphenyl	84-15-1	438	%	70-135	12.13.18 23.49	**

Certificate of Analytical Results 608540

Larson and Associates, Inc., Midland, TX

Indigo Federal #1

Sample Id:	**DP-3 (0'-1')**	Matrix:	Soil	Date Received:	12.13.18 11.00
Lab Sample Id:	608540-012	Date Collected:	12.11.18 15.22		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	12.17.18 09.45	Basis:	Wet Weight
Seq Number:	3073154				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**2.54**	0.998	mg/kg	12.17.18 19.49		500
Toluene	108-88-3	**30.3**	0.998	mg/kg	12.17.18 19.49		500
Ethylbenzene	100-41-4	**13.4**	0.998	mg/kg	12.17.18 19.49		500
m,p-Xylenes	179601-23-1	**40.5**	2.00	mg/kg	12.17.18 19.49		500
o-Xylene	95-47-6	**13.5**	0.998	mg/kg	12.17.18 19.49		500
Total Xylenes	1330-20-7	**54.0**	0.998	mg/kg	12.17.18 19.49		500
Total BTEX		**100**	0.998	mg/kg	12.17.18 19.49		500

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	12.17.18 19.49	
1,4-Difluorobenzene	540-36-3	74	%	70-130	12.17.18 19.49	

Certificate of Analytical Results 608540

Larson and Associates, Inc., Midland, TX

Indigo Federal #1

Sample Id:	**DP-3 (1'-2')**	Matrix:	Soil	Date Received:	12.13.18 11.00
Lab Sample Id:	608540-013	Date Collected:	12.11.18 15.24		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	12.17.18 14.00	Basis:	Wet Weight
Seq Number:	3073184				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6.36**	4.96	mg/kg	12.17.18 19.56		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	12.13.18 17.00	Basis:	Wet Weight
Seq Number:	3072893				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	12.14.18 00.05	U	1
Diesel Range Organics (DRO)	C10C28DRO	**173**	14.9	mg/kg	12.14.18 00.05		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**38.0**	14.9	mg/kg	12.14.18 00.05		1
Total TPH	PHC635	**211**	14.9	mg/kg	12.14.18 00.05		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	12.14.18 00.05	
o-Terphenyl	84-15-1	100	%	70-135	12.14.18 00.05	

Certificate of Analytical Results 608540

Larson and Associates, Inc., Midland, TX

Indigo Federal #1

Sample Id:	**DP-8 (0'-1')**	Matrix:	Soil	Date Received:	12.13.18 11.00
Lab Sample Id:	608540-018	Date Collected:	12.11.18 15.38		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	12.17.18 14.00	Basis:	Wet Weight
Seq Number:	3073184				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6090**	100	mg/kg	12.17.18 19.50		20

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	12.13.18 17.00	Basis:	Wet Weight
Seq Number:	3072893				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**31500**	375	mg/kg	12.14.18 01.22		25
Diesel Range Organics (DRO)	C10C28DRO	**83400**	375	mg/kg	12.14.18 01.22		25
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**5310**	375	mg/kg	12.14.18 01.22		25
Total TPH	PHC635	**120000**	375	mg/kg	12.14.18 01.22		25

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	1071	%	70-135	12.14.18 01.22	**
o-Terphenyl	84-15-1	474	%	70-135	12.14.18 01.22	**

Certificate of Analytical Results 608540

Larson and Associates, Inc., Midland, TX

Indigo Federal #1

Sample Id:	**DP-8 (0'-1')**	Matrix:	Soil	Date Received:	12.13.18 11.00
Lab Sample Id:	608540-018	Date Collected:	12.11.18 15.38		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	12.17.18 09.45	Basis:	Wet Weight
Seq Number:	3073154				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**3.26**	0.996	mg/kg	12.17.18 20.11		500
Toluene	108-88-3	**30.0**	0.996	mg/kg	12.17.18 20.11		500
Ethylbenzene	100-41-4	**12.4**	0.996	mg/kg	12.17.18 20.11		500
m,p-Xylenes	179601-23-1	**35.6**	1.99	mg/kg	12.17.18 20.11		500
o-Xylene	95-47-6	**12.1**	0.996	mg/kg	12.17.18 20.11		500
Total Xylenes	1330-20-7	**47.7**	0.996	mg/kg	12.17.18 20.11		500
Total BTEX		**93.4**	0.996	mg/kg	12.17.18 20.11		500

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	74	%	70-130	12.17.18 20.11	
4-Bromofluorobenzene	460-00-4	78	%	70-130	12.17.18 20.11	

Certificate of Analytical Results 608540

Larson and Associates, Inc., Midland, TX

Indigo Federal #1

Sample Id:	**DP-8 (1'-2')**	Matrix:	Soil	Date Received:	12.13.18 11.00
Lab Sample Id:	608540-019	Date Collected:	12.11.18 15.41		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	12.17.18 14.00	Basis:	Wet Weight
Seq Number:	3073184				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**487**	5.00	mg/kg	12.17.18 20.14		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	12.13.18 17.00	Basis:	Wet Weight
Seq Number:	3072893				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**19300**	375	mg/kg	12.14.18 01.38		25
Diesel Range Organics (DRO)	C10C28DRO	**32700**	375	mg/kg	12.14.18 01.38		25
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**2690**	375	mg/kg	12.14.18 01.38		25
Total TPH	PHC635	**54700**	375	mg/kg	12.14.18 01.38		25

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	892	%	70-135	12.14.18 01.38	**
o-Terphenyl	84-15-1	818	%	70-135	12.14.18 01.38	**

Certificate of Analytical Results 608540

Larson and Associates, Inc., Midland, TX

Indigo Federal #1

Sample Id:	**DP-8 (2'-3')**	Matrix:	Soil	Date Received:	12.13.18 11.00
Lab Sample Id:	608540-020	Date Collected:	12.11.18 15.43		
Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	12.13.18 17.00	Basis:	Wet Weight
Seq Number:	3072893				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.14.18 01.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	**37.8**	15.0	mg/kg	12.14.18 01.53		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**19.1**	15.0	mg/kg	12.14.18 01.53		1
Total TPH	PHC635	**56.9**	15.0	mg/kg	12.14.18 01.53		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	12.14.18 01.53	
o-Terphenyl	84-15-1	101	%	70-135	12.14.18 01.53	

Certificate of Analytical Results 608540

Larson and Associates, Inc., Midland, TX

Indigo Federal #1

Sample Id:	**DP-10 (0'-1')**	Matrix:	Soil	Date Received:	12.13.18 11.00
Lab Sample Id:	608540-024	Date Collected:	12.11.18 15.52		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	12.17.18 14.00	Basis:	Wet Weight
Seq Number:	3073184				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14.1**	4.97	mg/kg	12.18.18 09.03		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	JUM			% Moisture:	
Analyst:	ARM	Date Prep:	12.13.18 17.00	Basis:	Wet Weight
Seq Number:	3073061				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.13.18 21.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.13.18 21.30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.13.18 21.30	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.13.18 21.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	12.13.18 21.30	
o-Terphenyl	84-15-1	91	%	70-135	12.13.18 21.30	

Certificate of Analytical Results 608540

Larson and Associates, Inc., Midland, TX

Indigo Federal #1

Sample Id:	**DP-10 (0'-1')**	Matrix:	Soil	Date Received:	12.13.18 11.00
Lab Sample Id:	608540-024	Date Collected:	12.11.18 15.52		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	12.17.18 09.45	Basis:	Wet Weight
Seq Number:	3073154				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.00989**	0.00200	mg/kg	12.17.18 13.21		1
Toluene	108-88-3	**0.0103**	0.00200	mg/kg	12.17.18 13.21		1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.17.18 13.21	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.17.18 13.21	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.17.18 13.21	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.17.18 13.21	U	1
Total BTEX		**0.0202**	0.00200	mg/kg	12.17.18 13.21		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	89	%	70-130	12.17.18 13.21	
1,4-Difluorobenzene	540-36-3	92	%	70-130	12.17.18 13.21	

Certificate of Analytical Results 608540

Larson and Associates, Inc., Midland, TX

Indigo Federal #1

Sample Id:	**DP-1 (0'-1')**	Matrix:	Soil	Date Received:	12.13.18 11.00
Lab Sample Id:	608540-028	Date Collected:	12.11.18 12.52		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	12.17.18 14.00	Basis:	Wet Weight
Seq Number:	3073184				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7.34**	4.97	mg/kg	12.18.18 09.10		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	JUM			% Moisture:	
Analyst:	ARM	Date Prep:	12.13.18 17.00	Basis:	Wet Weight
Seq Number:	3073061				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**61.5**	15.0	mg/kg	12.13.18 22.32		1
Diesel Range Organics (DRO)	C10C28DRO	**1100**	15.0	mg/kg	12.13.18 22.32		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**66.1**	15.0	mg/kg	12.13.18 22.32		1
Total TPH	PHC635	**1230**	15.0	mg/kg	12.13.18 22.32		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	12.13.18 22.32	
o-Terphenyl	84-15-1	107	%	70-135	12.13.18 22.32	

Certificate of Analytical Results 608540

Larson and Associates, Inc., Midland, TX

Indigo Federal #1

Sample Id:	**DP-1 (0'-1')**	Matrix:	Soil	Date Received:	12.13.18 11.00
Lab Sample Id:	608540-028	Date Collected:	12.11.18 12.52		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	12.17.18 09.45	Basis:	Wet Weight
Seq Number:	3073154				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.00601**	0.00199	mg/kg	12.17.18 13.42		1
Toluene	108-88-3	**0.0106**	0.00199	mg/kg	12.17.18 13.42		1
Ethylbenzene	100-41-4	**0.00405**	0.00199	mg/kg	12.17.18 13.42		1
m,p-Xylenes	179601-23-1	**0.0206**	0.00398	mg/kg	12.17.18 13.42		1
o-Xylene	95-47-6	**0.0150**	0.00199	mg/kg	12.17.18 13.42		1
Total Xylenes	1330-20-7	**0.0356**	0.00199	mg/kg	12.17.18 13.42		1
Total BTEX		**0.0563**	0.00199	mg/kg	12.17.18 13.42		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	92	%	70-130	12.17.18 13.42	
4-Bromofluorobenzene	460-00-4	124	%	70-130	12.17.18 13.42	

Certificate of Analytical Results 608540

Larson and Associates, Inc., Midland, TX

Indigo Federal #1

Sample Id:	**DP-6 (0'-1')**	Matrix:	Soil	Date Received:	12.13.18 11.00
Lab Sample Id:	608540-030	Date Collected:	12.12.18 12.52		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	12.17.18 14.00	Basis:	Wet Weight
Seq Number:	3073184				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5510**	99.8	mg/kg	12.17.18 21.03		20

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	JUM			% Moisture:	
Analyst:	ARM	Date Prep:	12.13.18 17.00	Basis:	Wet Weight
Seq Number:	3073061				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**1720**	74.8	mg/kg	12.13.18 23.03		5
Diesel Range Organics (DRO)	C10C28DRO	**7330**	74.8	mg/kg	12.13.18 23.03		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**522**	74.8	mg/kg	12.13.18 23.03		5
Total TPH	PHC635	**9570**	74.8	mg/kg	12.13.18 23.03		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	12.13.18 23.03	
o-Terphenyl	84-15-1	102	%	70-135	12.13.18 23.03	

Certificate of Analytical Results 608540

Larson and Associates, Inc., Midland, TX

Indigo Federal #1

Sample Id:	**DP-6 (0'-1')**	Matrix:	Soil	Date Received:	12.13.18 11.00
Lab Sample Id:	608540-030	Date Collected:	12.12.18 12.52		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	12.17.18 09.45	Basis:	Wet Weight
Seq Number:	3073154				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.200	0.200	mg/kg	12.17.18 19.06	U	100
Toluene	108-88-3	**4.01**	0.200	mg/kg	12.17.18 19.06		100
Ethylbenzene	100-41-4	**4.85**	0.200	mg/kg	12.17.18 19.06		100
m,p-Xylenes	179601-23-1	**17.4**	0.399	mg/kg	12.17.18 19.06		100
o-Xylene	95-47-6	**7.10**	0.200	mg/kg	12.17.18 19.06		100
Total Xylenes	1330-20-7	**24.5**	0.200	mg/kg	12.17.18 19.06		100
Total BTEX		**33.4**	0.200	mg/kg	12.17.18 19.06		100

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	128	%	70-130	12.17.18 19.06	
4-Bromofluorobenzene	460-00-4	122	%	70-130	12.17.18 19.06	

Certificate of Analytical Results 608540

Larson and Associates, Inc., Midland, TX

Indigo Federal #1

Sample Id:	**DP-6 (1'-2')**	Matrix:	Soil	Date Received:	12.13.18 11.00
Lab Sample Id:	608540-031	Date Collected:	12.12.18 12.52		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	12.17.18 14.00	Basis:	Wet Weight
Seq Number:	3073184				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1350**	25.0	mg/kg	12.17.18 21.09		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	JUM			% Moisture:	
Analyst:	ARM	Date Prep:	12.13.18 17.00	Basis:	Wet Weight
Seq Number:	3073061				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	12.13.18 23.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	**61.9**	14.9	mg/kg	12.13.18 23.34		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**17.5**	14.9	mg/kg	12.13.18 23.34		1
Total TPH	PHC635	**79.4**	14.9	mg/kg	12.13.18 23.34		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	12.13.18 23.34	
o-Terphenyl	84-15-1	92	%	70-135	12.13.18 23.34	

Certificate of Analytical Results 608540

Larson and Associates, Inc., Midland, TX

Indigo Federal #1

Sample Id:	**DP-7 (0'-1')**	Matrix:	Soil	Date Received:	12.13.18 11.00
Lab Sample Id:	608540-033	Date Collected:	12.12.18 12.52		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	12.17.18 14.00	Basis:	Wet Weight
Seq Number:	3073184				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**706**	5.00	mg/kg	12.17.18 21.21		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	JUM			% Moisture:	
Analyst:	ARM	Date Prep:	12.13.18 17.00	Basis:	Wet Weight
Seq Number:	3073061				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**1890**	15.0	mg/kg	12.14.18 00.05		1
Diesel Range Organics (DRO)	C10C28DRO	**2930**	15.0	mg/kg	12.14.18 00.05		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**161**	15.0	mg/kg	12.14.18 00.05		1
Total TPH	PHC635	**4980**	15.0	mg/kg	12.14.18 00.05		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	12.14.18 00.05	
o-Terphenyl	84-15-1	103	%	70-135	12.14.18 00.05	

Certificate of Analytical Results 608540

Larson and Associates, Inc., Midland, TX

Indigo Federal #1

Sample Id:	**DP-7 (0'-1')**	Matrix:	Soil	Date Received:	12.13.18 11.00
Lab Sample Id:	608540-033	Date Collected:	12.12.18 12.52		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	12.17.18 09.45	Basis:	Wet Weight
Seq Number:	3073154				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**1.35**	0.199	mg/kg	12.17.18 19.27		100
Toluene	108-88-3	**8.81**	0.199	mg/kg	12.17.18 19.27		100
Ethylbenzene	100-41-4	**2.80**	0.199	mg/kg	12.17.18 19.27		100
m,p-Xylenes	179601-23-1	**8.36**	0.398	mg/kg	12.17.18 19.27		100
o-Xylene	95-47-6	**3.01**	0.199	mg/kg	12.17.18 19.27		100
Total Xylenes	1330-20-7	**11.4**	0.199	mg/kg	12.17.18 19.27		100
Total BTEX		**24.3**	0.199	mg/kg	12.17.18 19.27		100

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	73	%	70-130	12.17.18 19.27	
1,4-Difluorobenzene	540-36-3	75	%	70-130	12.17.18 19.27	

Certificate of Analytical Results 608540

Larson and Associates, Inc., Midland, TX

Indigo Federal #1

Sample Id:	**DP-7 (1'-2')**	Matrix:	Soil	Date Received:	12.13.18 11.00
Lab Sample Id:	608540-034	Date Collected:	12.12.18 12.52		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	12.28.18 12.30	Basis:	Wet Weight
Seq Number:	3074470				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6.65**	5.00	mg/kg	12.28.18 14.24		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	JUM			% Moisture:	
Analyst:	ARM	Date Prep:	12.13.18 17.00	Basis:	Wet Weight
Seq Number:	3073061				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.14.18 00.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	**53.8**	15.0	mg/kg	12.14.18 00.20		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**21.5**	15.0	mg/kg	12.14.18 00.20		1
Total TPH	PHC635	**75.3**	15.0	mg/kg	12.14.18 00.20		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	12.14.18 00.20	
o-Terphenyl	84-15-1	90	%	70-135	12.14.18 00.20	

Certificate of Analytical Results 608540

Larson and Associates, Inc., Midland, TX

Indigo Federal #1

Sample Id:	**DP-5 (0'-1')**	Matrix:	Soil	Date Received:	12.13.18 11.00
Lab Sample Id:	608540-036	Date Collected:	12.12.18 12.52		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	12.17.18 15.30	Basis:	Wet Weight
Seq Number:	3073188				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**119**	4.96	mg/kg	12.18.18 00.23		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	JUM			% Moisture:	
Analyst:	ARM	Date Prep:	12.13.18 17.00	Basis:	Wet Weight
Seq Number:	3073061				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	12.14.18 00.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	12.14.18 00.51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	12.14.18 00.51	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.14.18 00.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	12.14.18 00.51	
o-Terphenyl	84-15-1	92	%	70-135	12.14.18 00.51	

Certificate of Analytical Results 608540

Larson and Associates, Inc., Midland, TX

Indigo Federal #1

Sample Id:	**DP-5 (0'-1')**	Matrix:	Soil	Date Received:	12.13.18 11.00
Lab Sample Id:	608540-036	Date Collected:	12.12.18 12.52		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	12.17.18 09.45	Basis:	Wet Weight
Seq Number:	3073154				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.17.18 14.25	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.17.18 14.25	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.17.18 14.25	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.17.18 14.25	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.17.18 14.25	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	12.17.18 14.25	U	1
Total BTEX		<0.00201	0.00201	mg/kg	12.17.18 14.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	112	%	70-130	12.17.18 14.25	
4-Bromofluorobenzene	460-00-4	87	%	70-130	12.17.18 14.25	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 608540

Larson and Associates, Inc.

Indigo Federal #1

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3073184 Matrix: Solid Date Prep: 12.17.18
MB Sample Id: 7668234-1-BLK LCS Sample Id: 7668234-1-BKS LCSD Sample Id: 7668234-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	273	109	263	105	90-110	4	20	mg/kg	12.17.18 18:12	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3073188 Matrix: Solid Date Prep: 12.17.18
MB Sample Id: 7668218-1-BLK LCS Sample Id: 7668218-1-BKS LCSD Sample Id: 7668218-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	271	108	269	108	90-110	1	20	mg/kg	12.17.18 21:51	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3074470 Matrix: Solid Date Prep: 12.28.18
MB Sample Id: 7668963-1-BLK LCS Sample Id: 7668963-1-BKS LCSD Sample Id: 7668963-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	246	98	260	104	90-110	6	20	mg/kg	12.28.18 13:53	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3073184 Matrix: Soil Date Prep: 12.17.18
Parent Sample Id: 608540-006 MS Sample Id: 608540-006 S MSD Sample Id: 608540-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	495	250	717	89	722	91	90-110	1	20	mg/kg	12.17.18 18:31	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3073184 Matrix: Soil Date Prep: 12.17.18
Parent Sample Id: 608540-013 MS Sample Id: 608540-013 S MSD Sample Id: 608540-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6.36	248	260	102	265	104	90-110	2	20	mg/kg	12.17.18 20:02	

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

QC Summary 608540

Larson and Associates, Inc.

Indigo Federal #1

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3073188 Matrix: Soil Date Prep: 12.17.18
Parent Sample Id: 608776-003 MS Sample Id: 608776-003 S MSD Sample Id: 608776-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.852	248	254	102	265	107	90-110	4	20	mg/kg	12.17.18 22:10	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3073188 Matrix: Soil Date Prep: 12.17.18
Parent Sample Id: 608779-002 MS Sample Id: 608779-002 S MSD Sample Id: 608779-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	20.8	248	283	106	289	108	90-110	2	20	mg/kg	12.17.18 23:41	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3074470 Matrix: Soil Date Prep: 12.28.18
Parent Sample Id: 609691-001 MS Sample Id: 609691-001 S MSD Sample Id: 609691-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	460	249	670	84	713	102	90-110	6	20	mg/kg	12.28.18 15:41	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3074470 Matrix: Soil Date Prep: 12.28.18
Parent Sample Id: 609860-001 MS Sample Id: 609860-001 S MSD Sample Id: 609860-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	21.2	250	292	108	299	111	90-110	2	20	mg/kg	12.28.18 14:12	X

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3072893 Matrix: Solid Date Prep: 12.13.18
MB Sample Id: 7668066-1-BLK LCS Sample Id: 7668066-1-BKS LCSD Sample Id: 7668066-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1050	105	1080	108	70-135	3	20	mg/kg	12.13.18 19:42	
Diesel Range Organics (DRO)	<8.13	1000	1250	125	1240	124	70-135	1	20	mg/kg	12.13.18 19:42	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	97		119		121		70-135	%	12.13.18 19:42
o-Terphenyl	88		98		101		70-135	%	12.13.18 19:42

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

QC Summary 608540

Larson and Associates, Inc.

Indigo Federal #1

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3073061 Matrix: Solid Date Prep: 12.13.18
MB Sample Id: 7668079-1-BLK LCS Sample Id: 7668079-1-BKS LCSD Sample Id: 7668079-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1090	109	1150	115	70-135	5	20	mg/kg	12.13.18 19:42	
Diesel Range Organics (DRO)	<8.13	1000	966	97	984	98	70-135	2	20	mg/kg	12.13.18 19:42	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	83		104		110		70-135	%	12.13.18 19:42
o-Terphenyl	84		87		89		70-135	%	12.13.18 19:42

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3072893 Matrix: Soil Date Prep: 12.13.18
Parent Sample Id: 608540-001 MS Sample Id: 608540-001 S MSD Sample Id: 608540-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	998	1050	105	1080	108	70-135	3	20	mg/kg	12.13.18 20:28	
Diesel Range Organics (DRO)	12.2	998	1200	119	1230	122	70-135	2	20	mg/kg	12.13.18 20:28	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	119		121		70-135	%	12.13.18 20:28
o-Terphenyl	99		98		70-135	%	12.13.18 20:28

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3073061 Matrix: Soil Date Prep: 12.13.18
Parent Sample Id: 608540-021 MS Sample Id: 608540-021 S MSD Sample Id: 608540-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	998	1140	114	1180	118	70-135	3	20	mg/kg	12.13.18 20:28	
Diesel Range Organics (DRO)	14.5	998	959	95	992	98	70-135	3	20	mg/kg	12.13.18 20:28	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	108		112		70-135	%	12.13.18 20:28
o-Terphenyl	87		87		70-135	%	12.13.18 20:28

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

QC Summary 608540

Larson and Associates, Inc.

Indigo Federal #1

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3073154 Matrix: Solid Date Prep: 12.17.18

MB Sample Id: 7668228-1-BLK LCS Sample Id: 7668228-1-BKS LCSD Sample Id: 7668228-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0984	98	0.0925	92	70-130	6	35	mg/kg	12.17.18 09:47	
Toluene	<0.00200	0.100	0.0871	87	0.0818	81	70-130	6	35	mg/kg	12.17.18 09:47	
Ethylbenzene	<0.00200	0.100	0.104	104	0.0956	95	70-130	8	35	mg/kg	12.17.18 09:47	
m,p-Xylenes	<0.00400	0.200	0.211	106	0.195	97	70-130	8	35	mg/kg	12.17.18 09:47	
o-Xylene	<0.00200	0.100	0.102	102	0.0942	93	70-130	8	35	mg/kg	12.17.18 09:47	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		129		124		70-130	%	12.17.18 09:47
4-Bromofluorobenzene	92		101		91		70-130	%	12.17.18 09:47

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3073154 Matrix: Soil Date Prep: 12.17.18

Parent Sample Id: 608540-001 MS Sample Id: 608540-001 S MSD Sample Id: 608540-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0764	77	0.0909	91	70-130	17	35	mg/kg	12.17.18 10:31	
Toluene	<0.00199	0.0996	0.0694	70	0.0840	84	70-130	19	35	mg/kg	12.17.18 10:31	
Ethylbenzene	<0.00199	0.0996	0.0795	80	0.0985	99	70-130	21	35	mg/kg	12.17.18 10:31	
m,p-Xylenes	<0.00398	0.199	0.157	79	0.190	95	70-130	19	35	mg/kg	12.17.18 10:31	
o-Xylene	<0.00199	0.0996	0.0764	77	0.0933	93	70-130	20	35	mg/kg	12.17.18 10:31	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	123		123		70-130	%	12.17.18 10:31
4-Bromofluorobenzene	98		105		70-130	%	12.17.18 10:31

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike

Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added

LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec

Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

№ 0472

606540

CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants

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

Data Reported to:

DATE: 12/13/18 PAGE 1 OF 3

PO#: LAB WORK ORDER#:

PROJECT LOCATION OR NAME: Indigo Federal #1

LAI PROJECT #: 18-0138-07 COLLECTOR: KO/CB

TRRP report? ☐ Yes ☒ No

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

TIME ZONE: Time zone/State: MST

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES: BTEX ☒ MTBE ☐	TRPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐	GASOLINE MOD 8015 ☑	DIESEL - MOD 8015 ☑	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 NOTES
DP-4 (0'-1')		12/11/18	12:52	S	1				X		X		X	X	X													X	Analyze
(1'-2')			12:54																										chloride
(2'-3')			12:56																										until
DP-2 (0'-1')			14:54								X																		delineation
(1'-2')			14:57																										limit is
(2'-3')			14:58																										reached
DP-9 (0'-1')			15:03								X																		600mg/kg
(1'-2')			15:05																										
(2'-3')			15:07																										Analyze
(3'-4')			15:09																										TPH
(4'-6')			15:12																										until
DP-3 (0-1')			15:19								X																		delineation
(1'-2')			15:22																										limit is
(2-3')			15:24																										reached
(3'-4')			15:26																										(2,500 mg/kg
TOTAL																													

RELINQUISHED BY:(Signature) DATE/TIME 12/13/2018 11:00 RECEIVED BY: (Signature)

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

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

LABORATORY: XENCO

TURN AROUND TIME

NORMAL ☒
1 DAY ☐
2 DAY ☐
OTHER ☐

LABORATORY USE ONLY

RECEIVING TEMP: 1.3/1.2 THERM#: 18

CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED

☐ CARRIER BILL #

☑ HAND DELIVERED

№ 0473

608540

CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants

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

Data Reported to:

DATE: 12/13/18 PAGE 2 OF 3

PO#: LAB WORK ORDER#:

PROJECT LOCATION OR NAME: Indigo Federal #1

LAI PROJECT #: 18-0138-05 COLLECTOR: KO/CB

TRRP report? ☐ Yes ☒ No

TIME ZONE: Time zone/State: MST

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

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESSERVED	ANALYSES: BTEX ☒ MTBE ☐	TRPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐	GASOLINE MOD 8015 ☑ ORO ☑	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 ☐ M300	FIELD NOTES
DP-3 (4'-6')		12/11/18	15:30	S	1				X				X	X	X													X	Analyze chloride until delineation limit reached (600 mg/kg)
(6'-7')			15:31																										
DP-8 (0'-1')			15:37								X																		
(1'-2')			15:38																										
(2'-3')			15:41																										
(3'-4')			15:43																										
(4'-6')			15:46																										
(6'-8')			15:48																										
DP-10 (0'-1')			15:50								X																		Analyze TPH until delineation limit's reached (2,500 mg/kg)
(1'-2')			15:52																										
(2'-3')			15:54																										
(3'-4')			15:55																										
DP-1 (0'-1')		12/12/18	8:41								X																		
(1'-2')			8:45																										
DP-6 (0'-1')			9:21								X																		
TOTAL																													

RELINQUISHED BY:(Signature) 12/13/18 DATE/TIME 11:00 RECEIVED BY:(Signature)

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

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

LABORATORY: XENCO

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

LABORATORY USE ONLY:
RECEIVING TEMP: 1.3/1.2 THERM#: KB
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL #
☑ HAND DELIVERED

1.002

№ 0474

1008540

CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants

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

Data Reported to:

DATE: 12/13/2018 PAGE 3 OF 3
PO#: LAB WORK ORDER#:
PROJECT LOCATION OR NAME: Indigo Federal
LAI PROJECT #: 18-0138-05 COLLECTOR: KO/CB

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 ☒ ORO; 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 ☒ M300 ANIONS ☐ ALKALINITY ☐

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	ICE	BTEX	GASOLINE MOD 8015	DIESEL - MOD 8015	OIL - MOD 8015	CHLORIDE	FIELD NOTES
DP-6 (1'-2')		12/12/18	9:28	S	1	X		X	X	X	X	Analyze chloride until delineation limit is reached (600 mg/kg)
(2'-3')			9:32									
DP-7 (0'-1')			9:55				X					
(1'-2')			9:56									
(2'-3')			9:58									
DP-5 (0'-1')			10:23				X					Analyze TPH until delineation limit is reached (2500 mg/kg)
(1'-2')			10:25									
(2'-3')			10:26									
(3'-4')			10:28									

TOTAL

RELINQUISHED BY:(Signature) [signature] DATE/TIME 12/13/18 11:00 RECEIVED BY: (Signature) [signature]

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

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

LABORATORY: XENCO

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

LABORATORY USE ONLY:
RECEIVING TEMP: 1.3/1.2 THERM#: 18
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL #
☑ HAND DELIVERED

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Larson and Associates, Inc.

Date/ Time Received: 12/13/2018 11:00:00 AM

Work Order #: 608540

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.2
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**N/A**
#18 Water VOC samples have zero headspace?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:

PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 12/13/2018

Brianna Teel

Checklist reviewed by: Kelsey Brooks Date: 12/14/2018

Kelsey Brooks

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

PBELAB

Revised Analytical Report

Prepared for:

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

Project: Indigo Federal #1
Project Number: 18-0138-05
Location:

Lab Order Number: 9A04001

NELAP/TCEQ # T104704516-17-8

Report Date: 01/11/19

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

Project: Indigo Federal #1
Project Number: 18-0138-05
Project Manager: Mark Larson

Fax: (432) 687-0456

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DP-3 (2.5')	9A04001-01	Soil	01/03/19 11:25	01-03-2019 08:25
DP-8 (2')	9A04001-02	Soil	01/03/19 11:43	01-03-2019 08:25
DP-8 (3')	9A04001-03	Soil	01/03/19 11:55	01-03-2019 08:25
DP-6 (2')	9A04001-04	Soil	01/03/19 12:31	01-03-2019 08:25

PBELAB staff was informed the Sample ID DP-3 (2-5') Should actually be DP-3 (2.5'). This report reflects those changes.

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

Project: Indigo Federal #1
Project Number: 18-0138-05
Project Manager: Mark Larson

Fax: (432) 687-0456

DP-3 (2.5')

9A04001-01 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00110	mg/kg dry	1	P9A0702	01/07/19	01/07/19	EPA 8021B	
Toluene	ND	0.0110	mg/kg dry	1	P9A0702	01/07/19	01/07/19	EPA 8021B	
Ethylbenzene	ND	0.00549	mg/kg dry	1	P9A0702	01/07/19	01/07/19	EPA 8021B	
Xylene (p/m)	ND	0.0220	mg/kg dry	1	P9A0702	01/07/19	01/07/19	EPA 8021B	
Xylene (o)	ND	0.0110	mg/kg dry	1	P9A0702	01/07/19	01/07/19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*113 %*	*75-125*		*P9A0702*	*01/07/19*	*01/07/19*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*90.3 %*	*75-125*		*P9A0702*	*01/07/19*	*01/07/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
% Moisture	**9.0**	0.1	%	1	P9A0705	01/07/19	01/07/19	ASTM D2216	

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Midland TX, 79710

Project: Indigo Federal #1
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DP-8 (2')

9A04001-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00114	mg/kg dry	1	P9A0702	01/07/19	01/07/19	EPA 8021B	
Toluene	ND	0.0114	mg/kg dry	1	P9A0702	01/07/19	01/07/19	EPA 8021B	
Ethylbenzene	ND	0.00568	mg/kg dry	1	P9A0702	01/07/19	01/07/19	EPA 8021B	
Xylene (p/m)	ND	0.0227	mg/kg dry	1	P9A0702	01/07/19	01/07/19	EPA 8021B	
Xylene (o)	**0.0418**	0.0114	mg/kg dry	1	P9A0702	01/07/19	01/07/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*79.8 %*	*75-125*		*P9A0702*	*01/07/19*	*01/07/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*110 %*	*75-125*		*P9A0702*	*01/07/19*	*01/07/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
% Moisture	**12.0**	0.1	%	1	P9A0705	01/07/19	01/07/19	ASTM D2216	

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DP-8 (3')

9A04001-03 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.0238	mg/kg dry	20	P9A0702	01/07/19	01/07/19	EPA 8021B	
Toluene	ND	0.238	mg/kg dry	20	P9A0702	01/07/19	01/07/19	EPA 8021B	
Ethylbenzene	ND	0.119	mg/kg dry	20	P9A0702	01/07/19	01/07/19	EPA 8021B	
Xylene (p/m)	ND	0.476	mg/kg dry	20	P9A0702	01/07/19	01/07/19	EPA 8021B	
Xylene (o)	ND	0.238	mg/kg dry	20	P9A0702	01/07/19	01/07/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*84.3 %*	*75-125*		*P9A0702*	*01/07/19*	*01/07/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*98.9 %*	*75-125*		*P9A0702*	*01/07/19*	*01/07/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
% Moisture	**16.0**	0.1	%	1	P9A0705	01/07/19	01/07/19	ASTM D2216	

Larson & Associates, Inc.	Project: Indigo Federal #1	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 18-0138-05	
Midland TX, 79710	Project Manager: Mark Larson	

DP-6 (2')

9A04001-04 (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	**77.4**	5.68	mg/kg dry	5	P9A0805	01/08/19	01/09/19	EPA 300.0	
% Moisture	**12.0**	0.1	%	1	P9A0705	01/07/19	01/07/19	ASTM D2216	

Larson & Associates, Inc.
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Midland TX, 79710

Project: Indigo Federal #1
Project Number: 18-0138-05
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Fax: (432) 687-0456

Organics by GC - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P9A0702 - General Preparation (GC)										
Blank (P9A0702-BLK1)				Prepared & Analyzed: 01/07/19						
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: 1,4-Difluorobenzene	*0.0528*		*"*	*0.0600*		*87.9*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0663*		*"*	*0.0600*		*110*	*75-125*			
LCS (P9A0702-BS1)				Prepared & Analyzed: 01/07/19						
Benzene	0.118	0.00100	mg/kg wet	0.100		118	70-130			
Toluene	0.119	0.0100	"	0.100		119	70-130			
Ethylbenzene	0.105	0.00500	"	0.100		105	70-130			
Xylene (p/m)	0.217	0.0200	"	0.200		108	70-130			
Xylene (o)	0.113	0.0100	"	0.100		113	70-130			
Surrogate: 1,4-Difluorobenzene	*0.0622*		*"*	*0.0600*		*104*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0658*		*"*	*0.0600*		*110*	*75-125*			
LCS Dup (P9A0702-BSD1)				Prepared & Analyzed: 01/07/19						
Benzene	0.113	0.00100	mg/kg wet	0.100		113	70-130	4.08	20	
Toluene	0.117	0.0100	"	0.100		117	70-130	1.65	20	
Ethylbenzene	0.115	0.00500	"	0.100		115	70-130	9.48	20	
Xylene (p/m)	0.201	0.0200	"	0.200		100	70-130	7.58	20	
Xylene (o)	0.117	0.0100	"	0.100		117	70-130	2.89	20	
Surrogate: 4-Bromofluorobenzene	*0.0642*		*"*	*0.0600*		*107*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.0617*		*"*	*0.0600*		*103*	*75-125*			
Matrix Spike (P9A0702-MS1)		**Source: 9A03004-02**		Prepared & Analyzed: 01/07/19						
Benzene	0.0971	0.00106	mg/kg dry	0.106	ND	91.3	80-120			
Toluene	0.0909	0.0106	"	0.106	ND	85.4	80-120			
Ethylbenzene	0.0999	0.00532	"	0.106	ND	93.9	80-120			
Xylene (p/m)	0.151	0.0213	"	0.213	ND	70.8	80-120			QM-05
Xylene (o)	0.0836	0.0106	"	0.106	ND	78.6	80-120			QM-05
Surrogate: 1,4-Difluorobenzene	*0.0695*		*"*	*0.0638*		*109*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0746*		*"*	*0.0638*		*117*	*75-125*			

Organics by GC - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P9A0702 - General Preparation (GC)										
Matrix Spike Dup (P9A0702-MSD1)		**Source: 9A03004-02**		Prepared & Analyzed: 01/07/19						
Benzene	0.103	0.00106	mg/kg dry	0.106	ND	96.7	80-120	5.74	20	
Toluene	0.0982	0.0106	"	0.106	ND	92.3	80-120	7.73	20	
Ethylbenzene	0.109	0.00532	"	0.106	ND	102	80-120	8.37	20	
Xylene (p/m)	0.162	0.0213	"	0.213	ND	75.9	80-120	6.92	20	QM-05
Xylene (o)	0.0917	0.0106	"	0.106	ND	86.2	80-120	9.25	20	
Surrogate: 1,4-Difluorobenzene	*0.0687*		*"*	*0.0638*		*108*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0738*		*"*	*0.0638*		*116*	*75-125*			

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

Project: Indigo Federal #1
Project Number: 18-0138-05
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 P9A0705 - * DEFAULT PREP *** **										
Blank (P9A0705-BLK1)				Prepared & Analyzed: 01/07/19						
% Moisture	ND	0.1	%							
Duplicate (P9A0705-DUP1)		**Source: 9A04001-10**		Prepared & Analyzed: 01/07/19						
% Moisture	6.0	0.1	%		5.0			18.2	20	
Batch P9A0805 - * DEFAULT PREP *** **										
Blank (P9A0805-BLK1)				Prepared & Analyzed: 01/08/19						
Chloride	ND	1.00	mg/kg wet							
LCS (P9A0805-BS1)				Prepared & Analyzed: 01/08/19						
Chloride	377	1.00	mg/kg wet	400		94.2	80-120			
LCS Dup (P9A0805-BSD1)				Prepared & Analyzed: 01/08/19						
Chloride	370	1.00	mg/kg wet	400		92.5	80-120	1.78	20	
Duplicate (P9A0805-DUP1)		**Source: 9A03016-09**		Prepared & Analyzed: 01/08/19						
Chloride	2470	55.6	mg/kg dry		2470			0.158	20	
Duplicate (P9A0805-DUP2)		**Source: 9A03018-07**		Prepared & Analyzed: 01/08/19						
Chloride	365	1.02	mg/kg dry		480			27.1	20	
Matrix Spike (P9A0805-MS1)		**Source: 9A03016-09**		Prepared & Analyzed: 01/08/19						
Chloride	7690	55.6	mg/kg dry	5560	2470	94.0	80-120			

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Notes and Definitions

QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
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: 1/11/2019

Brent Barron, Laboratory Director/Technical Director

Nº 0548

CHAIN-OF-CUSTODY

Larson & Associates, Inc. Environmental Consultants

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

Data Reported to:

DATE: 01/04/19 PAGE 1 OF 1
PO#: LAB WORK ORDER#: 9A04001
PROJECT LOCATION OR NAME: Indigo Federal #1
LAI PROJECT #: 18-0138-05 COLLECTOR: RO

TRRP report? ☐ Yes ☒ No

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

TIME ZONE: Time zone/State: MST

#9A04001

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 ☐ (M300)

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESSERVED	BTEX	CHLORIDES	FIELD NOTES
DP-3 (2.5')		01/03/19	11:25	S	1				X		X	RO X	[redacted]
DP-8 (2')		|	11:43	|	|				|		X	RO –	[redacted]
(3')		|	11:55	|	|				|		X	RO –	[redacted]
DP-6 (2')		|	12:31	|	|				|			X	[redacted]
(4')		|	12:45	|	|				|			|	
(6')		|	13:00	|	|				|			|	
(8')		|	13:11	|	|				|			|	
(10')		|	13:23	|	|				|			|	
(12')		|	13:44	|	|				|			|	
(13')		⊥	13:54	⊥	⊥				⊥			⊥	

TOTAL

RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)
Rachel Owen	01/03/19 8:25	
RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)
RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)

LABORATORY: PBEL 01/03/19 825

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

LABORATORY USE ONLY: CFI
RECEIVING TEMP: 3.5/4.5 THERM#: L2
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL #
☐ HAND DELIVERED

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

PBELAB

Revised Analytical Report

Prepared for:

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

Project: Indigo Federal #1
Project Number: 18-0138-05
Location:

Lab Order Number: 9A30001

NELAP/TCEQ # T104704516-18-9

Report Date: 03/01/19

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

Project: Indigo Federal #1
Project Number: 18-0138-05
Project Manager: Mark Larson

Fax: (432) 687-0456

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DP-3.1 (1.5')	9A30001-01	Soil	01/29/19 13:33	01-30-2019 09:30
DP-3.2 (1.5')	9A30001-02	Soil	01/29/19 13:34	01-30-2019 09:30
DP-3.3 (1.5')	9A30001-03	Soil	01/29/19 13:40	01-30-2019 09:30
DP-3.4 (1.5')	9A30001-04	Soil	01/29/19 13:42	01-30-2019 09:30
DP-3.5 (3')	9A30001-05	Soil	01/29/19 13:46	01-30-2019 09:30
DP-8.1 (1.5')	9A30001-06	Soil	01/29/19 13:49	01-30-2019 09:30
DP-8.2 (1.5')	9A30001-07	Soil	01/29/19 13:52	01-30-2019 09:30
DP-8.3 (1.5')	9A30001-08	Soil	01/29/19 13:55	01-30-2019 09:30
DP-8.4 (1.5')	9A30001-09	Soil	01/29/19 13:59	01-30-2019 09:30
DP-8.5 (3')	9A30001-10	Soil	01/29/19 14:19	01-30-2019 09:30
DP-7.1 (1')	9A30001-11	Soil	01/29/19 15:27	01-30-2019 09:30
DP-7.2 (1')	9A30001-12	Soil	01/29/19 15:29	01-30-2019 09:30
DP-7.3 (1')	9A30001-13	Soil	01/29/19 15:30	01-30-2019 09:30
DP-7.4 (2')	9A30001-14	Soil	01/29/19 15:32	01-30-2019 09:30
DP-6.1 (1')	9A30001-15	Soil	01/29/19 15:32	01-30-2019 09:30
DP-6.2 (1')	9A30001-16	Soil	01/29/19 15:37	01-30-2019 09:30
DP-6.3 (1')	9A30001-17	Soil	01/29/19 15:39	01-30-2019 09:30
DP-6.4 (1')	9A30001-18	Soil	01/29/19 15:40	01-30-2019 09:30
DP-6.5 (2')	9A30001-19	Soil	01/29/19 15:43	01-30-2019 09:30

Larson & Associates, Inc.
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Project Manager: Mark Larson

Fax: (432) 687-0456

DP-3.1 (1.5')

9A30001-01 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.0215	mg/kg dry	20	P9A3103	01/31/19	02/01/19	EPA 8021B	
Toluene	ND	0.0215	mg/kg dry	20	P9A3103	01/31/19	02/01/19	EPA 8021B	
Ethylbenzene	ND	0.0215	mg/kg dry	20	P9A3103	01/31/19	02/01/19	EPA 8021B	
Xylene (p/m)	ND	0.0430	mg/kg dry	20	P9A3103	01/31/19	02/01/19	EPA 8021B	
Xylene (o)	ND	0.0215	mg/kg dry	20	P9A3103	01/31/19	02/01/19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*86.3 %*	*75-125*		*P9A3103*	*01/31/19*	*02/01/19*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*103 %*	*75-125*		*P9A3103*	*01/31/19*	*02/01/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**17.9**	1.08	mg/kg dry	1	P9B2801	02/27/19	02/28/19	EPA 300.0	O-04
% Moisture	**7.0**	0.1	%	1	P9B0412	02/04/19	02/04/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	26.9	mg/kg dry	1	P9B0103	02/01/19	02/01/19	TPH 8015M	
>C12-C28	**35.3**	26.9	mg/kg dry	1	P9B0103	02/01/19	02/01/19	TPH 8015M	
>C28-C35	ND	26.9	mg/kg dry	1	P9B0103	02/01/19	02/01/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*104 %*	*70-130*		*P9B0103*	*02/01/19*	*02/01/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*114 %*	*70-130*		*P9B0103*	*02/01/19*	*02/01/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**35.3**	26.9	mg/kg dry	1	[CALC]	02/01/19	02/01/19	calc	

Larson & Associates, Inc.	Project: Indigo Federal #1	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 18-0138-05	
Midland TX, 79710	Project Manager: Mark Larson	

DP-3.2 (1.5')

9A30001-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00109	mg/kg dry	1	P9A3103	01/31/19	02/01/19	EPA 8021B	
Toluene	ND	0.00109	mg/kg dry	1	P9A3103	01/31/19	02/01/19	EPA 8021B	
Ethylbenzene	ND	0.00109	mg/kg dry	1	P9A3103	01/31/19	02/01/19	EPA 8021B	
Xylene (p/m)	ND	0.00217	mg/kg dry	1	P9A3103	01/31/19	02/01/19	EPA 8021B	
Xylene (o)	ND	0.00109	mg/kg dry	1	P9A3103	01/31/19	02/01/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*101 %*	*75-125*		*P9A3103*	*01/31/19*	*02/01/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*111 %*	*75-125*		*P9A3103*	*01/31/19*	*02/01/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	ND	1.09	mg/kg dry	1	P9B2801	02/27/19	02/28/19	EPA 300.0	O-04
% Moisture	**8.0**	0.1	%	1	P9B0412	02/04/19	02/04/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.2	mg/kg dry	1	P9B0103	02/01/19	02/02/19	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P9B0103	02/01/19	02/02/19	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P9B0103	02/01/19	02/02/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*107 %*	*70-130*		*P9B0103*	*02/01/19*	*02/02/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*117 %*	*70-130*		*P9B0103*	*02/01/19*	*02/02/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	02/01/19	02/02/19	calc	

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Midland TX, 79710	Project Manager: Mark Larson	

DP-3.3 (1.5')

9A30001-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00141	mg/kg dry	1	P9A3103	01/31/19	02/01/19	EPA 8021B	
Toluene	ND	0.00141	mg/kg dry	1	P9A3103	01/31/19	02/01/19	EPA 8021B	
Ethylbenzene	ND	0.00141	mg/kg dry	1	P9A3103	01/31/19	02/01/19	EPA 8021B	
Xylene (p/m)	ND	0.00282	mg/kg dry	1	P9A3103	01/31/19	02/01/19	EPA 8021B	
Xylene (o)	ND	0.00141	mg/kg dry	1	P9A3103	01/31/19	02/01/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*100 %*	*75-125*		*P9A3103*	*01/31/19*	*02/01/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*96.0 %*	*75-125*		*P9A3103*	*01/31/19*	*02/01/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**45.9**	1.41	mg/kg dry	1	P9B2801	02/27/19	02/28/19	EPA 300.0	O-04
% Moisture	**29.0**	0.1	%	1	P9B0412	02/04/19	02/04/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	35.2	mg/kg dry	1	P9B0103	02/01/19	02/02/19	TPH 8015M	
>C12-C28	ND	35.2	mg/kg dry	1	P9B0103	02/01/19	02/02/19	TPH 8015M	
>C28-C35	ND	35.2	mg/kg dry	1	P9B0103	02/01/19	02/02/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*112 %*	*70-130*		*P9B0103*	*02/01/19*	*02/02/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*122 %*	*70-130*		*P9B0103*	*02/01/19*	*02/02/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	35.2	mg/kg dry	1	[CALC]	02/01/19	02/02/19	calc	

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DP-3.4 (1.5')

9A30001-04 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.0256	mg/kg dry	20	P9A3103	01/31/19	02/01/19	EPA 8021B	
Toluene	ND	0.0256	mg/kg dry	20	P9A3103	01/31/19	02/01/19	EPA 8021B	
Ethylbenzene	ND	0.0256	mg/kg dry	20	P9A3103	01/31/19	02/01/19	EPA 8021B	
Xylene (p/m)	ND	0.0513	mg/kg dry	20	P9A3103	01/31/19	02/01/19	EPA 8021B	
Xylene (o)	ND	0.0256	mg/kg dry	20	P9A3103	01/31/19	02/01/19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*110 %*	*75-125*		*P9A3103*	*01/31/19*	*02/01/19*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*103 %*	*75-125*		*P9A3103*	*01/31/19*	*02/01/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**9.10**	1.28	mg/kg dry	1	P9B2801	02/27/19	02/28/19	EPA 300.0	O-04
% Moisture	**22.0**	0.1	%	1	P9B0412	02/04/19	02/04/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	32.1	mg/kg dry	1	P9B0103	02/01/19	02/02/19	TPH 8015M	
>C12-C28	ND	32.1	mg/kg dry	1	P9B0103	02/01/19	02/02/19	TPH 8015M	
>C28-C35	ND	32.1	mg/kg dry	1	P9B0103	02/01/19	02/02/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*113 %*	*70-130*		*P9B0103*	*02/01/19*	*02/02/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*123 %*	*70-130*		*P9B0103*	*02/01/19*	*02/02/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	32.1	mg/kg dry	1	[CALC]	02/01/19	02/02/19	calc	

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DP-3.5 (3')

9A30001-05 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.0241	mg/kg dry	20	P9A3103	01/31/19	02/01/19	EPA 8021B	
Toluene	ND	0.0241	mg/kg dry	20	P9A3103	01/31/19	02/01/19	EPA 8021B	
Ethylbenzene	ND	0.0241	mg/kg dry	20	P9A3103	01/31/19	02/01/19	EPA 8021B	
Xylene (p/m)	ND	0.0482	mg/kg dry	20	P9A3103	01/31/19	02/01/19	EPA 8021B	
Xylene (o)	ND	0.0241	mg/kg dry	20	P9A3103	01/31/19	02/01/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*95.6 %*	*75-125*		*P9A3103*	*01/31/19*	*02/01/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*96.9 %*	*75-125*		*P9A3103*	*01/31/19*	*02/01/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**44.1**	1.20	mg/kg dry	1	P9B2801	02/27/19	02/28/19	EPA 300.0	O-04
% Moisture	**17.0**	0.1	%	1	P9B0412	02/04/19	02/04/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	30.1	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
>C12-C28	**147**	30.1	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
>C28-C35	**37.5**	30.1	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*93.1 %*	*70-130*		*P9B0104*	*02/01/19*	*02/02/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*98.3 %*	*70-130*		*P9B0104*	*02/01/19*	*02/02/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**184**	30.1	mg/kg dry	1	[CALC]	02/01/19	02/02/19	calc	

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DP-8.1 (1.5')

9A30001-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00110	mg/kg dry	1	P9A3103	01/31/19	02/01/19	EPA 8021B	
Toluene	ND	0.00110	mg/kg dry	1	P9A3103	01/31/19	02/01/19	EPA 8021B	
Ethylbenzene	ND	0.00110	mg/kg dry	1	P9A3103	01/31/19	02/01/19	EPA 8021B	
Xylene (p/m)	ND	0.00220	mg/kg dry	1	P9A3103	01/31/19	02/01/19	EPA 8021B	
Xylene (o)	ND	0.00110	mg/kg dry	1	P9A3103	01/31/19	02/01/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*106 %*	*75-125*		*P9A3103*	*01/31/19*	*02/01/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*104 %*	*75-125*		*P9A3103*	*01/31/19*	*02/01/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**11.4**	1.10	mg/kg dry	1	P9B2801	02/27/19	02/28/19	EPA 300.0	O-04
% Moisture	**9.0**	0.1	%	1	P9B0412	02/04/19	02/04/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.5	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
>C12-C28	**33.8**	27.5	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
>C28-C35	ND	27.5	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*88.0 %*	*70-130*		*P9B0104*	*02/01/19*	*02/02/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*92.8 %*	*70-130*		*P9B0104*	*02/01/19*	*02/02/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**33.8**	27.5	mg/kg dry	1	[CALC]	02/01/19	02/02/19	calc	

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DP-8.2 (1.5')

9A30001-07 (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	P9A3103	01/31/19	02/01/19	EPA 8021B	
Toluene	ND	0.00123	mg/kg dry	1	P9A3103	01/31/19	02/01/19	EPA 8021B	
Ethylbenzene	ND	0.00123	mg/kg dry	1	P9A3103	01/31/19	02/01/19	EPA 8021B	
Xylene (p/m)	ND	0.00247	mg/kg dry	1	P9A3103	01/31/19	02/01/19	EPA 8021B	
Xylene (o)	ND	0.00123	mg/kg dry	1	P9A3103	01/31/19	02/01/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*97.8 %*	*75-125*		*P9A3103*	*01/31/19*	*02/01/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*102 %*	*75-125*		*P9A3103*	*01/31/19*	*02/01/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**2.75**	1.23	mg/kg dry	1	P9B2801	02/27/19	02/28/19	EPA 300.0	O-04
% Moisture	**19.0**	0.1	%	1	P9B0412	02/04/19	02/04/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	30.9	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
>C12-C28	ND	30.9	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
>C28-C35	ND	30.9	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*84.3 %*	*70-130*		*P9B0104*	*02/01/19*	*02/02/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*89.4 %*	*70-130*		*P9B0104*	*02/01/19*	*02/02/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	30.9	mg/kg dry	1	[CALC]	02/01/19	02/02/19	calc	

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DP-8.3 (1.5')

9A30001-08 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.0250	mg/kg dry	20	P9A3104	01/31/19	02/01/19	EPA 8021B	
Toluene	ND	0.0250	mg/kg dry	20	P9A3104	01/31/19	02/01/19	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg dry	20	P9A3104	01/31/19	02/01/19	EPA 8021B	
Xylene (p/m)	ND	0.0500	mg/kg dry	20	P9A3104	01/31/19	02/01/19	EPA 8021B	
Xylene (o)	ND	0.0250	mg/kg dry	20	P9A3104	01/31/19	02/01/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*98.4 %*	*75-125*		*P9A3104*	*01/31/19*	*02/01/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*96.4 %*	*75-125*		*P9A3104*	*01/31/19*	*02/01/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**9.42**	1.25	mg/kg dry	1	P9B2801	02/27/19	02/28/19	EPA 300.0	O-04
% Moisture	**20.0**	0.1	%	1	P9B0412	02/04/19	02/04/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	31.2	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
>C12-C28	**37.8**	31.2	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
>C28-C35	ND	31.2	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*86.1 %*	*70-130*		*P9B0104*	*02/01/19*	*02/02/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*92.6 %*	*70-130*		*P9B0104*	*02/01/19*	*02/02/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**37.8**	31.2	mg/kg dry	1	[CALC]	02/01/19	02/02/19	calc	

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DP-8.4 (1.5')

9A30001-09 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.0244	mg/kg dry	20	P9A3104	01/31/19	02/01/19	EPA 8021B	
Toluene	ND	0.0244	mg/kg dry	20	P9A3104	01/31/19	02/01/19	EPA 8021B	
Ethylbenzene	ND	0.0244	mg/kg dry	20	P9A3104	01/31/19	02/01/19	EPA 8021B	
Xylene (p/m)	ND	0.0488	mg/kg dry	20	P9A3104	01/31/19	02/01/19	EPA 8021B	
Xylene (o)	ND	0.0244	mg/kg dry	20	P9A3104	01/31/19	02/01/19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*89.7 %*	*75-125*		*P9A3104*	*01/31/19*	*02/01/19*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*91.7 %*	*75-125*		*P9A3104*	*01/31/19*	*02/01/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**405**	30.5	mg/kg dry	25	P9B2801	02/27/19	02/28/19	EPA 300.0	O-04
% Moisture	**18.0**	0.1	%	1	P9B0412	02/04/19	02/04/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	30.5	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
>C12-C28	**130**	30.5	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
>C28-C35	ND	30.5	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*87.5 %*	*70-130*		*P9B0104*	*02/01/19*	*02/02/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*93.4 %*	*70-130*		*P9B0104*	*02/01/19*	*02/02/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**130**	30.5	mg/kg dry	1	[CALC]	02/01/19	02/02/19	calc	

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DP-8.5 (3')

9A30001-10 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.0244	mg/kg dry	20	P9A3104	01/31/19	02/01/19	EPA 8021B	
Toluene	ND	0.0244	mg/kg dry	20	P9A3104	01/31/19	02/01/19	EPA 8021B	
Ethylbenzene	ND	0.0244	mg/kg dry	20	P9A3104	01/31/19	02/01/19	EPA 8021B	
Xylene (p/m)	ND	0.0488	mg/kg dry	20	P9A3104	01/31/19	02/01/19	EPA 8021B	
Xylene (o)	ND	0.0244	mg/kg dry	20	P9A3104	01/31/19	02/01/19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*97.8 %*	*75-125*		*P9A3104*	*01/31/19*	*02/01/19*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*95.6 %*	*75-125*		*P9A3104*	*01/31/19*	*02/01/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**164**	1.22	mg/kg dry	1	P9B2801	02/27/19	02/28/19	EPA 300.0	O-04
% Moisture	**18.0**	0.1	%	1	P9B0412	02/04/19	02/04/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	30.5	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
>C12-C28	**138**	30.5	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
>C28-C35	ND	30.5	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*85.2 %*	*70-130*		*P9B0104*	*02/01/19*	*02/02/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*90.3 %*	*70-130*		*P9B0104*	*02/01/19*	*02/02/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**138**	30.5	mg/kg dry	1	[CALC]	02/01/19	02/02/19	calc	

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DP-7.1 (1')

9A30001-11 (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	**38.3**	1.11	mg/kg dry	1	P9B2801	02/27/19	02/28/19	EPA 300.0	O-04
% Moisture	**10.0**	0.1	%	1	P9B0412	02/04/19	02/04/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.8	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
>C12-C28	ND	27.8	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
>C28-C35	ND	27.8	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*87.1 %*	*70-130*		*P9B0104*	*02/01/19*	*02/02/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*93.8 %*	*70-130*		*P9B0104*	*02/01/19*	*02/02/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	27.8	mg/kg dry	1	[CALC]	02/01/19	02/02/19	calc	

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Midland TX, 79710	Project Manager: Mark Larson	

DP-7.2 (1')

9A30001-12 (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	**223**	11.0	mg/kg dry	10	P9B2801	02/27/19	02/28/19	EPA 300.0	O-04
% Moisture	**9.0**	0.1	%	1	P9B0412	02/04/19	02/04/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.5	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
>C12-C28	ND	27.5	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
>C28-C35	ND	27.5	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*86.4 %*	*70-130*		*P9B0104*	*02/01/19*	*02/02/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*92.4 %*	*70-130*		*P9B0104*	*02/01/19*	*02/02/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	27.5	mg/kg dry	1	[CALC]	02/01/19	02/02/19	calc	

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Midland TX, 79710	Project Manager: Mark Larson	

DP-7.3 (1')

9A30001-13 (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	**35.7**	1.12	mg/kg dry	1	P9B2801	02/27/19	02/28/19	EPA 300.0	O-04
% Moisture	**11.0**	0.1	%	1	P9B0412	02/04/19	02/04/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	28.1	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
>C12-C28	**62.2**	28.1	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
>C28-C35	ND	28.1	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*80.4 %*	*70-130*		*P9B0104*	*02/01/19*	*02/02/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*86.5 %*	*70-130*		*P9B0104*	*02/01/19*	*02/02/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**62.2**	28.1	mg/kg dry	1	[CALC]	02/01/19	02/02/19	calc	

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DP-7.4 (2')

9A30001-14 (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	**101**	1.15	mg/kg dry	1	P9B2801	02/27/19	02/28/19	EPA 300.0	O-04
% Moisture	**13.0**	0.1	%	1	P9B0412	02/04/19	02/04/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	28.7	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
>C12-C28	**37.0**	28.7	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
>C28-C35	ND	28.7	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*84.8 %*	*70-130*		*P9B0104*	*02/01/19*	*02/02/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*90.7 %*	*70-130*		*P9B0104*	*02/01/19*	*02/02/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**37.0**	28.7	mg/kg dry	1	[CALC]	02/01/19	02/02/19	calc	

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Midland TX, 79710	Project Manager: Mark Larson	

DP-6.1 (1')

9A30001-15 (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	**3490**	28.4	mg/kg dry	25	P9B2801	02/27/19	02/28/19	EPA 300.0	O-04
% Moisture	**12.0**	0.1	%	1	P9B0412	02/04/19	02/04/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	28.4	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
>C12-C28	ND	28.4	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
>C28-C35	ND	28.4	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*102 %*	*70-130*		*P9B0104*	*02/01/19*	*02/02/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*108 %*	*70-130*		*P9B0104*	*02/01/19*	*02/02/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	28.4	mg/kg dry	1	[CALC]	02/01/19	02/02/19	calc	

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Midland TX, 79710	Project Manager: Mark Larson	

DP-6.2 (1')

9A30001-16 (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	**15.6**	1.12	mg/kg dry	1	P9B2801	02/27/19	02/28/19	EPA 300.0	O-04
% Moisture	**11.0**	0.1	%	1	P9B0412	02/04/19	02/04/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	28.1	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
>C12-C28	**52.7**	28.1	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
>C28-C35	ND	28.1	mg/kg dry	1	P9B0104	02/01/19	02/02/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*88.5 %*	*70-130*		*P9B0104*	*02/01/19*	*02/02/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*94.6 %*	*70-130*		*P9B0104*	*02/01/19*	*02/02/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**52.7**	28.1	mg/kg dry	1	[CALC]	02/01/19	02/02/19	calc	

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DP-6.3 (1')

9A30001-17 (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	**1770**	5.88	mg/kg dry	5	P9B2801	02/27/19	02/28/19	EPA 300.0	O-04
% Moisture	**15.0**	0.1	%	1	P9B0412	02/04/19	02/04/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	29.4	mg/kg dry	1	P9B0501	02/05/19	02/05/19	TPH 8015M	
>C12-C28	ND	29.4	mg/kg dry	1	P9B0501	02/05/19	02/05/19	TPH 8015M	
>C28-C35	ND	29.4	mg/kg dry	1	P9B0501	02/05/19	02/05/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*99.0 %*	*70-130*		*P9B0501*	*02/05/19*	*02/05/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*106 %*	*70-130*		*P9B0501*	*02/05/19*	*02/05/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	29.4	mg/kg dry	1	[CALC]	02/05/19	02/05/19	calc	

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Midland TX, 79710	Project Manager: Mark Larson	

DP-6.4 (1')

9A30001-18 (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	**29.2**	1.09	mg/kg dry	1	P9B2801	02/27/19	02/28/19	EPA 300.0	O-04
% Moisture	**8.0**	0.1	%	1	P9B0412	02/04/19	02/04/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.2	mg/kg dry	1	P9B0501	02/05/19	02/05/19	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P9B0501	02/05/19	02/05/19	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P9B0501	02/05/19	02/05/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*100 %*	*70-130*		*P9B0501*	*02/05/19*	*02/05/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*107 %*	*70-130*		*P9B0501*	*02/05/19*	*02/05/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	02/05/19	02/05/19	calc	

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Midland TX, 79710	Project Manager: Mark Larson	

DP-6.5 (2')

9A30001-19 (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	**28.8**	1.11	mg/kg dry	1	P9B2802	02/27/19	02/28/19	EPA 300.0	O-04
% Moisture	**10.0**	0.1	%	1	P9B0412	02/04/19	02/04/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.8	mg/kg dry	1	P9B0501	02/05/19	02/05/19	TPH 8015M	
>C12-C28	ND	27.8	mg/kg dry	1	P9B0501	02/05/19	02/05/19	TPH 8015M	
>C28-C35	ND	27.8	mg/kg dry	1	P9B0501	02/05/19	02/05/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*96.4 %*	*70-130*		*P9B0501*	*02/05/19*	*02/05/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*103 %*	*70-130*		*P9B0501*	*02/05/19*	*02/05/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	27.8	mg/kg dry	1	[CALC]	02/05/19	02/05/19	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 P9A3103 - General Preparation (GC)										
Blank (P9A3103-BLK1)				Prepared & Analyzed: 01/31/19						
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	*0.0541*		*"*	*0.0600*		*90.1*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0564*		*"*	*0.0600*		*94.0*	*75-125*			
LCS (P9A3103-BS1)				Prepared & Analyzed: 01/31/19						
Benzene	0.113	0.00100	mg/kg wet	0.100		113	70-130			
Toluene	0.111	0.00100	"	0.100		111	70-130			
Ethylbenzene	0.113	0.00100	"	0.100		113	70-130			
Xylene (p/m)	0.191	0.00200	"	0.200		95.6	70-130			
Xylene (o)	0.115	0.00100	"	0.100		115	70-130			
Surrogate: 4-Bromofluorobenzene	*0.0611*		*"*	*0.0600*		*102*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.0628*		*"*	*0.0600*		*105*	*75-125*			
LCS Dup (P9A3103-BSD1)				Prepared & Analyzed: 01/31/19						
Benzene	0.105	0.00100	mg/kg wet	0.100		105	70-130	7.88	20	
Toluene	0.101	0.00100	"	0.100		101	70-130	9.67	20	
Ethylbenzene	0.105	0.00100	"	0.100		105	70-130	7.45	20	
Xylene (p/m)	0.172	0.00200	"	0.200		86.2	70-130	10.3	20	
Xylene (o)	0.105	0.00100	"	0.100		105	70-130	9.42	20	
Surrogate: 1,4-Difluorobenzene	*0.0710*		*"*	*0.0600*		*118*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0577*		*"*	*0.0600*		*96.2*	*75-125*			
Matrix Spike (P9A3103-MS1)	**Source: 9A29002-29**			Prepared: 01/31/19 Analyzed: 02/01/19						
Benzene	0.0556	0.00103	mg/kg dry	0.103	ND	54.0	80-120			QM-05
Toluene	0.0612	0.00103	"	0.103	ND	59.3	80-120			QM-05
Ethylbenzene	0.0828	0.00103	"	0.103	ND	80.3	80-120			
Xylene (p/m)	0.140	0.00206	"	0.206	ND	67.8	80-120			QM-05
Xylene (o)	0.0740	0.00103	"	0.103	ND	71.8	80-120			QM-05
Surrogate: 1,4-Difluorobenzene	*0.0756*		*"*	*0.0619*		*122*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0737*		*"*	*0.0619*		*119*	*75-125*			

Organics by GC - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P9A3103 - General Preparation (GC)										
Matrix Spike Dup (P9A3103-MSD1)	**Source: 9A29002-29**			Prepared: 01/31/19 Analyzed: 02/01/19						
Benzene	0.0969	0.00103	mg/kg dry	0.103	ND	94.0	80-120	54.1	20	QM-05
Toluene	0.0957	0.00103	"	0.103	ND	92.8	80-120	44.0	20	QM-05
Ethylbenzene	0.110	0.00103	"	0.103	ND	107	80-120	28.5	20	QM-05
Xylene (p/m)	0.156	0.00206	"	0.206	ND	75.7	80-120	10.9	20	QM-05
Xylene (o)	0.0999	0.00103	"	0.103	ND	96.9	80-120	29.8	20	QM-05
Surrogate: 4-Bromofluorobenzene	*0.0656*		*"*	*0.0619*		*106*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.0688*		*"*	*0.0619*		*111*	*75-125*			
Batch P9A3104 - General Preparation (GC)										
Blank (P9A3104-BLK1)				Prepared: 01/31/19 Analyzed: 02/01/19						
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: 4-Bromofluorobenzene	*0.0580*		*"*	*0.0600*		*96.8*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.0567*		*"*	*0.0600*		*94.5*	*75-125*			
LCS (P9A3104-BS1)				Prepared: 01/31/19 Analyzed: 02/01/19						
Benzene	0.110	0.00100	mg/kg wet	0.100		110	70-130			
Toluene	0.109	0.00100	"	0.100		109	70-130			
Ethylbenzene	0.112	0.00100	"	0.100		112	70-130			
Xylene (p/m)	0.187	0.00200	"	0.200		93.7	70-130			
Xylene (o)	0.117	0.00100	"	0.100		117	70-130			
Surrogate: 4-Bromofluorobenzene	*0.0613*		*"*	*0.0600*		*102*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.0655*		*"*	*0.0600*		*109*	*75-125*			

Organics by GC - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P9A3104 - General Preparation (GC)										
LCS Dup (P9A3104-BSD1)				Prepared: 01/31/19 Analyzed: 02/01/19						
Benzene	0.106	0.00100	mg/kg wet	0.100		106	70-130	3.75	20	
Toluene	0.104	0.00100	"	0.100		104	70-130	4.78	20	
Ethylbenzene	0.107	0.00100	"	0.100		107	70-130	4.87	20	
Xylene (p/m)	0.182	0.00200	"	0.200		91.1	70-130	2.78	20	
Xylene (o)	0.112	0.00100	"	0.100		112	70-130	3.75	20	
Surrogate: 1,4-Difluorobenzene	*0.0624*		*"*	*0.0600*		*104*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0582*		*"*	*0.0600*		*97.0*	*75-125*			
Matrix Spike (P9A3104-MS1)		**Source: 9A30008-01**		Prepared: 01/31/19 Analyzed: 02/02/19						
Benzene	0.111	0.00135	mg/kg dry	0.135	ND	81.8	80-120			
Toluene	0.112	0.00135	"	0.135	ND	82.8	80-120			
Ethylbenzene	0.131	0.00135	"	0.135	ND	97.1	80-120			
Xylene (p/m)	0.191	0.00270	"	0.270	ND	70.8	80-120			QM-05
Xylene (o)	0.116	0.00135	"	0.135	ND	86.0	80-120			
Surrogate: 4-Bromofluorobenzene	*0.0824*		*"*	*0.0811*		*102*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.102*		*"*	*0.0811*		*125*	*75-125*			
Matrix Spike Dup (P9A3104-MSD1)		**Source: 9A30008-01**		Prepared: 01/31/19 Analyzed: 02/02/19						
Benzene	0.0764	0.00135	mg/kg dry	0.135	ND	56.5	80-120	36.6	20	QM-05
Toluene	0.0846	0.00135	"	0.135	ND	62.6	80-120	27.7	20	QM-05
Ethylbenzene	0.101	0.00135	"	0.135	ND	74.5	80-120	26.4	20	QM-05
Xylene (p/m)	0.159	0.00270	"	0.270	ND	58.6	80-120	18.7	20	QM-05
Xylene (o)	0.0969	0.00135	"	0.135	ND	71.7	80-120	18.1	20	QM-05
Surrogate: 1,4-Difluorobenzene	*0.102*		*"*	*0.0811*		*126*	*75-125*			*S-GC*
Surrogate: 4-Bromofluorobenzene	*0.0926*		*"*	*0.0811*		*114*	*75-125*			

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 P9B0412 - * DEFAULT PREP *** **										
Blank (P9B0412-BLK1)				Prepared & Analyzed: 02/04/19						
% Moisture	ND	0.1	%							
Duplicate (P9B0412-DUP1)		**Source: 9A30001-15**		Prepared & Analyzed: 02/04/19						
% Moisture	11.0	0.1	%		12.0			8.70	20	
Duplicate (P9B0412-DUP2)		**Source: 9A31003-02**		Prepared & Analyzed: 02/04/19						
% Moisture	13.0	0.1	%		12.0			8.00	20	
Duplicate (P9B0412-DUP3)		**Source: 9A31003-05**		Prepared & Analyzed: 02/04/19						
% Moisture	8.0	0.1	%		8.0			0.00	20	
Batch P9B2801 - * DEFAULT PREP *** **										
Blank (P9B2801-BLK1)				Prepared: 02/27/19 Analyzed: 02/28/19						
Chloride	ND	1.00	mg/kg wet							
LCS (P9B2801-BS1)				Prepared: 02/27/19 Analyzed: 02/28/19						
Chloride	417	1.00	mg/kg wet	400		104	80-120			
LCS Dup (P9B2801-BSD1)				Prepared: 02/27/19 Analyzed: 02/28/19						
Chloride	406	1.00	mg/kg wet	400		102	80-120	2.46	20	
Duplicate (P9B2801-DUP1)		**Source: 9A23003-40**		Prepared: 02/27/19 Analyzed: 02/28/19						
Chloride	246	1.00	mg/kg dry		253			3.07	20	
Duplicate (P9B2801-DUP2)		**Source: 9A30001-09**		Prepared: 02/27/19 Analyzed: 02/28/19						
Chloride	709	30.5	mg/kg dry		405			54.5	20	R2

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 P9B2801 - * DEFAULT PREP *** **										
Matrix Spike (P9B2801-MS1)	**Source: 9A30001-09**			Prepared: 02/27/19 Analyzed: 02/28/19						
Chloride	3990	30.5	mg/kg dry	3050	405	118	80-120			
Batch P9B2802 - * DEFAULT PREP *** **										
Blank (P9B2802-BLK1)				Prepared: 02/27/19 Analyzed: 02/28/19						
Chloride	ND	1.00	mg/kg wet							
LCS (P9B2802-BS1)				Prepared: 02/27/19 Analyzed: 02/28/19						
Chloride	421	1.00	mg/kg wet	400		105	80-120			
LCS Dup (P9B2802-BSD1)				Prepared: 02/27/19 Analyzed: 02/28/19						
Chloride	411	1.00	mg/kg wet	400		103	80-120	2.52	20	
Duplicate (P9B2802-DUP1)	**Source: 9A30001-19**			Prepared: 02/27/19 Analyzed: 02/28/19						
Chloride	29.7	1.11	mg/kg dry		28.8			3.27	20	
Duplicate (P9B2802-DUP2)	**Source: 9B21011-03**			Prepared: 02/27/19 Analyzed: 02/28/19						
Chloride	3020	11.0	mg/kg dry		2970			1.71	20	
Matrix Spike (P9B2802-MS1)	**Source: 9A30001-19**			Prepared: 02/27/19 Analyzed: 02/28/19						
Chloride	2790	27.8	mg/kg dry	2780	28.8	99.2	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 P9B0103 - TX 1005										
Blank (P9B0103-BLK1)				Prepared & Analyzed: 02/01/19						
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	*127*		*"*	*100*		*127*	*70-130*			
Surrogate: o-Terphenyl	*69.4*		*"*	*50.0*		*139*	*70-130*			*S-GC*
LCS (P9B0103-BS1)				Prepared & Analyzed: 02/01/19						
C6-C12	1100	25.0	mg/kg wet	1000		110	75-125			
>C12-C28	1040	25.0	"	1000		104	75-125			
Surrogate: 1-Chlorooctane	*116*		*"*	*100*		*116*	*70-130*			
Surrogate: o-Terphenyl	*60.6*		*"*	*50.0*		*121*	*70-130*			
LCS Dup (P9B0103-BSD1)				Prepared & Analyzed: 02/01/19						
C6-C12	1030	25.0	mg/kg wet	1000		103	75-125	6.44	20	
>C12-C28	908	25.0	"	1000		90.8	75-125	13.4	20	
Surrogate: 1-Chlorooctane	*119*		*"*	*100*		*119*	*70-130*			
Surrogate: o-Terphenyl	*60.9*		*"*	*50.0*		*122*	*70-130*			
Matrix Spike (P9B0103-MS1)	**Source: 9A29026-08**			Prepared: 02/01/19 Analyzed: 02/02/19						
C6-C12	1010	29.4	mg/kg dry	1180	ND	86.0	75-125			
>C12-C28	905	29.4	"	1180	159	63.4	75-125			
Surrogate: 1-Chlorooctane	*121*		*"*	*118*		*103*	*70-130*			
Surrogate: o-Terphenyl	*49.9*		*"*	*58.8*		*84.9*	*70-130*			
Batch P9B0104 - TX 1005										
Blank (P9B0104-BLK1)				Prepared: 02/01/19 Analyzed: 02/02/19						
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	*103*		*"*	*100*		*103*	*70-130*			
Surrogate: o-Terphenyl	*54.9*		*"*	*50.0*		*110*	*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 P9B0104 - TX 1005										
LCS (P9B0104-BS1)				Prepared & Analyzed: 02/01/19						
C6-C12	933	25.0	mg/kg wet	1000		93.3	75-125			
>C12-C28	1210	25.0	"	1000		121	75-125			
Surrogate: 1-Chlorooctane	*111*		*"*	*100*		*111*	*70-130*			
Surrogate: o-Terphenyl	*54.3*		*"*	*50.0*		*109*	*70-130*			
LCS Dup (P9B0104-BSD1)				Prepared: 02/01/19 Analyzed: 02/02/19						
C6-C12	817	25.0	mg/kg wet	1000		81.7	75-125	13.3	20	
>C12-C28	953	25.0	"	1000		95.3	75-125	23.5	20	
Surrogate: 1-Chlorooctane	*101*		*"*	*100*		*101*	*70-130*			
Surrogate: o-Terphenyl	*48.2*		*"*	*50.0*		*96.5*	*70-130*			
Matrix Spike (P9B0104-MS1)	**Source: 9A30001-05**			Prepared: 02/01/19 Analyzed: 02/02/19						
C6-C12	996	30.1	mg/kg dry	1200	23.1	80.8	75-125			
>C12-C28	1230	30.1	"	1200	147	89.7	75-125			
Surrogate: 1-Chlorooctane	*110*		*"*	*120*		*91.5*	*70-130*			
Surrogate: o-Terphenyl	*47.0*		*"*	*60.2*		*78.0*	*70-130*			
Matrix Spike Dup (P9B0104-MSD1)	**Source: 9A30001-05**			Prepared: 02/01/19 Analyzed: 02/02/19						
C6-C12	1000	30.1	mg/kg dry	1200	23.1	81.2	75-125	0.558	20	
>C12-C28	1260	30.1	"	1200	147	92.6	75-125	3.10	20	
Surrogate: 1-Chlorooctane	*107*		*"*	*120*		*89.2*	*70-130*			
Surrogate: o-Terphenyl	*46.4*		*"*	*60.2*		*77.1*	*70-130*			
Batch P9B0501 - TX 1005										
Blank (P9B0501-BLK1)				Prepared & Analyzed: 02/05/19						
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	*130*		*"*	*100*		*130*	*70-130*			
Surrogate: o-Terphenyl	*71.8*		*"*	*50.0*		*144*	*70-130*			*S-GC*

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 P9B0501 - TX 1005										
LCS (P9B0501-BS1)				Prepared & Analyzed: 02/05/19						
C6-C12	1060	25.0	mg/kg wet	1000		106	75-125			
>C12-C28	926	25.0	"	1000		92.6	75-125			
Surrogate: 1-Chlorooctane	*126*		*"*	*100*		*126*	*70-130*			
Surrogate: o-Terphenyl	*64.5*		*"*	*50.0*		*129*	*70-130*			
LCS Dup (P9B0501-BSD1)				Prepared & Analyzed: 02/05/19						
C6-C12	1060	25.0	mg/kg wet	1000		106	75-125	0.480	20	
>C12-C28	933	25.0	"	1000		93.3	75-125	0.748	20	
Surrogate: 1-Chlorooctane	*126*		*"*	*100*		*126*	*70-130*			
Surrogate: o-Terphenyl	*63.0*		*"*	*50.0*		*126*	*70-130*			
Matrix Spike (P9B0501-MS1)		**Source: 9A30002-17**		Prepared & Analyzed: 02/05/19						
C6-C12	1050	26.6	mg/kg dry	1060	ND	98.6	75-125			
>C12-C28	908	26.6	"	1060	16.8	83.8	75-125			
Surrogate: 1-Chlorooctane	*134*		*"*	*106*		*126*	*70-130*			
Surrogate: o-Terphenyl	*61.3*		*"*	*53.2*		*115*	*70-130*			
Matrix Spike Dup (P9B0501-MSD1)		**Source: 9A30002-17**		Prepared & Analyzed: 02/05/19						
C6-C12	956	26.6	mg/kg dry	1060	ND	89.9	75-125	9.27	20	
>C12-C28	871	26.6	"	1060	16.8	80.3	75-125	4.21	20	
Surrogate: 1-Chlorooctane	*122*		*"*	*106*		*114*	*70-130*			
Surrogate: o-Terphenyl	*51.3*		*"*	*53.2*		*96.4*	*70-130*			

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

Project: Indigo Federal #1
Project Number: 18-0138-05
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.
R2	The RPD exceeded the acceptance limit.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
O-04	This sample was analyzed outside the EPA recommended holding time.
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: 3/1/2019

Brent Barron, Laboratory Director/Technical Director

Nº 0559

CHAIN-OF-CUSTODY

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

DATE: 01/30/2019 PAGE 1 OF 2

PO#: LAB WORK ORDER#: 9A30001

PROJECT LOCATION OR NAME: Indigo Federal #1

LAI PROJECT #: 18-0138-05 COLLECTOR: RD

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

#9A30001

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 ☐	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 ☐	pH ☐	CYANIDE ☐	HEXAVALENT CHROMIUM ☐	EXPLOSIVES ☐	PECHLORATE ☐	CHLORIDE ☐	ANIONS ☐	ALKALINITY ☐	FIELD NOTES
DP-3.1(1.5')		01/29/19	13:33	S	1				X		X		X	X	X																										
DP-3.2(1.5')		01/29/19	13:34																																						
DP-3.3(1.5')			13:40																																						
DP-3.4(1.5')			13:42																																						
DP-3.5(3')			13:46																																						
DP-8.1(1.5')			13:49																																						
DP-8.2(1.5')			13:52																																						
DP-8.3(1.5')			13:55																																						
DP-8.4(1.5')			13:59																																						
DP-8.5(3')			14:19																																						
DP-7.1(1')			15:27																																						
DP-7.2(1')			5:29																																						
DP-7.3(1')			15:30																																						
DP-7.4(2')			15:32																																						
~~DP-7.5(2')~~																																									
TOTAL			14								10		14	14	14																										

RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)
[signature]	1/30/19 9:30	
RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)
RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)
	1-30-19 9:30	[signature]

LABORATORY: PBEL

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

LABORATORY USE ONLY:
RECEIVING TEMP: 1-1.1 THERM#: 1 12
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL #
☒ HAND DELIVERED

№ 0560

CHAIN-OF-CUSTODY

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

Data Reported to:

DATE: 01/30/2019 PAGE 2 OF 3

PO#: LAB WORK ORDER#: 9A30001

PROJECT LOCATION OR NAME: Indigo Federal #1

LAI PROJECT #: 18-0138-05 COLLECTOR: RO

TRRP report? ☐ Yes ☒ No

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

TIME ZONE: Time zone/State: MST

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 ☐ 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 NOTES
DP-6.1 (1')		01/29/19	15:35	S	1				X			X	X	X																
DP-6.2 (1')			15:37																											
DP-6.3 (1')			15:39																											
DP-6.4 (1')			15:40																											
DP-6.5 (2')			15:43																											
TOTAL					5				5			5	5	5																

RELINQUISHED BY:(Signature) [signature] DATE/TIME 1/30/19 9:30 RECEIVED BY: (Signature)

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

RELINQUISHED BY:(Signature) DATE/TIME 1-30-19 9:30 RECEIVED BY: (Signature)

LABORATORY: DBEL

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

LABORATORY USE ONLY:
RECEIVING TEMP: 1-1.1 THERM#: 1 2
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL # _____
☐ HAND DELIVERED

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

PBELAB

Revised Analytical Report

Prepared for:

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

Project: Indigo Federal #1
Project Number: 18-0138-05
Location:

Lab Order Number: 9C22013

NELAP/TCEQ # T104704516-18-9

Report Date: 04/08/19

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

Project: Indigo Federal #1
Project Number: 18-0138-05
Project Manager: Mark Larson

Fax: (432) 687-0456

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DP-6 (4')	9C22013-01	Soil	03/21/19 11:20	03-22-2019 15:00
DP-7 (4')	9C22013-02	Soil	03/21/19 11:35	03-22-2019 15:00
DP-6.1(1')	9C22013-03	Soil	03/21/19 13:38	03-22-2019 15:00
DP-6.2 (1')	9C22013-04	Soil	03/21/19 13:40	03-22-2019 15:00
DP-6.3 (1')	9C22013-05	Soil	03/21/19 13:43	03-22-2019 15:00
DP-6.4 (1')	9C22013-06	Soil	03/21/19 13:45	03-22-2019 15:00
DP-6.5 (2')	9C22013-07	Soil	03/21/19 13:48	03-22-2019 15:00
DP-7.1(1')	9C22013-08	Soil	03/21/19 13:55	03-22-2019 15:00
DP-7.2 (1')	9C22013-09	Soil	03/21/19 13:58	03-22-2019 15:00
DP-7.3 (1')	9C22013-10	Soil	03/21/19 14:02	03-22-2019 15:00
DP-7.4 (2')	9C22013-11	Soil	03/21/19 14:05	03-22-2019 15:00
DP-3 (4')	9C22013-12	Soil	03/21/19 14:25	03-22-2019 15:00
DP-8 (4')	9C22013-13	Soil	03/21/19 14:31	03-22-2019 15:00

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

Project: Indigo Federal #1
Project Number: 18-0138-05
Project Manager: Mark Larson

Fax: (432) 687-0456

DP-6 (4')

9C22013-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**178**	29.1	mg/kg dry	25	P9C2605	03/26/19	03/27/19	EPA 300.0	
% Moisture	**14.0**	0.1	%	1	P9C2503	03/25/19	03/25/19	ASTM D2216	

Larson & Associates, Inc.	Project: Indigo Federal #1	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 18-0138-05	
Midland TX, 79710	Project Manager: Mark Larson	

DP-7 (4')

9C22013-02 (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	**195**	29.1	mg/kg dry	25	P9C2605	03/26/19	03/27/19	EPA 300.0	
% Moisture	**14.0**	0.1	%	1	P9C2503	03/25/19	03/25/19	ASTM D2216	

Larson & Associates, Inc.	Project: Indigo Federal #1	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 18-0138-05	
Midland TX, 79710	Project Manager: Mark Larson	

DP-6.1(1')

9C22013-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00127	mg/kg dry	1	P9C2506	03/25/19	03/25/19	EPA 8021B	
Toluene	ND	0.00127	mg/kg dry	1	P9C2506	03/25/19	03/25/19	EPA 8021B	
Ethylbenzene	ND	0.00127	mg/kg dry	1	P9C2506	03/25/19	03/25/19	EPA 8021B	
Xylene (p/m)	ND	0.00253	mg/kg dry	1	P9C2506	03/25/19	03/25/19	EPA 8021B	
Xylene (o)	ND	0.00127	mg/kg dry	1	P9C2506	03/25/19	03/25/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*84.0 %*	*75-125*		*P9C2506*	*03/25/19*	*03/25/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*104 %*	*75-125*		*P9C2506*	*03/25/19*	*03/25/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**14.5**	1.27	mg/kg dry	1	P9C2605	03/26/19	03/27/19	EPA 300.0	
% Moisture	**21.0**	0.1	%	1	P9C2503	03/25/19	03/25/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	31.6	mg/kg dry	1	P9C2603	03/26/19	03/30/19	TPH 8015M	
>C12-C28	ND	31.6	mg/kg dry	1	P9C2603	03/26/19	03/30/19	TPH 8015M	
>C28-C35	ND	31.6	mg/kg dry	1	P9C2603	03/26/19	03/30/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*81.7 %*	*70-130*		*P9C2603*	*03/26/19*	*03/30/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*85.6 %*	*70-130*		*P9C2603*	*03/26/19*	*03/30/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	31.6	mg/kg dry	1	[CALC]	03/26/19	03/30/19	calc	

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

Project: Indigo Federal #1
Project Number: 18-0138-05
Project Manager: Mark Larson

Fax: (432) 687-0456

DP-6.2 (1')

9C22013-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00114	mg/kg dry	1	P9C2506	03/25/19	03/25/19	EPA 8021B	
Toluene	ND	0.00114	mg/kg dry	1	P9C2506	03/25/19	03/25/19	EPA 8021B	
Ethylbenzene	ND	0.00114	mg/kg dry	1	P9C2506	03/25/19	03/25/19	EPA 8021B	
Xylene (p/m)	ND	0.00227	mg/kg dry	1	P9C2506	03/25/19	03/25/19	EPA 8021B	
Xylene (o)	ND	0.00114	mg/kg dry	1	P9C2506	03/25/19	03/25/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*84.0 %*	*75-125*		*P9C2506*	*03/25/19*	*03/25/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*107 %*	*75-125*		*P9C2506*	*03/25/19*	*03/25/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
% Moisture	**12.0**	0.1	%	1	P9C2503	03/25/19	03/25/19	ASTM D2216	

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P.O. Box 50685
Midland TX, 79710

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Fax: (432) 687-0456

DP-6.3 (1')

9C22013-05 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00125	mg/kg dry	1	P9C2506	03/25/19	03/25/19	EPA 8021B	
Toluene	ND	0.00125	mg/kg dry	1	P9C2506	03/25/19	03/25/19	EPA 8021B	
Ethylbenzene	ND	0.00125	mg/kg dry	1	P9C2506	03/25/19	03/25/19	EPA 8021B	
Xylene (p/m)	ND	0.00250	mg/kg dry	1	P9C2506	03/25/19	03/25/19	EPA 8021B	
Xylene (o)	ND	0.00125	mg/kg dry	1	P9C2506	03/25/19	03/25/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*87.6 %*	*75-125*		*P9C2506*	*03/25/19*	*03/25/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*102 %*	*75-125*		*P9C2506*	*03/25/19*	*03/25/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**2040**	31.2	mg/kg dry	25	P9C2605	03/26/19	03/27/19	EPA 300.0	
% Moisture	**20.0**	0.1	%	1	P9C2503	03/25/19	03/25/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	31.2	mg/kg dry	1	P9C2603	03/26/19	03/30/19	TPH 8015M	
>C12-C28	ND	31.2	mg/kg dry	1	P9C2603	03/26/19	03/30/19	TPH 8015M	
>C28-C35	ND	31.2	mg/kg dry	1	P9C2603	03/26/19	03/30/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*89.0 %*	*70-130*		*P9C2603*	*03/26/19*	*03/30/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*93.2 %*	*70-130*		*P9C2603*	*03/26/19*	*03/30/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	31.2	mg/kg dry	1	[CALC]	03/26/19	03/30/19	calc	

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Fax: (432) 687-0456

DP-6.4 (1')

9C22013-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00112	mg/kg dry	1	P9C2506	03/25/19	03/25/19	EPA 8021B	
Toluene	ND	0.00112	mg/kg dry	1	P9C2506	03/25/19	03/25/19	EPA 8021B	
Ethylbenzene	ND	0.00112	mg/kg dry	1	P9C2506	03/25/19	03/25/19	EPA 8021B	
Xylene (p/m)	ND	0.00225	mg/kg dry	1	P9C2506	03/25/19	03/25/19	EPA 8021B	
Xylene (o)	ND	0.00112	mg/kg dry	1	P9C2506	03/25/19	03/25/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*82.5 %*	*75-125*		*P9C2506*	*03/25/19*	*03/25/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*106 %*	*75-125*		*P9C2506*	*03/25/19*	*03/25/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
% Moisture	**11.0**	0.1	%	1	P9C2503	03/25/19	03/25/19	ASTM D2216	

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Fax: (432) 687-0456

DP-6.5 (2')

9C22013-07 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00112	mg/kg dry	1	P9C2506	03/25/19	03/25/19	EPA 8021B	
Toluene	ND	0.00112	mg/kg dry	1	P9C2506	03/25/19	03/25/19	EPA 8021B	
Ethylbenzene	ND	0.00112	mg/kg dry	1	P9C2506	03/25/19	03/25/19	EPA 8021B	
Xylene (p/m)	ND	0.00225	mg/kg dry	1	P9C2506	03/25/19	03/25/19	EPA 8021B	
Xylene (o)	ND	0.00112	mg/kg dry	1	P9C2506	03/25/19	03/25/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*86.1 %*	*75-125*		*P9C2506*	*03/25/19*	*03/25/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*107 %*	*75-125*		*P9C2506*	*03/25/19*	*03/25/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
% Moisture	**11.0**	0.1	%	1	P9C2503	03/25/19	03/25/19	ASTM D2216	

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DP-7.1(1')

9C22013-08 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00112	mg/kg dry	1	P9C2506	03/25/19	03/25/19	EPA 8021B	
Toluene	ND	0.00112	mg/kg dry	1	P9C2506	03/25/19	03/25/19	EPA 8021B	
Ethylbenzene	ND	0.00112	mg/kg dry	1	P9C2506	03/25/19	03/25/19	EPA 8021B	
Xylene (p/m)	ND	0.00225	mg/kg dry	1	P9C2506	03/25/19	03/25/19	EPA 8021B	
Xylene (o)	ND	0.00112	mg/kg dry	1	P9C2506	03/25/19	03/25/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*83.5 %*	*75-125*		*P9C2506*	*03/25/19*	*03/25/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*115 %*	*75-125*		*P9C2506*	*03/25/19*	*03/25/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
% Moisture	**11.0**	0.1	%	1	P9C2503	03/25/19	03/25/19	ASTM D2216	

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Fax: (432) 687-0456

DP-7.2 (1')

9C22013-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00114	mg/kg dry	1	P9C2708	03/27/19	03/27/19	EPA 8021B	
Toluene	ND	0.00114	mg/kg dry	1	P9C2708	03/27/19	03/27/19	EPA 8021B	
Ethylbenzene	ND	0.00114	mg/kg dry	1	P9C2708	03/27/19	03/27/19	EPA 8021B	
Xylene (p/m)	ND	0.00227	mg/kg dry	1	P9C2708	03/27/19	03/27/19	EPA 8021B	
Xylene (o)	ND	0.00114	mg/kg dry	1	P9C2708	03/27/19	03/27/19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*116 %*	*75-125*		*P9C2708*	*03/27/19*	*03/27/19*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*86.1 %*	*75-125*		*P9C2708*	*03/27/19*	*03/27/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
% Moisture	**12.0**	0.1	%	1	P9C2503	03/25/19	03/25/19	ASTM D2216	

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DP-7.3 (1')

9C22013-10 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.0227	mg/kg dry	20	P9C2708	03/27/19	03/27/19	EPA 8021B	
Toluene	ND	0.0227	mg/kg dry	20	P9C2708	03/27/19	03/27/19	EPA 8021B	
Ethylbenzene	ND	0.0227	mg/kg dry	20	P9C2708	03/27/19	03/27/19	EPA 8021B	
Xylene (p/m)	ND	0.0455	mg/kg dry	20	P9C2708	03/27/19	03/27/19	EPA 8021B	
Xylene (o)	ND	0.0227	mg/kg dry	20	P9C2708	03/27/19	03/27/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*88.8 %*	*75-125*		*P9C2708*	*03/27/19*	*03/27/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*108 %*	*75-125*		*P9C2708*	*03/27/19*	*03/27/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
% Moisture	**12.0**	0.1	%	1	P9C2503	03/25/19	03/25/19	ASTM D2216	

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DP-7.4 (2')

9C22013-11 (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	P9C2708	03/27/19	03/27/19	EPA 8021B	
Toluene	ND	0.00120	mg/kg dry	1	P9C2708	03/27/19	03/27/19	EPA 8021B	
Ethylbenzene	ND	0.00120	mg/kg dry	1	P9C2708	03/27/19	03/27/19	EPA 8021B	
Xylene (p/m)	ND	0.00241	mg/kg dry	1	P9C2708	03/27/19	03/27/19	EPA 8021B	
Xylene (o)	ND	0.00120	mg/kg dry	1	P9C2708	03/27/19	03/27/19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*115 %*	*75-125*		*P9C2708*	*03/27/19*	*03/27/19*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*84.8 %*	*75-125*		*P9C2708*	*03/27/19*	*03/27/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
% Moisture	**17.0**	0.1	%	1	P9C2503	03/25/19	03/25/19	ASTM D2216	

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DP-3 (4')

9C22013-12 (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	**50.3**	28.4	mg/kg dry	25	P9C2605	03/26/19	03/27/19	EPA 300.0	
% Moisture	**12.0**	0.1	%	1	P9C2503	03/25/19	03/25/19	ASTM D2216	

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DP-8 (4')

9C22013-13 (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	**71.5**	1.12	mg/kg dry	1	P9C2605	03/26/19	03/27/19	EPA 300.0	
% Moisture	**11.0**	0.1	%	1	P9C2503	03/25/19	03/25/19	ASTM D2216	

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 P9C2506 - General Preparation (GC)										
Blank (P9C2506-BLK1)				Prepared & Analyzed: 03/25/19						
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	*0.0467*		*"*	*0.0600*		*77.9*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0626*		*"*	*0.0600*		*104*	*75-125*			
LCS (P9C2506-BS1)				Prepared & Analyzed: 03/25/19						
Benzene	0.101	0.00100	mg/kg wet	0.100		101	70-130			
Toluene	0.104	0.00100	"	0.100		104	70-130			
Ethylbenzene	0.0892	0.00100	"	0.100		89.2	70-130			
Xylene (p/m)	0.200	0.00200	"	0.200		99.8	70-130			
Xylene (o)	0.113	0.00100	"	0.100		113	70-130			
Surrogate: 4-Bromofluorobenzene	*0.0525*		*"*	*0.0600*		*87.5*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.0531*		*"*	*0.0600*		*88.4*	*75-125*			
LCS Dup (P9C2506-BSD1)				Prepared & Analyzed: 03/25/19						
Benzene	0.101	0.00100	mg/kg wet	0.100		101	70-130	0.197	20	
Toluene	0.101	0.00100	"	0.100		101	70-130	3.15	20	
Ethylbenzene	0.108	0.00100	"	0.100		108	70-130	18.7	20	
Xylene (p/m)	0.195	0.00200	"	0.200		97.5	70-130	2.35	20	
Xylene (o)	0.113	0.00100	"	0.100		113	70-130	0.540	20	
Surrogate: 1,4-Difluorobenzene	*0.0520*		*"*	*0.0600*		*86.7*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0520*		*"*	*0.0600*		*86.6*	*75-125*			
Calibration Blank (P9C2506-CCB1)				Prepared & Analyzed: 03/25/19						
Benzene	0.00		mg/kg wet							
Toluene	0.00		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.00		"							
Xylene (o)	0.00		"							
Surrogate: 4-Bromofluorobenzene	*0.0623*		*"*	*0.0600*		*104*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.0564*		*"*	*0.0600*		*94.0*	*75-125*			

Organics by GC - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P9C2506 - General Preparation (GC)										
Calibration Blank (P9C2506-CCB2)				Prepared & Analyzed: 03/25/19						
Benzene	0.00		mg/kg wet							
Toluene	0.00		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.00		"							
Xylene (o)	0.00		"							
Surrogate: 1,4-Difluorobenzene	*0.0527*		*"*	*0.0600*		*87.8*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0697*		*"*	*0.0600*		*116*	*75-125*			
Calibration Check (P9C2506-CCV1)				Prepared & Analyzed: 03/25/19						
Benzene	0.113	0.00100	mg/kg wet	0.100		113	80-120			
Toluene	0.113	0.00100	"	0.100		113	80-120			
Ethylbenzene	0.112	0.00100	"	0.100		112	80-120			
Xylene (p/m)	0.210	0.00200	"	0.200		105	80-120			
Xylene (o)	0.112	0.00100	"	0.100		112	80-120			
Surrogate: 1,4-Difluorobenzene	*0.0584*		*"*	*0.0600*		*97.4*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0562*		*"*	*0.0600*		*93.7*	*75-125*			
Calibration Check (P9C2506-CCV2)				Prepared & Analyzed: 03/25/19						
Benzene	0.118	0.00100	mg/kg wet	0.100		118	80-120			
Toluene	0.120	0.00100	"	0.100		120	80-120			
Ethylbenzene	0.119	0.00100	"	0.100		119	80-120			
Xylene (p/m)	0.216	0.00200	"	0.200		108	80-120			
Xylene (o)	0.116	0.00100	"	0.100		116	80-120			
Surrogate: 1,4-Difluorobenzene	*0.0670*		*"*	*0.0600*		*112*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0599*		*"*	*0.0600*		*99.8*	*75-125*			
Calibration Check (P9C2506-CCV3)				Prepared: 03/25/19 Analyzed: 03/26/19						
Benzene	0.103	0.00100	mg/kg wet	0.100		103	80-120			
Toluene	0.108	0.00100	"	0.100		108	80-120			
Ethylbenzene	0.118	0.00100	"	0.100		118	80-120			
Xylene (p/m)	0.201	0.00200	"	0.200		100	80-120			
Xylene (o)	0.118	0.00100	"	0.100		118	80-120			
Surrogate: 4-Bromofluorobenzene	*0.0599*		*"*	*0.0600*		*99.8*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.0610*		*"*	*0.0600*		*102*	*75-125*			

Organics by GC - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P9C2506 - General Preparation (GC)										
Matrix Spike (P9C2506-MS1)	**Source: 9C22013-08**			Prepared & Analyzed: 03/25/19						
Benzene	0.0932	0.00112	mg/kg dry	0.112	ND	82.9	80-120			
Toluene	0.0867	0.00112	"	0.112	ND	77.2	80-120			QM-05
Ethylbenzene	0.0980	0.00112	"	0.112	ND	87.2	80-120			
Xylene (p/m)	0.121	0.00225	"	0.225	ND	53.8	80-120			QM-05
Xylene (o)	0.0940	0.00112	"	0.112	ND	83.6	80-120			
Surrogate: 4-Bromofluorobenzene	*0.0749*		*"*	*0.0674*		*111*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.0704*		*"*	*0.0674*		*104*	*75-125*			
Matrix Spike Dup (P9C2506-MSD1)	**Source: 9C22013-08**			Prepared & Analyzed: 03/25/19						
Benzene	0.115	0.00112	mg/kg dry	0.112	ND	102	80-120	21.1	20	QM-05
Toluene	0.106	0.00112	"	0.112	ND	94.5	80-120	20.2	20	QM-05
Ethylbenzene	0.123	0.00112	"	0.112	ND	109	80-120	22.5	20	QM-05
Xylene (p/m)	0.162	0.00225	"	0.225	ND	72.1	80-120	29.1	20	QM-05
Xylene (o)	0.116	0.00112	"	0.112	ND	103	80-120	21.1	20	QM-05
Surrogate: 1,4-Difluorobenzene	*0.0776*		*"*	*0.0674*		*115*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0775*		*"*	*0.0674*		*115*	*75-125*			
Batch P9C2708 - General Preparation (GC)										
Blank (P9C2708-BLK1)				Prepared & Analyzed: 03/27/19						
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	*0.0509*		*"*	*0.0600*		*84.8*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0627*		*"*	*0.0600*		*104*	*75-125*			

Organics by GC - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P9C2708 - General Preparation (GC)										
LCS (P9C2708-BS1)				Prepared & Analyzed: 03/27/19						
Benzene	0.112	0.00100	mg/kg wet	0.100		112	70-130			
Toluene	0.111	0.00100	"	0.100		111	70-130			
Ethylbenzene	0.0976	0.00100	"	0.100		97.6	70-130			
Xylene (p/m)	0.213	0.00200	"	0.200		107	70-130			
Xylene (o)	0.120	0.00100	"	0.100		120	70-130			
Surrogate: 1,4-Difluorobenzene	*0.0562*		*"*	*0.0600*		*93.6*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0555*		*"*	*0.0600*		*92.5*	*75-125*			
LCS Dup (P9C2708-BSD1)				Prepared & Analyzed: 03/27/19						
Benzene	0.115	0.00100	mg/kg wet	0.100		115	70-130	2.74	20	
Toluene	0.117	0.00100	"	0.100		117	70-130	5.53	20	
Ethylbenzene	0.103	0.00100	"	0.100		103	70-130	5.84	20	
Xylene (p/m)	0.228	0.00200	"	0.200		114	70-130	6.83	20	
Xylene (o)	0.115	0.00100	"	0.100		115	70-130	4.00	20	
Surrogate: 4-Bromofluorobenzene	*0.0604*		*"*	*0.0600*		*101*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.0584*		*"*	*0.0600*		*97.4*	*75-125*			
Calibration Blank (P9C2708-CCB1)				Prepared & Analyzed: 03/27/19						
Benzene	0.00		mg/kg wet							
Toluene	0.00		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.00		"							
Xylene (o)	0.00		"							
Surrogate: 4-Bromofluorobenzene	*0.0662*		*"*	*0.0600*		*110*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.0514*		*"*	*0.0600*		*85.8*	*75-125*			
Calibration Blank (P9C2708-CCB2)				Prepared & Analyzed: 03/27/19						
Benzene	0.00		mg/kg wet							
Toluene	0.00		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.00		"							
Xylene (o)	0.00		"							
Surrogate: 1,4-Difluorobenzene	*0.0478*		*"*	*0.0600*		*79.6*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0670*		*"*	*0.0600*		*112*	*75-125*			

Organics by GC - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P9C2708 - General Preparation (GC)										
Calibration Check (P9C2708-CCV1)				Prepared & Analyzed: 03/27/19						
Benzene	0.113	0.00100	mg/kg wet	0.100		113	80-120			
Toluene	0.114	0.00100	"	0.100		114	80-120			
Ethylbenzene	0.110	0.00100	"	0.100		110	80-120			
Xylene (p/m)	0.212	0.00200	"	0.200		106	80-120			
Xylene (o)	0.119	0.00100	"	0.100		119	80-120			
Surrogate: 4-Bromofluorobenzene	*0.0598*		*"*	*0.0600*		*99.6*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.0605*		*"*	*0.0600*		*101*	*75-125*			
Calibration Check (P9C2708-CCV2)				Prepared & Analyzed: 03/27/19						
Benzene	0.113	0.00100	mg/kg wet	0.100		113	80-120			
Toluene	0.118	0.00100	"	0.100		118	80-120			
Ethylbenzene	0.116	0.00100	"	0.100		116	80-120			
Xylene (p/m)	0.224	0.00200	"	0.200		112	80-120			
Xylene (o)	0.119	0.00100	"	0.100		119	80-120			
Surrogate: 1,4-Difluorobenzene	*0.0605*		*"*	*0.0600*		*101*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0608*		*"*	*0.0600*		*101*	*75-125*			
Calibration Check (P9C2708-CCV3)				Prepared & Analyzed: 03/27/19						
Benzene	0.113	0.00100	mg/kg wet	0.100		113	80-120			
Toluene	0.114	0.00100	"	0.100		114	80-120			
Ethylbenzene	0.117	0.00100	"	0.100		117	80-120			
Xylene (p/m)	0.210	0.00200	"	0.200		105	80-120			
Xylene (o)	0.115	0.00100	"	0.100		115	80-120			
Surrogate: 4-Bromofluorobenzene	*0.0636*		*"*	*0.0600*		*106*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.0628*		*"*	*0.0600*		*105*	*75-125*			
Matrix Spike (P9C2708-MS1)	**Source: 9C22013-09**			Prepared & Analyzed: 03/27/19						
Benzene	0.0923	0.00114	mg/kg dry	0.114	ND	81.2	80-120			
Toluene	0.0822	0.00114	"	0.114	ND	72.3	80-120			QM-05
Ethylbenzene	0.0836	0.00114	"	0.114	ND	73.6	80-120			QM-05
Xylene (p/m)	0.131	0.00227	"	0.227	ND	57.8	80-120			QM-05
Xylene (o)	0.0686	0.00114	"	0.114	ND	60.4	80-120			QM-05
Surrogate: 4-Bromofluorobenzene	*0.0686*		*"*	*0.0682*		*101*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.0698*		*"*	*0.0682*		*102*	*75-125*			

Organics by GC - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P9C2708 - General Preparation (GC)										
Matrix Spike Dup (P9C2708-MSD1)		**Source: 9C22013-09**		Prepared & Analyzed: 03/27/19						
Benzene	0.0940	0.00114	mg/kg dry	0.114	ND	82.7	80-120	1.84	20	
Toluene	0.0897	0.00114	"	0.114	ND	78.9	80-120	8.75	20	QM-05
Ethylbenzene	0.0908	0.00114	"	0.114	ND	79.9	80-120	8.25	20	QM-05
Xylene (p/m)	0.146	0.00227	"	0.227	ND	64.3	80-120	10.7	20	QM-05
Xylene (o)	0.0781	0.00114	"	0.114	ND	68.7	80-120	13.0	20	QM-05
Surrogate: 4-Bromofluorobenzene	*0.0759*		*"*	*0.0682*		*111*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.0730*		*"*	*0.0682*		*107*	*75-125*			

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 P9C2503 - * DEFAULT PREP *** **										
Blank (P9C2503-BLK1)				Prepared & Analyzed: 03/25/19						
% Moisture	ND	0.1	%							
Duplicate (P9C2503-DUP1)		**Source: 9C22005-03**		Prepared & Analyzed: 03/25/19						
% Moisture	5.0	0.1	%		9.0			57.1	20	R2
Duplicate (P9C2503-DUP2)		**Source: 9C22009-08**		Prepared & Analyzed: 03/25/19						
% Moisture	15.0	0.1	%		14.0			6.90	20	
Duplicate (P9C2503-DUP3)		**Source: 9C22011-05**		Prepared & Analyzed: 03/25/19						
% Moisture	3.0	0.1	%		3.0			0.00	20	
Duplicate (P9C2503-DUP4)		**Source: 9C22011-17**		Prepared & Analyzed: 03/25/19						
% Moisture	7.0	0.1	%		7.0			0.00	20	
Duplicate (P9C2503-DUP5)		**Source: 9C22013-12**		Prepared & Analyzed: 03/25/19						
% Moisture	13.0	0.1	%		12.0			8.00	20	
Duplicate (P9C2503-DUP6)		**Source: 9C22014-03**		Prepared & Analyzed: 03/25/19						
% Moisture	2.0	0.1	%		1.0			66.7	20	R2
Batch P9C2605 - * DEFAULT PREP *** **										
Blank (P9C2605-BLK1)				Prepared: 03/26/19 Analyzed: 03/27/19						
Chloride	ND	1.00	mg/kg wet							
LCS (P9C2605-BS1)				Prepared: 03/26/19 Analyzed: 03/27/19						
Chloride	401	1.00	mg/kg wet	400		100	80-120			

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 P9C2605 - * DEFAULT PREP *** **										
LCS Dup (P9C2605-BSD1)				Prepared: 03/26/19 Analyzed: 03/27/19						
Chloride	400	1.00	mg/kg wet	400		99.9	80-120	0.307	20	
Matrix Spike (P9C2605-MS1)		**Source: 9C22011-17**		Prepared: 03/26/19 Analyzed: 03/27/19						
Chloride	570	1.08	mg/kg dry	538	24.5	102	80-120			
Matrix Spike (P9C2605-MS2)		**Source: 9C25007-01**		Prepared: 03/26/19 Analyzed: 03/27/19						
Chloride	4740	12.0	mg/kg dry	1200	3410	111	80-120			
Matrix Spike Dup (P9C2605-MSD1)		**Source: 9C22011-17**		Prepared: 03/26/19 Analyzed: 03/27/19						
Chloride	565	1.08	mg/kg dry	538	24.5	101	80-120	0.865	20	
Matrix Spike Dup (P9C2605-MSD2)		**Source: 9C25007-01**		Prepared: 03/26/19 Analyzed: 03/27/19						
Chloride	4710	12.0	mg/kg dry	1200	3410	108	80-120	0.689	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 P9C2603 - TX 1005										
Blank (P9C2603-BLK1)				Prepared: 03/26/19 Analyzed: 03/30/19						
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	*79.8*		*"*	*100*		*79.8*	*70-130*			
Surrogate: o-Terphenyl	*41.4*		*"*	*50.0*		*82.9*	*70-130*			
LCS (P9C2603-BS1)				Prepared: 03/26/19 Analyzed: 03/30/19						
C6-C12	868	25.0	mg/kg wet	1000		86.8	75-125			
>C12-C28	1140	25.0	"	1000		114	75-125			
Surrogate: 1-Chlorooctane	*95.3*		*"*	*100*		*95.3*	*70-130*			
Surrogate: o-Terphenyl	*38.4*		*"*	*50.0*		*76.9*	*70-130*			
LCS Dup (P9C2603-BSD1)				Prepared: 03/26/19 Analyzed: 03/30/19						
C6-C12	852	25.0	mg/kg wet	1000		85.2	75-125	1.80	20	
>C12-C28	1110	25.0	"	1000		111	75-125	2.44	20	
Surrogate: 1-Chlorooctane	*92.4*		*"*	*100*		*92.4*	*70-130*			
Surrogate: o-Terphenyl	*36.8*		*"*	*50.0*		*73.7*	*70-130*			
Calibration Blank (P9C2603-CCB1)				Prepared: 03/26/19 Analyzed: 03/30/19						
C6-C12	7.22		mg/kg wet							
>C12-C28	22.9		"							
Surrogate: 1-Chlorooctane	*80.9*		*"*	*100*		*80.9*	*70-130*			
Surrogate: o-Terphenyl	*42.5*		*"*	*50.0*		*85.0*	*70-130*			
Calibration Check (P9C2603-CCV1)				Prepared: 03/26/19 Analyzed: 03/29/19						
C6-C12	413	25.0	mg/kg wet	500		82.7	85-115			
>C12-C28	503	25.0	"	500		101	85-115			
Surrogate: 1-Chlorooctane	*88.5*		*"*	*100*		*88.5*	*70-130*			
Surrogate: o-Terphenyl	*39.2*		*"*	*50.0*		*78.4*	*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 P9C2603 - TX 1005										
Calibration Check (P9C2603-CCV2)				Prepared: 03/26/19 Analyzed: 03/30/19						
C6-C12	428	25.0	mg/kg wet	500		85.7	85-115			
>C12-C28	472	25.0	"	500		94.4	85-115			
Surrogate: 1-Chlorooctane	*92.2*		*"*	*100*		*92.2*	*70-130*			
Surrogate: o-Terphenyl	*41.1*		*"*	*50.0*		*82.2*	*70-130*			
Calibration Check (P9C2603-CCV3)				Prepared: 03/26/19 Analyzed: 03/31/19						
C6-C12	516	25.0	mg/kg wet	500		103	85-115			
>C12-C28	521	25.0	"	500		104	85-115			
Surrogate: 1-Chlorooctane	*116*		*"*	*100*		*116*	*70-130*			
Surrogate: o-Terphenyl	*51.5*		*"*	*50.0*		*103*	*70-130*			
Matrix Spike (P9C2603-MS1)	**Source: 9C25009-01**			Prepared: 03/26/19 Analyzed: 03/30/19						
C6-C12	817	25.5	mg/kg dry	1020	11.4	79.0	75-125			
>C12-C28	1290	25.5	"	1020	90.1	117	75-125			
Surrogate: 1-Chlorooctane	*113*		*"*	*102*		*110*	*70-130*			
Surrogate: o-Terphenyl	*47.2*		*"*	*51.0*		*92.5*	*70-130*			

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

Project: Indigo Federal #1
Project Number: 18-0138-05
Project Manager: Mark Larson

Fax: (432) 687-0456

Notes and Definitions

ROI	Received on Ice
R2	The RPD exceeded the acceptance limit.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
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: 4/8/2019

Brent Barron, Laboratory Director/Technical Director

Nº 0608

CHAIN-OF-CUSTODY

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

DATE: 3/22/19 PAGE 1 OF 1

PO#: _____ LAB WORK ORDER#: 9C22013

PROJECT LOCATION OR NAME: Indigo Federal

LAI PROJECT #: 18-0138-05 COLLECTOR: RO

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 ☒ - RO | SVOC 8270 ☐ | PAH 8270 ☐ | HOLDPAH ☐ | 8081 PESTICIDES ☐ | 8151 HERBICIDES ☐ | 8082 PCBS ☐ | TCLP - METALS (RCRA) ☐ | TCLP - PEST ☐ | TCLP VOC ☐ | TOTAL METALS (RCRA) ☐ | HERB ☐ | Semi-VOC ☐ | LEAD - TOTAL ☐ | D.W. 200.8 ☐ | OTHER LIST ☐ | RCI ☐ | TOX ☐ | TCLP ☐ | TDS ☐ | FLASHPOINT ☐ | TSS ☐ | % MOISTURE ☐ | pH ☐ | HEXAVALENT CHROMIUM ☐ | CYANIDE ☐ | EXPLOSIVES ☐ | PECHLORATE ☐ | CHLORIDES ☒ | ANIONS ☐ | ALKALINITY ☐ | m300

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESSERVED	BTEX ☒	TRPH 418.1 ☐	GASOLINE MOD 8015 ☒	DIESEL - MOD 8015 ☒	OIL - MOD 8015 ☒	VOC 8260 ☒ - RO	SVOC 8270 ☐	PAH 8270 ☐	8081 PESTICIDES ☐	8082 PCBS ☐	TCLP - METALS (RCRA) ☐	TCLP - PEST ☐	TOTAL METALS (RCRA) ☐	LEAD - TOTAL ☐	RCI ☐	TDS ☐	pH ☐	CHLORIDES ☒	FIELD NOTES
DP-6 (4')	01	3/21/19	11:20	S	1				X																			X	
DP-7 (4')	02		11:35																									X	
DP-6.1 (1')	03		13:38								X		X	X														X	
DP-6.2 (1')	04		13:40								X																		
DP-6.3 (1')	05		13:43								X		X	X														X	
DP-6.4 (1')	06		13:45								X																		
DP-6.5 (2')	07		13:48								X																		
DP-7.1 (1')	08		13:55								X																		
DP-7.2 (1')	09		13:58								X																		
DP-7.3 (1')	10		14:02								X																		
DP-7.4 (2')	11		14:05								X																		
DP-3 (4')	12		14:25																									X	
DP-8 (4')	13		14:31																									X	

TOTAL 13

RELINQUISHED BY:(Signature) Chris Olsen DATE/TIME 3/22/19 15:00 RECEIVED BY: (Signature)

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

RELINQUISHED BY:(Signature) DATE/TIME 3-22-19 1500 RECEIVED BY: (Signature)

LABORATORY: PBEL

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

LABORATORY USE ONLY:
RECEIVING TEMP: 1.1-2.1 THERM#: CF1,12
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL # _____
☐ HAND DELIVERED

Certificate of Analysis Summary 620064

Larson and Associates, Inc., Midland, TX

Project Name: Indigo Federal

Project Id: 18-0138-05
Contact: Mark Larson
Project Location:

Date Received in Lab: Thu Apr-04-19 10:05 am
Report Date: 16-APR-19
Project Manager: Holly Taylor

Analysis Requested									
	Lab Id:	620064-001		620064-002		620064-003			
	Field Id:	DP-7.5 (1.5')		DP-7.6 (3')		DP-7.7 (1.5')			
	Depth:								
	Matrix:	SOIL		SOIL		SOIL			
	Sampled:	Apr-02-19 12:32		Apr-02-19 12:52		Apr-02-19 13:13			
BTEX by EPA 8021B	***Extracted:***	Apr-11-19 10:00		Apr-11-19 10:00		Apr-11-19 10:00			
	Analyzed:	Apr-11-19 15:59		Apr-11-19 17:29		Apr-11-19 17:48			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Benzene		<0.00201	0.00201	<0.00199	0.00199	<0.00199	0.00199		
Toluene		<0.00201	0.00201	<0.00199	0.00199	<0.00199	0.00199		
Ethylbenzene		<0.00201	0.00201	<0.00199	0.00199	<0.00199	0.00199		
m,p-Xylenes		<0.00402	0.00402	<0.00398	0.00398	<0.00398	0.00398		
o-Xylene		<0.00201	0.00201	<0.00199	0.00199	<0.00199	0.00199		
Total Xylenes		<0.00201	0.00201	<0.00199	0.00199	<0.00199	0.00199		
Total BTEX		<0.00201	0.00201	<0.00199	0.00199	<0.00199	0.00199		
Chloride by EPA 300 **SUB: T104704215-19-29**	***Extracted:***	Apr-09-19 14:53		Apr-09-19 14:53		Apr-09-19 14:53			
	Analyzed:	Apr-10-19 00:34		Apr-10-19 01:09		Apr-10-19 01:27			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		39.1	10.0	102	9.90	<9.98	9.98		
TPH by SW8015 Mod	***Extracted:***	Apr-05-19 17:00		Apr-05-19 17:00		Apr-05-19 17:00			
	Analyzed:	Apr-06-19 12:02		Apr-06-19 12:23		Apr-06-19 12:44			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0		
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0		
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0		
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0		

Holly Taylor
Project Manager

Analytical Report 620064

for

Larson and Associates, Inc.

Project Manager: Mark Larson

Indigo Federal

18-0138-05

16-APR-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)
Xenco-Lakeland: Florida (E84098)

16-APR-19

Project Manager: **Mark Larson**
Larson and Associates, Inc.
P. O. Box 50685
Midland, TX 79710

Reference: XENCO Report No(s): **620064**
Indigo Federal
Project Address:

Mark Larson :

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 620064. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 620064 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Holly Taylor

Holly Taylor
Project Manager

Sample Cross Reference 620064

Larson and Associates, Inc., Midland, TX

Indigo Federal

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
DP-7.5 (1.5')	S	04-02-19 12:32		620064-001
DP-7.6 (3')	S	04-02-19 12:52		620064-002
DP-7.7 (1.5')	S	04-02-19 13:13		620064-003

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3085496 BTEX by EPA 8021B
Lab Sample ID 620064-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike. Benzene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 620064-001, -002, -003.
The Laboratory Control Sample for Benzene, m,p-Xylenes, o-Xylene is within laboratory Control Limits, therefore the data was accepted.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected. Samples affected are: 620064-001.

Certificate of Analytical Results 620064

Larson and Associates, Inc., Midland, TX

Indigo Federal

Sample Id:	**DP-7.5 (1.5')**	Matrix:	Soil	Date Received:	04.04.19 10.05
Lab Sample Id:	620064-001	Date Collected:	04.02.19 12.32		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	04.09.19 14.53	Basis:	Wet Weight
Seq Number:	3085116			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**39.1**	10.0	mg/kg	04.10.19 00.34		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.05.19 17.00	Basis:	Wet Weight
Seq Number:	3084906				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.06.19 12.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.06.19 12.02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.06.19 12.02	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.06.19 12.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	04.06.19 12.02	
o-Terphenyl	84-15-1	83	%	70-135	04.06.19 12.02	

Certificate of Analytical Results 620064

Larson and Associates, Inc., Midland, TX

Indigo Federal

Sample Id:	**DP-7.5 (1.5')**	Matrix:	Soil	Date Received:	04.04.19 10.05
Lab Sample Id:	620064-001	Date Collected:	04.02.19 12.32		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.11.19 10.00	Basis:	Wet Weight
Seq Number:	3085496				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.11.19 15.59	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.11.19 15.59	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.11.19 15.59	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.11.19 15.59	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.11.19 15.59	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	04.11.19 15.59	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.11.19 15.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	131	%	70-130	04.11.19 15.59	**
1,4-Difluorobenzene	540-36-3	99	%	70-130	04.11.19 15.59	

Certificate of Analytical Results 620064

Larson and Associates, Inc., Midland, TX

Indigo Federal

Sample Id:	**DP-7.6 (3')**	Matrix:	Soil	Date Received:	04.04.19 10.05
Lab Sample Id:	620064-002	Date Collected:	04.02.19 12.52		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	04.09.19 14.53	Basis:	Wet Weight
Seq Number:	3085116			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**102**	9.90	mg/kg	04.10.19 01.09		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.05.19 17.00	Basis:	Wet Weight
Seq Number:	3084906				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.06.19 12.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.06.19 12.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.06.19 12.23	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.06.19 12.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	04.06.19 12.23	
o-Terphenyl	84-15-1	84	%	70-135	04.06.19 12.23	

Certificate of Analytical Results 620064

Larson and Associates, Inc., Midland, TX

Indigo Federal

Sample Id:	**DP-7.6 (3')**	Matrix:	Soil	Date Received:	04.04.19 10.05
Lab Sample Id:	620064-002	Date Collected:	04.02.19 12.52		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.11.19 10.00	Basis:	Wet Weight
Seq Number:	3085496				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.11.19 17.29	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.11.19 17.29	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.11.19 17.29	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.11.19 17.29	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.11.19 17.29	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.11.19 17.29	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.11.19 17.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	120	%	70-130	04.11.19 17.29	
1,4-Difluorobenzene	540-36-3	103	%	70-130	04.11.19 17.29	

Certificate of Analytical Results 620064

Larson and Associates, Inc., Midland, TX

Indigo Federal

Sample Id:	**DP-7.7 (1.5')**	Matrix:	Soil	Date Received:	04.04.19 10.05
Lab Sample Id:	620064-003	Date Collected:	04.02.19 13.13		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	JYM			% Moisture:	
Analyst:	JYM	Date Prep:	04.09.19 14.53	Basis:	Wet Weight
Seq Number:	3085116			SUB:	T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	04.10.19 01.27	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.05.19 17.00	Basis:	Wet Weight
Seq Number:	3084906				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.06.19 12.44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.06.19 12.44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.06.19 12.44	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.06.19 12.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	04.06.19 12.44	
o-Terphenyl	84-15-1	88	%	70-135	04.06.19 12.44	

Certificate of Analytical Results 620064

Larson and Associates, Inc., Midland, TX

Indigo Federal

Sample Id:	**DP-7.7 (1.5')**	Matrix:	Soil	Date Received:	04.04.19 10.05
Lab Sample Id:	620064-003	Date Collected:	04.02.19 13.13		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.11.19 10.00	Basis:	Wet Weight
Seq Number:	3085496				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.11.19 17.48	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.11.19 17.48	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.11.19 17.48	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.11.19 17.48	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.11.19 17.48	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.11.19 17.48	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.11.19 17.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	118	%	70-130	04.11.19 17.48	
1,4-Difluorobenzene	540-36-3	105	%	70-130	04.11.19 17.48	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 620064

Larson and Associates, Inc.

Indigo Federal

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3085116 Matrix: Solid Date Prep: 04.09.19
MB Sample Id: 7675357-1-BLK LCS Sample Id: 7675357-1-BKS LCSD Sample Id: 7675357-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	100	103	103	103	103	80-120	0	20	mg/kg	04.09.19 23:32	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3085116 Matrix: Soil Date Prep: 04.09.19
Parent Sample Id: 620070-001 MS Sample Id: 620070-001 S MSD Sample Id: 620070-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	253	100	356	103	357	104	80-120	0	20	mg/kg	04.10.19 01:53	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3085116 Matrix: Soil Date Prep: 04.09.19
Parent Sample Id: 620070-002 MS Sample Id: 620070-002 S MSD Sample Id: 620070-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	780	100	874	94	870	90	80-120	0	20	mg/kg	04.10.19 02:20	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3084906 Matrix: Solid Date Prep: 04.05.19
MB Sample Id: 7675253-1-BLK LCS Sample Id: 7675253-1-BKS LCSD Sample Id: 7675253-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	933	93	987	99	70-135	6	20	mg/kg	04.06.19 04:33	
Diesel Range Organics (DRO)	<8.13	1000	1010	101	1070	107	70-135	6	20	mg/kg	04.06.19 04:33	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		119		124		70-135	%	04.06.19 04:33
o-Terphenyl	94		116		122		70-135	%	04.06.19 04:33

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

QC Summary 620064

Larson and Associates, Inc.

Indigo Federal

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3084906 Matrix: Soil Date Prep: 04.05.19
Parent Sample Id: 619598-001 MS Sample Id: 619598-001 S MSD Sample Id: 619598-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	998	919	92	916	92	70-135	0	20	mg/kg	04.06.19 05:34	
Diesel Range Organics (DRO)	8.12	998	992	99	1010	101	70-135	2	20	mg/kg	04.06.19 05:34	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	117		116		70-135	%	04.06.19 05:34
o-Terphenyl	112		108		70-135	%	04.06.19 05:34

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3085496 Matrix: Solid Date Prep: 04.11.19
MB Sample Id: 7675649-1-BLK LCS Sample Id: 7675649-1-BKS LCSD Sample Id: 7675649-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.101	101	0.0995	100	70-130	1	35	mg/kg	04.11.19 13:04	
Toluene	<0.00199	0.0996	0.0980	98	0.0955	96	70-130	3	35	mg/kg	04.11.19 13:04	
Ethylbenzene	<0.00199	0.0996	0.102	102	0.0987	99	70-130	3	35	mg/kg	04.11.19 13:04	
m,p-Xylenes	<0.00398	0.199	0.204	103	0.198	99	70-130	3	35	mg/kg	04.11.19 13:04	
o-Xylene	<0.00199	0.0996	0.103	103	0.100	100	70-130	3	35	mg/kg	04.11.19 13:04	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		99		99		70-130	%	04.11.19 13:04
4-Bromofluorobenzene	101		104		105		70-130	%	04.11.19 13:04

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3085496 Matrix: Soil Date Prep: 04.11.19
Parent Sample Id: 620064-001 MS Sample Id: 620064-001 S MSD Sample Id: 620064-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0628	62	0.0640	63	70-130	2	35	mg/kg	04.11.19 14:45	X
Toluene	<0.00202	0.101	0.0810	80	0.0833	82	70-130	3	35	mg/kg	04.11.19 14:45	
Ethylbenzene	<0.00202	0.101	0.0836	83	0.0891	88	70-130	6	35	mg/kg	04.11.19 14:45	
m,p-Xylenes	0.00119	0.202	0.137	67	0.181	89	70-130	28	35	mg/kg	04.11.19 14:45	X
o-Xylene	<0.00202	0.101	0.0663	66	0.0899	89	70-130	30	35	mg/kg	04.11.19 14:45	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		94		70-130	%	04.11.19 14:45
4-Bromofluorobenzene	126		122		70-130	%	04.11.19 14:45

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

Nº 0609

CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants

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

Data Reported to:

DATE: 4/4/19 PAGE 1 OF 1

PO#: LAB WORK ORDER#:

PROJECT LOCATION OR NAME: Indigo federal

LAI PROJECT #: 18-0138-05 COLLECTOR: RO

TRRP report? ☐ Yes ☒ No

TIME ZONE: Time zone/State: MST

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

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	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 ☐	pH ☐	CYANIDE ☐	EXPLOSIVES ☐	HEXAVALENT CHROMIUM ☐	CHLORIDES ☒	PECHLORATE ☐	ANIONS ☐	ALKALINITY ☐	M300	FIELD NOTES
DP-7.5(1.5')		4/2/19	12:32	S	1				X		X			X	X	X																													
DP-7.6(3')		"	12:52	"	"				"		"			"	"	"																													
DP-7.7(1.5')		"	13:13	"	"				"		"			"	"	"																													

TOTAL 3

RELINQUISHED BY:(Signature) DATE/TIME 4/4/19 RECEIVED BY: (Signature) 10:05

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

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

LABORATORY: [redacted] Xenco

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

LABORATORY USE ONLY:
RECEIVING TEMP: 2.6 THERM#: 18
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL #
☐ HAND DELIVERED

Final 1.000

Inter-Office Shipment

IOS Number **126127**

Date/Time: 04/08/19 11:51
Lab# From: **Midland**
Lab# To: **Houston**

Created by: Katie Lowe
Delivery Priority:
Air Bill No.: 0774915573670

Please send report to: Holly Taylor
Address: 1211 W. Florida Ave
E-Mail: holly.taylor@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
620064-001	S	DP-7.5 (1.5')	04/02/19 12:32	E300_CL	Chloride by EPA 300	**04/10/19**	04/30/19	HTA	CL	
620064-002	S	DP-7.6 (3')	04/02/19 12:52	E300_CL	Chloride by EPA 300	**04/10/19**	04/30/19	HTA	CL	
620064-003	S	DP-7.7 (1.5')	04/02/19 13:13	E300_CL	Chloride by EPA 300	**04/10/19**	04/30/19	HTA	CL	

Inter Office Shipment or Sample Comments:

Relinquished By: Katie Lowe

Date Relinquished: 04/08/2019

Received By: Taha Hedib

Date Received: 04/09/2019 09:00

Cooler Temperature: 3.4

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Houston

IOS #: 126127

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used : hou-068

Sent By: Katie Lowe **Date Sent:** 04/08/2019 11:51 AM

Received By: Taha Hedib **Date Received:** 04/09/2019 09:00 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	3.4	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received with appropriate temperature?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**	
#5 *Custody Seals Signed and dated for Containers/coolers	**Yes**	
#6 *IOS present?	**Yes**	
#7 Any missing/extra samples?	**No**	
#8 IOS agrees with sample label(s)/matrix?	**Yes**	
#9 Sample matrix/ properties agree with IOS?	**Yes**	
#10 Samples in proper container/ bottle?	**Yes**	
#11 Samples properly preserved?	**Yes**	
#12 Sample container(s) intact?	**Yes**	
#13 Sufficient sample amount for indicated test(s)?	**Yes**	
#14 All samples received within hold time?	**Yes**	

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ **Contacted by :** _____ **Date:** _____

Checklist reviewed by: _____ Date: 04/09/2019

Taha Hedib

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Larson and Associates, Inc.

Date/ Time Received: 04/04/2019 10:05:00 AM

Work Order #: 620064

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2.6
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**N/A**
#18 Water VOC samples have zero headspace?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 04/04/2019

Brianna Teel

Checklist reviewed by: Holly Taylor Date: 04/05/2019

Holly Taylor

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: Indigo Federal #1

Project Number: 18-0138-05

Location: None Given

Lab Order Number: 9I26002

NELAP ACCREDITED TNI LABORATORY

NELAP/TCEQ # T104704516-18-9

Report Date: 09/30/19

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

Project: Indigo Federal #1
Project Number: 18-0138-05
Project Manager: Mark Larson

Fax: (432) 687-0456

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Caliche Backfill 1	9I26002-01	Soil	09/24/19 09:54	09-26-2019 09:00
Caliche Backfill 2	9I26002-02	Soil	09/24/19 09:55	09-26-2019 09:00
Caliche Backfill 3	9I26002-03	Soil	09/24/19 09:56	09-26-2019 09:00
Caliche Backfill 4	9I26002-04	Soil	09/24/19 09:57	09-26-2019 09:00
DP-6.3 Composite	9I26002-05	Soil	09/24/19 11:15	09-26-2019 09:00

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

Project: Indigo Federal #1
Project Number: 18-0138-05
Project Manager: Mark Larson

Fax: (432) 687-0456

Caliche Backfill 1

9I26002-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**138**	29.1	mg/kg dry	25	P9I2801	09/28/19	09/29/19	EPA 300.0	
% Moisture	**14.0**	0.1	%	1	P9I2704	09/27/19	09/27/19	ASTM D2216	

Larson & Associates, Inc.	Project: Indigo Federal #1	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 18-0138-05	
Midland TX, 79710	Project Manager: Mark Larson	

Caliche Backfill 2

9I26002-02 (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	**177**	28.7	mg/kg dry	25	P9I2801	09/28/19	09/29/19	EPA 300.0	
% Moisture	**13.0**	0.1	%	1	P9I2704	09/27/19	09/27/19	ASTM D2216	

Larson & Associates, Inc.	Project: Indigo Federal #1	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 18-0138-05	
Midland TX, 79710	Project Manager: Mark Larson	

Caliche Backfill 3

9I26002-03 (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	**194**	29.1	mg/kg dry	25	P9I2801	09/28/19	09/29/19	EPA 300.0	
% Moisture	**14.0**	0.1	%	1	P9I2704	09/27/19	09/27/19	ASTM D2216	

Larson & Associates, Inc.	Project: Indigo Federal #1	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 18-0138-05	
Midland TX, 79710	Project Manager: Mark Larson	

Caliche Backfill 4

9I26002-04 (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	**97.1**	29.1	mg/kg dry	25	P9I2801	09/28/19	09/29/19	EPA 300.0	
% Moisture	**14.0**	0.1	%	1	P9I2704	09/27/19	09/27/19	ASTM D2216	

Larson & Associates, Inc.	Project: Indigo Federal #1	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 18-0138-05	
Midland TX, 79710	Project Manager: Mark Larson	

DP-6.3 Composite

9I26002-05 (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	**1790**	28.4	mg/kg dry	25	P9I2801	09/28/19	09/29/19	EPA 300.0	
% Moisture	**12.0**	0.1	%	1	P9I2704	09/27/19	09/27/19	ASTM D2216	

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 P9I2704 - * DEFAULT PREP *****										
Blank (P9I2704-BLK1)				Prepared & Analyzed: 09/27/19						
% Moisture	ND	0.1	%							
Duplicate (P9I2704-DUP1)	**Source: 9I26003-03**			Prepared & Analyzed: 09/27/19						
% Moisture	3.0	0.1	%		4.0			28.6	20	
Batch P9I2801 - * DEFAULT PREP *****										
Blank (P9I2801-BLK1)				Prepared: 09/28/19 Analyzed: 09/29/19						
Chloride	ND	1.00	mg/kg wet							
LCS (P9I2801-BS1)				Prepared: 09/28/19 Analyzed: 09/29/19						
Chloride	390	1.00	mg/kg wet	400		97.6	80-120			
LCS Dup (P9I2801-BSD1)				Prepared: 09/28/19 Analyzed: 09/29/19						
Chloride	394	1.00	mg/kg wet	400		98.5	80-120	0.867	20	
Calibration Blank (P9I2801-CCB1)				Prepared: 09/28/19 Analyzed: 09/29/19						
Chloride	0.00		mg/kg wet							
Calibration Blank (P9I2801-CCB2)				Prepared: 09/28/19 Analyzed: 09/29/19						
Chloride	0.00		mg/kg wet							
Calibration Check (P9I2801-CCV1)				Prepared: 09/28/19 Analyzed: 09/29/19						
Chloride	19.1		mg/kg	20.0		95.3	0-200			
Calibration Check (P9I2801-CCV2)				Prepared: 09/28/19 Analyzed: 09/29/19						
Chloride	19.0		mg/kg	20.0		94.8	0-200			

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

Project: Indigo Federal #1
Project Number: 18-0138-05
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 P9I2801 - * DEFAULT PREP *** **										
Calibration Check (P9I2801-CCV3)				Prepared: 09/28/19 Analyzed: 09/30/19						
Chloride	19.3		mg/kg	20.0		96.7	0-200			
Matrix Spike (P9I2801-MS1)		**Source: 9I25003-04**		Prepared: 09/28/19 Analyzed: 09/29/19						
Chloride	1820	5.38	mg/kg dry	538	1220	111	80-120			
Matrix Spike (P9I2801-MS2)		**Source: 9I26002-04**		Prepared: 09/28/19 Analyzed: 09/29/19						
Chloride	2910	29.1	mg/kg dry	2910	97.1	96.8	80-120			
Matrix Spike Dup (P9I2801-MSD1)		**Source: 9I25003-04**		Prepared: 09/28/19 Analyzed: 09/29/19						
Chloride	1750	5.38	mg/kg dry	538	1220	98.4	80-120	3.85	20	
Matrix Spike Dup (P9I2801-MSD2)		**Source: 9I26002-04**		Prepared: 09/28/19 Analyzed: 09/29/19						
Chloride	3110	29.1	mg/kg dry	2910	97.1	104	80-120	6.64	20	

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

Project: Indigo Federal #1
Project Number: 18-0138-05
Project Manager: Mark Larson

Fax: (432) 687-0456

Notes and Definitions

ROI	Received on Ice
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: 9/30/2019

Brent Barron, Laboratory Director/Technical Director

№ 0771

CHAIN-OF-CUSTOD

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

Data Reported to:

DATE: 9/26/2019 PAGE 1 OF 1

PO#: LAB WORK ORDER#: 9F26002

PROJECT LOCATION OR NAME: Indigo Federal

LAI PROJECT #: 18038-05 COLLECTOR: RO

TRRP report? ☐ Yes ☒ No

TIME ZONE: Time zone/State: MST

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

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	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 ☐	m 300	FIELD NOTES
caliche Backfill 1	1	9/24/19	9:54	S	1				X																				X		
caliche Backfill 2	2	"	9:55	"	"				"																				"		
caliche Backfill 3	3	"	9:56	"	"				"																				"		
caliche Backfill 4	4	"	9:57	"	"				"																				"		
DP-6.3 Composite	5	"	11:15	"	"				"																				"		

TOTAL 5

RELINQUISHED BY: (Signature) Candace Collins DATE/TIME 9/26/19 9:00 RECEIVED BY: (Signature)

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

RELINQUISHED BY:(Signature) DATE/TIME 9/26/19 9:00 RECEIVED BY: (Signature) Kimberly Clark

LABORATORY: PBEL

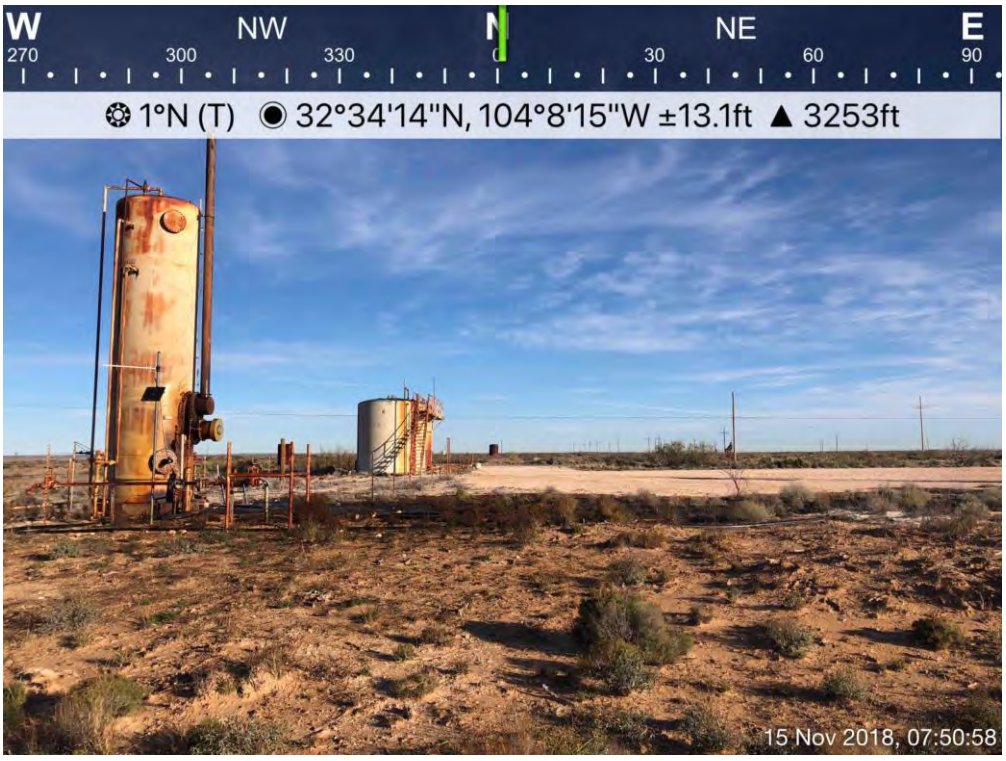
TURN AROUND TIME
NORMAL ☒
1 DAY ☐
2 DAY ☐
OTHER ☐

LABORATORY USE ONLY:
RECEIVING TEMP: 2.5 - 3.5 THERM#:
CUSTODY SEALS - ☐ BROKEN ☒ INTACT ☐ NOT USED
☐ CARRIER BILL #
☒ HAND DELIVERED 12 Cft-1

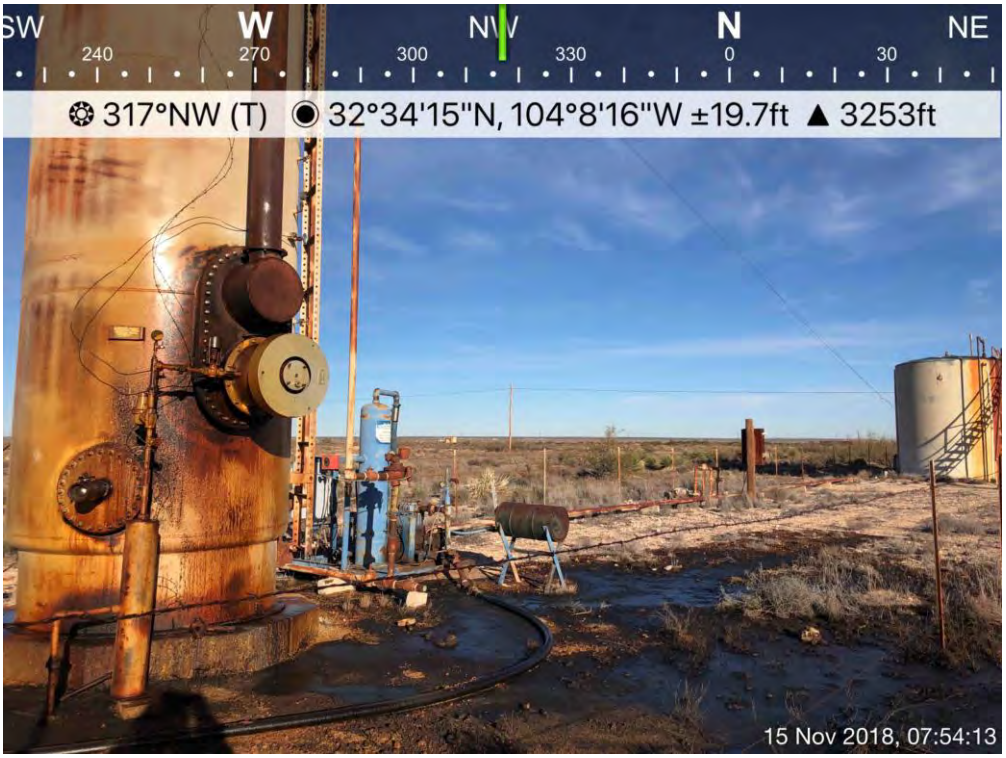
Appendix D

Photographs

Indigo Federal #1 Viewing South, November 15, 2018

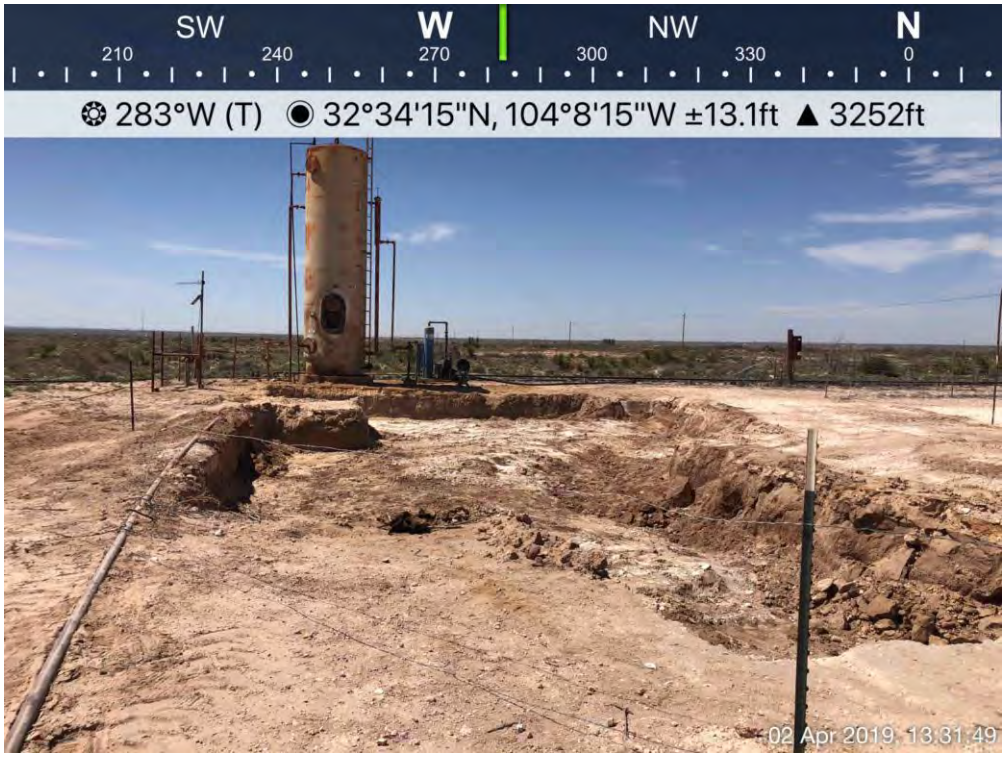


Spill Area Viewing North, November 15, 2018



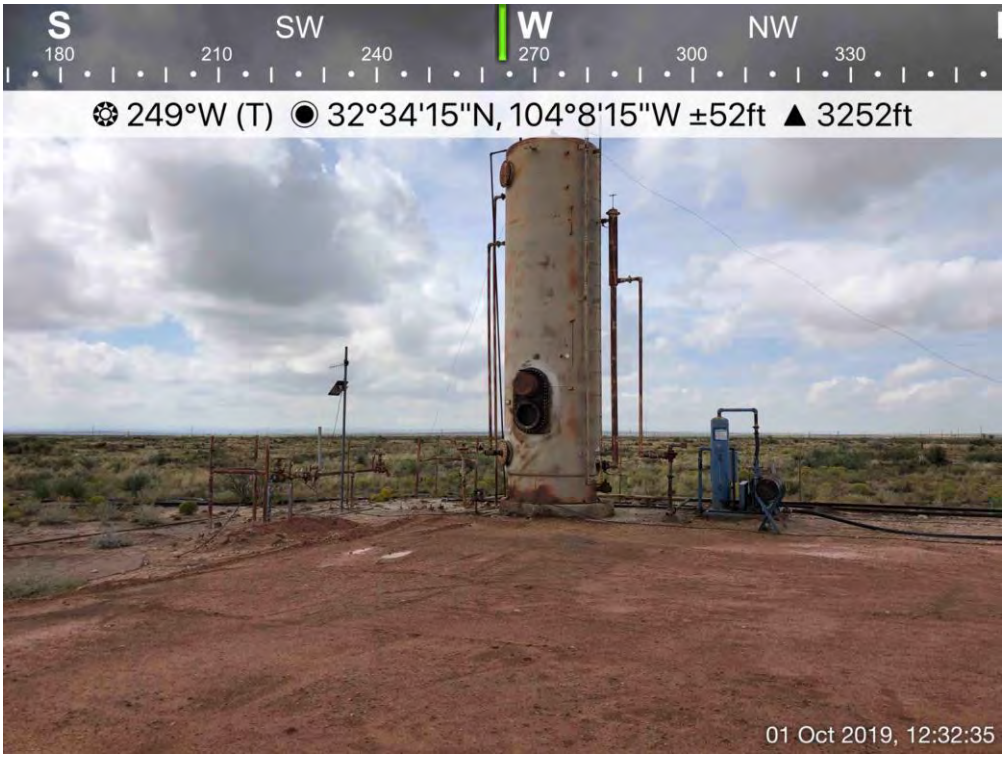
Spill Area Viewing Northwest, November 15, 2018

Spill Area Viewing South, November 15, 2018



Excavation Area Viewing West, April 2, 2019

Excavation Area Viewing East, April 2, 2019



Backfill Area Viewing West, October 1, 2019

Appendix E

Waste Manifests

R360 ENVIRONMENTAL SOLUTIONS

Permian Basin

Customer:	LEGACY RESERVES OPERATI	Ticket #:	700-997402
Customer #:	CRI3660	Bid #:	O6UJ9A000D7Y
Ordered by:	STEVE DITTMAN	Date:	4/1/2019
AFE #:		Generator:	LEGACY RESERVES OPERAT
PO #:		Generator #:	
Manifest #:	NA	Well Ser. #:	26478
Manif. Date:	4/1/2019	Well Name:	INDIGO FEDERAL
Hauler:	SUPERIOR OILFIELD MAINTEN	Well #:	001
Driver	JOE	Field:	
Truck #	07	Field #:	
Card #		Rig:	NON-DRILLING
Job Ref #		County	EDDY (NM)

Facility: CRI

Product / Service	Quantity Units
Contaminated Soil (RCRA Exempt)	20.00 yards

	Cell	pH	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0						

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

X RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt wast

__ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

__ MSDS Information __ RCRA Hazardous Waste Analysis __ Process Knowledge __ Other (Provide description above)

Driver/ Agent Signature **R360 Representative Signature**

_____ _____

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____

Permian Basin

Customer:	LEGACY RESERVES OPERATI	Ticket #:	700-997456
Customer #:	CRI3660	Bid #:	O6UJ9A000D7Y
Ordered by:	STEVE DITTMAN	Date:	4/1/2019
AFE #:		Generator:	LEGACY RESERVES OPERA
PO #:		Generator #:	
Manifest #:	NA	Well Ser. #:	26478
Manif. Date:	4/1/2019	Well Name:	INDIGO FEDERAL
Hauler:	SUPERIOR OILFIELD SERVICE	Well #:	001
Driver	JOE	Field:	
Truck #	07	Field #:	
Card #		Rig:	NON-DRILLING
Job Ref #		County	EDDY (NM)

Facility: CRI

Product / Service	**Quantity Units**
Contaminated Soil (RCRA Exempt)	20.00 yards

	Cell	pH	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0						

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

X RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste

__ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

__ MSDS Information __ RCRA Hazardous Waste Analysis __ Process Knowledge __ Other (Provide description above)

Driver/ Agent Signature **R360 Representative Signature**

______________________ ______________________

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: ______________________ Date: ______________________

R360 ENVIRONMENTAL SOLUTIONS

Permian Basin

Customer:	LEGACY RESERVES OPERATI	Ticket #:	700-997377
Customer #:	CRI3660	Bid #:	O6UJ9A000D7Y
Ordered by:	STEVE DITTMAN	Date:	4/1/2019
AFE #:		Generator:	LEGACY RESERVES OPERATI
PO #:		Generator #:	
Manifest #:	NA	Well Ser. #:	26478
Manif. Date:	4/1/2019	Well Name:	INDIGO FEDERAL
Hauler:	SUPERIOR OILFIELD SERVICE	Well #:	001
Driver	JOE	Field:	
Truck #	07	Field #:	
Card #		Rig:	NON-DRILLING
Job Ref #		County	EDDY (NM)

Facility: CRI

Product / Service	Quantity	Units
Contaminated Soil (RCRA Exempt)	20.00	yards

	Cell	pH	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0						

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

X RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt wastes

__ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

__ MSDS Information __ RCRA Hazardous Waste Analysis __ Process Knowledge __ Other (Provide description above)

Driver/ Agent Signature **R360 Representative Signature**

_____ _____

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____

Permian Basin

Customer:	LEGACY RESERVES OPERATI	Ticket #:	700-993909
Customer #:	CRI3660	Bid #:	O6UJ9A000D7Y
Ordered by:	STEVE DITTMAN	Date:	3/22/2019
AFE #:		Generator:	LEGACY RESERVES OPERA
PO #:		Generator #:	
Manifest #:	NA	Well Ser. #:	26478
Manif. Date:	3/22/2019	Well Name:	INDIGO FEDERAL
Hauler:	SUPERIOR OILFIELD SERVICE	Well #:	001
Driver	JOE	Field:	
Truck #	07	Field #:	
Card #		Rig:	NON-DRILLING
Job Ref #		County	EDDY (NM)

Facility: CRI

Product / Service	Quantity Units
Contaminated Soil (RCRA Exempt)	20.00 yards

	Cell	pH	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0						

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

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__ MSDS Information __ RCRA Hazardous Waste Analysis __ Process Knowledge __ Other (Provide description above)

Driver/ Agent Signature

_____

R360 Representative Signature

_____

Customer Approval

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Approved By: _____ Date: _____

R360 ENVIRONMENTAL SOLUTIONS

Permian Basin

Customer:	LEGACY RESERVES OPERATI	Ticket #:	700-993860
Customer #:	CRI3660	Bid #:	O6UJ9A000D7Y
Ordered by:	STEVEN DITTMAN	Date:	3/22/2019
AFE #:		Generator:	LEGACY RESERVES OPERATI
PO #:		Generator #:	
Manifest #:	NA	Well Ser. #:	26478
Manif. Date:	3/22/2019	Well Name:	INDIGO FEDERAL
Hauler:	SUPERIOR OILFIELD SERVICE	Well #:	001
Driver	JOE	Field:	
Truck #	07	Field #:	
Card #		Rig:	NON-DRILLING
Job Ref #		County	EDDY (NM)

Facility: CRI

Product / Service	Quantity Units
Contaminated Soil (RCRA Exempt)	20.00 yards

	Cell	pH	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0						

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

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__ MSDS Information __ RCRA Hazardous Waste Analysis __ Process Knowledge __ Other (Provide description above)

Driver/ Agent Signature **R360 Representative Signature**

_____ _____

Customer Approval

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Approved By: _____ Date: _____

R360 ENVIRONMENTAL SOLUTIONS

Permian Basin

Customer:	LEGACY RESERVES OPERATI	Ticket #:	700-997613
Customer #:	CRI3660	Bid #:	O6UJ9A000D7Y
Ordered by:	STEVE DITTMAN	Date:	4/2/2019
AFE #:		Generator:	LEGACY RESERVES OPERATI
PO #:		Generator #:	
Manifest #:	NA	Well Ser. #:	26478
Manif. Date:	4/2/2019	Well Name:	INDIGO FEDERAL
Hauler:	SUPERIOR OILFIELD SERVICE	Well #:	001
Driver	JOE	Field:	
Truck #	07	Field #:	
Card #		Rig:	NON-DRILLING
Job Ref #		County	EDDY (NM)

Facility: CRI

Product / Service	Quantity Units
Contaminated Soil (RCRA Exempt)	20.00 yards

	Cell	pH	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0						

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

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__ MSDS Information __ RCRA Hazardous Waste Analysis __ Process Knowledge __ Other (Provide description above)

Driver/ Agent Signature **R360 Representative Signature**

_____ _____

Customer Approval

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Approved By: _____ Date: _____

R360 ENVIRONMENTAL SOLUTIONS

Permian Basin

Customer:	LEGACY RESERVES OPERATI	Ticket #:	700-997642
Customer #:	CRI3660	Bid #:	O6UJ9A000D7Y
Ordered by:	STEVEN DITTMAN	Date:	4/2/2019
AFE #:		Generator:	LEGACY RESERVES OPERAT
PO #:		Generator #:	
Manifest #:	NA	Well Ser. #:	26478
Manif. Date:	4/2/2019	Well Name:	INDIGO FEDERAL
Hauler:	SUPERIOR OILFIELD SERVICE	Well #:	001
Driver	JOE	Field:	
Truck #	07	Field #:	
Card #		Rig:	NON-DRILLING
Job Ref #		County	EDDY (NM)

Facility: CRI

Product / Service	Quantity Units
Contaminated Soil (RCRA Exempt)	20.00 yards

	Cell	pH	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0						

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

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Driver/ Agent Signature **R360 Representative Signature**

_____ _____

Customer Approval

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Approved By: _____ Date: _____

R360 ENVIRONMENTAL SOLUTIONS

Permian Basin

Customer:	LEGACY RESERVES OPERATI	Ticket #:	700-997682
Customer #:	CRI3660	Bid #:	O6UJ9A000D7Y
Ordered by:	STEVE DITTMAN	Date:	4/2/2019
AFE #:		Generator:	LEGACY RESERVES OPERAT
PO #:		Generator #:	
Manifest #:	NA	Well Ser. #:	26478
Manif. Date:	4/2/2019	Well Name:	INDIGO FEDERAL
Hauler:	SUPERIOR OILFIELD SERVICE	Well #:	001
Driver	JOE	Field:	
Truck #	07	Field #:	
Card #		Rig:	NON-DRILLING
Job Ref #		County	EDDY (NM)

Facility: CRI

Product / Service	Quantity Units
Contaminated Soil (RCRA Exempt)	20.00 yards

	Cell	pH	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0						

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

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Driver/ Agent Signature **R360 Representative Signature**

_____ _____

Customer Approval

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R360 ENVIRONMENTAL SOLUTIONS

Permian Basin

Customer:	LEGACY RESERVES OPERATI	Ticket #:	700-993865
Customer #:	CRI3660	Bid #:	O6UJ9A000D7Y
Ordered by:	STEVE DITTMAN	Date:	3/22/2019
AFE #:		Generator:	LEGACY RESERVES OPERATI
PO #:		Generator #:	
Manifest #:	12652	Well Ser. #:	26478
Manif. Date:	3/22/2019	Well Name:	INDIGO FEDERAL
Hauler:	SUPERIOR OILFIELD SERVICE	Well #:	001
Driver	DENNIS	Field:	
Truck #	8	Field #:	
Card #		Rig:	NON-DRILLING
Job Ref #		County	EDDY (NM)

Facility: CRI

Product / Service	Quantity Units
Contaminated Soil (RCRA Exempt)	10.00 yards

	Cell	pH	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis.	50/51	0.00	0.00	0.00	0						

Generator Certification Statement of Waste Status

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Driver/ Agent Signature **R360 Representative Signature**

_____ _____

Customer Approval

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Approved By: _____ Date: _____

R360 ENVIRONMENTAL SOLUTIONS

Permian Basin

Customer:	LEGACY RESERVES OPERATI	Ticket #:	700-997979
Customer #:	CRI3660	Bid #:	O6UJ9A000D7Y
Ordered by:	STEVE DITTMAN	Date:	4/3/2019
AFE #:		Generator:	LEGACY RESERVES OPERAT
PO #:		Generator #:	
Manifest #:	NA	Well Ser. #:	26478
Manif. Date:	4/3/2019	Well Name:	INDIGO FEDERAL
Hauler:	SUPERIOR OILFIELD SERVICE	Well #:	001
Driver	JOE	Field:	
Truck #	7	Field #:	
Card #		Rig:	NON-DRILLING
Job Ref #		County	EDDY (NM)

Facility: CRI

Product / Service	Quantity Units
Contaminated Soil (RCRA Exempt)	20.00 yards

	Cell	pH	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0						

Generator Certification Statement of Waste Status

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Driver/ Agent Signature **R360 Representative Signature**

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R360 ENVIRONMENTAL SOLUTIONS

Permian Basin

Customer:	LEGACY RESERVES OPERATI	Ticket #:	700-997953
Customer #:	CRI3660	Bid #:	O6UJ9A000D7Y
Ordered by:	STEVE DITTMAN	Date:	4/3/2019
AFE #:		Generator:	LEGACY RESERVES OPERAT
PO #:		Generator #:	
Manifest #:	NA	Well Ser. #:	26478
Manif. Date:	4/3/2019	Well Name:	INDIGO FEDERAL
Hauler:	SUPERIOR OILFIELD SERVICE	Well #:	001
Driver	JOE	Field:	
Truck #	07	Field #:	
Card #		Rig:	NON-DRILLING
Job Ref #		County	EDDY (NM)

Facility: CRI

Product / Service	Quantity Units
Contaminated Soil (RCRA Exempt)	20.00 yards

	Cell	pH	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0						

Generator Certification Statement of Waste Status

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_ MSDS Information _ RCRA Hazardous Waste Analysis _ Process Knowledge _ Other (Provide description above)

Driver/ Agent Signature **R360 Representative Signature**

_____ _____

Customer Approval

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Approved By: _____ Date: _____

R360 ENVIRONMENTAL SOLUTIONS

Permian Basin

Customer:	LEGACY RESERVES OPERATI	Ticket #:	700-997780
Customer #:	CRI3660	Bid #:	O6UJ9A000D7Y
Ordered by:	STEVE DITTMAN	Date:	4/2/2019
AFE #:		Generator:	LEGACY RESERVES OPERAT
PO #:		Generator #:	
Manifest #:	NA	Well Ser. #:	26478
Manif. Date:	4/2/2019	Well Name:	INDIGO FEDERAL
Hauler:	SUPERIOR OILFIELD SERVICE	Well #:	001
Driver	JOE	Field:	
Truck #	07	Field #:	
Card #		Rig:	NON-DRILLING
Job Ref #		County	EDDY (NM)

Facility: CRI

Product / Service	Quantity Units
Contaminated Soil (RCRA Exempt)	20.00 yards

	Cell	pH	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0						

Generator Certification Statement of Waste Status

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__ MSDS Information __ RCRA Hazardous Waste Analysis __ Process Knowledge __ Other (Provide description above)

Driver/ Agent Signature **R360 Representative Signature**

_____ _____

Customer Approval

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Approved By: _____ Date: _____

R360 ENVIRONMENTAL SOLUTIONS

Permian Basin

Customer:	LEGACY RESERVES OPERATI	Ticket #:	700-997721
Customer #:	CRI3660	Bid #:	O6UJ9A000D7Y
Ordered by:	STEVE DITTMAN	Date:	4/2/2019
AFE #:		Generator:	LEGACY RESERVES OPERAT
PO #:		Generator #:	
Manifest #:	NA	Well Ser. #:	26478
Manif. Date:	4/2/2019	Well Name:	INDIGO FEDERAL
Hauler:	SUPERIOR OILFIELD SERVICE	Well #:	001
Driver	JOE	Field:	
Truck #	07	Field #:	
Card #		Rig:	NON-DRILLING
Job Ref #		County	EDDY (NM)

Facility: CRI

Product / Service	Quantity Units
Contaminated Soil (RCRA Exempt)	20.00 yards

	Cell	pH	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0						

Generator Certification Statement of Waste Status

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Driver/ Agent Signature **R360 Representative Signature**

Customer Approval

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