

Form C-141
Page 3

State of New Mexico
Oil Conservation Division

Incident ID	NOY1709044723
District RP	1RP-4664
Facility ID	FOY1709044496
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?	<u>29.98</u> (ft bgs)
Did this release impact groundwater or surface water?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NOY1709044723
District RP	1RP-4664
Facility ID	FOY1709044496
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: Cindy S. Klein Title: ES&H Supervisor
Signature:  Date: 8/30/2021
Email: cynthiaklein@targaresources.com Telephone: (575) 396-4220

OCD Only

Received by: _____ Date: _____

Form C-141
Page 5

State of New Mexico
Oil Conservation Division

Incident ID	NOY1709044723
District RP	1RP-4664
Facility ID	FOY1709044496
Application ID	

Remediation Plan

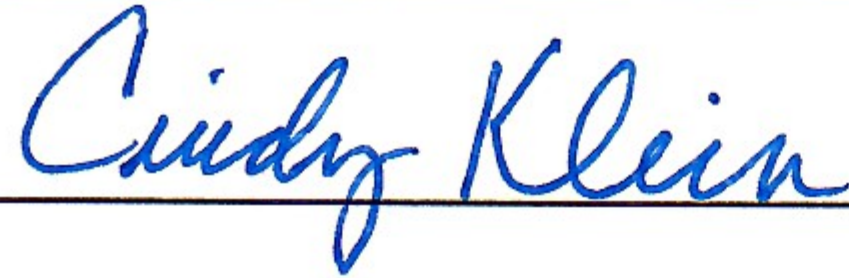
Remediation Plan Checklist: *Each of the following items must be included in the plan.*

- ☒ Detailed description of proposed remediation technique
- ☒ Scaled sitemap with GPS coordinates showing delineation points
- ☒ Estimated volume of material to be remediated
- ☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☒ 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: Cindy S. Klein Title: ES&H Supervisor
Signature:  Date: 8/30/2021
Email: cynthiaklein@targaresources.com Telephone: (575) 631-7093

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	NOY1709044723
District RP	1RP-4664
Facility ID	FOY1709044496
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.

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ 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)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ 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: Cindy S. Klein Title: ES&H Supervisor


Signature:  Date: 8/30/2021

Email: cynthiaklein@targaresources.com Telephone: (575) 631-7093

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: 03/09/2023

Printed Name: Nelson Velez Title: Environmental Specialist – Adv

August 4

2021

**nOY1709044723 (RP-4664) CLOSURE REPORT
Epperson 16 Inch Pipeline Release Site #1
Lea County, New Mexico**

Prepared for:



Targa Midstream Services LLC
P.O. Box 1689
Lovington, New Mexico 88269

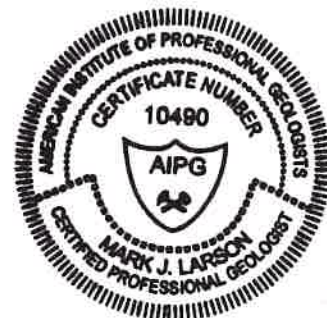
Prepared by:



507 N. Marienfeld Street, Suite 202
Midland, Texas 79701
(432)687-0901

Mark J Larson

Certified Professional Geologist #10490



Project No. 16-0120-01

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nOY1709044723 (1RP-4664) - Closure Report
 Epperson 16 Inch Pipeline Release Site #1
 August 4, 2021

Table of Contents

1.0	EXECUTIVE SUMMARY	1
2.0	INTRODUCTION	3
2.1	Background	3
2.2	Physical Site Setting	3
2.3	Remediation Standards.....	3
3.0	SPILL DELINEATON	3
4.0	SPILL REMEDIATION	4
5.0	EXCAVATION CLOSURE	5
6.0	GROUNDWATER INVESTIGATION	6
7.0	CONCLUSIONS.....	6
8.0	RECOMMENDATIONS.....	6

Tables

Table 1	Delineation Soil Sample Analytical Data Summary
Table 2	Remediation Soil Sample Analytical Data Summary
Table 3	Split Soil Sample Analytical Data Summary
Table 4	Monitoring Well Completion and Gauging Summary
Table 5	Groundwater Sample Analytical Data Summary

Figures

Figure 1	Topographic Map
Figure 2	Site Map
Figure 2a	Aerial Drawing Showing Main Excavation
Figure 2b	Aerial Drawing Showing Expanded Excavation
Figure 3	Groundwater Potentiometric Map, August 8, 2019

Appendices

Appendix A	Initial C-141
Appendix B	NMOCD Correspondence
Appendix C	Laboratory Soil Analytical Reports
Appendix D	GM Waste Disposal Summary
Appendix E	Photographs
Appendix F	Monitoring Well Logs and Completion Diagrams
Appendix G	Laboratory Groundwater Analytical Reports

nOY1709044723 (1RP-4664) - Closure Report
Epperson 16 Inch Pipeline Release Site #1
August 4, 2021

1.0 EXECUTIVE SUMMARY

This remediation and closure report has been prepared on behalf of Targa Midstream Services LLC, a wholly owned subsidiary of Targa Resources, Inc. (Targa), for submittal to the New Mexico Oil Conservation Division (NMOCD) District 1 to document the remediation of soils impacted by a release of natural gas liquids (NGL) from the 16-inch Epperson pipeline. NMOCD assigned the release remediation permit number 1RP-4664 (Incident Number nOY1709044723) on March 29, 2017.

Larson & Associates, Inc. (LAI), at Targa's request, fully delineated the release. The final delineation report (1RP-4664 Addendum Spill Delineation Report, Epperson 16 Inch Pipeline Release Site #1, Lea County, New Mexico) was submitted to NMOCD District 1 on May 30, 2017. NMOCD District 1 approved the delineation report on July 13, 2017.

Remediation was performed between October 13, 2017, and November 20, 2020. Soil was excavated to approximately 26 feet below ground surface (bgs). The excavation area measures approximately 12,101 square feet or about 0.28 acres. Approximately 4,432 cubic yards of soil was disposed at the Gandy-Marley (GM) Landfill located west of Tatum, New Mexico.

On February 25, 2020, LAI personnel collected spilt soil samples with the landowner's representative, Hungry Horse Environmental LLC, from eight (8) locations on the excavation sidewalls and a bottom sample at approximately 26 and 28 feet bgs near the center of the excavation (BH-5). Benzene, BTEX, TPH, and chloride concentrations in the sample from 26 feet bgs were below the NMOCD remediation standard in Table 1 (19.15.29 NMAC) for groundwater encountered at a depth of less than 50 feet. The laboratory reported the TPH concentration in the sample from 28 feet bgs above the NMOCD remediation standard (129.7 mg/Kg) which is potentially associated with light non-aqueous phase liquid (LNAPL) at the groundwater interface.

Approximately 500 cubic yards of soil with benzene, BTEX, TPH, and chloride concentrations below the NMOCD limits (19.15.29.13D(1) NMAC) was retained on location for backfilling the excavation. The release was successfully delineated and remediated by excavation and removal of contaminated source material for disposal. The remaining in-situ soil meets the NMOCD remediation standards in Table 1 of 19.15.29.12 NMAC.

On February 9, 2021, LAI, on behalf of Targa, submitted the analytical data summary to NMOCD with a notification for backfilling the excavation. NMOCD approved excavation for backfilling on February 18, 2021. The excavation was backfilled and seeded between May 20, 2021, and July 9, 2021.

Three (3) monitoring wells (TMW-01, TMW-02 and TMW-03) were installed to investigate potential impacts to groundwater. Natural gas condensate was observed at a thickness between 0.55 and 0.86 feet in TMW-1 installed immediately east (down gradient) from the excavation. BTEX concentrations were reported above the New Mexico Water Quality Control Commission (NMWQCC) human health standards in groundwater from well TMW-01. Groundwater samples from monitoring wells TMW-2 and TMW-3, installed east and southeast (down gradient) from TMW-01, did not contain BTEX concentrations above the analytical method reporting limits. Chloride concentrations were below the NMWQCC domestic water quality standard of 250 milligrams per liter (mg/L) in samples from wells TMW-01 and TMW-02 and exceeded the standard in samples from well TMW-03. An unlined disposal pit associated with a former production tank battery about 375 feet west from the Site is the suspected source for the chloride.

nOY1709044723 (1RP-4664) - Closure Report
Epperson 16 Inch Pipeline Release Site #1
August 4, 2021

Targa requests the following:

- No further action for the excavation associated with 1RP-4664 (Incident Number nOY1709044723).
- Targa will submit a separate remediation plan for addressing the LNAPL and dissolved phase constituents in groundwater.

nOY1709044723 (1RP-4664) - Closure Report
Epperson 16 Inch Pipeline Release Site #1
August 4, 2021

2.0 INTRODUCTION

Larson & Associates, Inc. (LAI), on behalf of Targa Midstream Services, LLC (Targa), has prepared this remediation and closure report for a natural gas liquids release at the Epperson 16-inch pipeline located in Unit M (SW/4, SW/4), Section 24, Township 11 South, Range 33 East, in Lea County, New Mexico (the Site). The Site is located about 15 miles west of Tatum, New Mexico. The geodetic location is 33.346967° North and -103.574717° West. Figure 1 presents a topographic map.

2.1 Background

On May 27, 2016, LAI personnel were requested by Targa representative, Ralph England, to visit the Site to document the release. LAI personnel observed an area without vegetation measuring about 40 x 45 feet or about 1,800 square feet. On March 29, 2017, the initial C-141 was submitted to the New Mexico Oil Conservation Division (NMOCD) District 1, which assigned the release remediation permit number 1RP-4664 (Incident Number nOY1709044723). Appendix A presents the initial C-141.

2.2 Physical Site Setting

The physical Site setting is as follows:

- The surface elevation is about 4,227 feet above mean sea level (MSL).
- The topography is slightly undulating with the regional slope to the southeast;
- The nearest surface water is a stock pond located approximately 4,800 feet east from the Site.
- The soils are designated as "Kimbrough-Lea complex", consisting of calcareous alluvium derived from reworking the Blackwater Draw (Pleistocene) and Ogallala (Pliocene) geological formations, in descending order.
- The nearest fresh water well is located about 6,600 feet or about 1.25 miles southeast in Unit N (SE/4, SW/4), Section 24, Township 11 South, Range 33 East.
- The well is used for livestock purposes.
- Records from the New Mexico Office of the State Engineer (OSE) report groundwater at about 32 feet below ground surface (bgs).

2.3 Remediation Standards

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

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

Further, 19.15.29.13 NMAC (Restoration, Reclamation and Re-Vegetation) requires the operator to restore the impacted surface area that existed prior to the release or their final land use.

3.0 SPILL DELINEATION

Between June 10, 2016 and February 9, 2017, LAI personnel collected soil samples from eight (8) hand auger borings (HA-1 through HA-8), seven (7) direct push borings (SB-1 through SB-7) and eight (8) air rotary drilled borings (SB-8 through SB-15). Soil samples were collected and analyzed according to NMOCD guidelines (Guidelines for Remediation of Leaks, Spills and Releases, August 13, 1993) which

nOY1709044723 (1RP-4664) - Closure Report

Epperson 16 Inch Pipeline Release Site #1

August 4, 2021

allowed substituting a headspace vapor reading less than 100 parts per million (ppm) using a calibrated photoionization detector (PID) in lieu of laboratory analysis of benzene, toluene, ethylbenzene, and xylenes (BTEX). Laboratory analysis for BTEX was only performed on samples with a PID reading greater than 100 ppm. Samples were analyzed for total petroleum hydrocarbons (TPH) by EPA SW-846 Method 8015 including gasoline range organics (C6-C12), diesel range organics (>C12-C28) and oil range organics (>C28-C35) and chloride by Method 300. Spill delineation was documented in reports dated March 7, 2017 (1RP-4664 Spill Delineation Report, Epperson 16 Inch Pipeline Release Site #1, Lea County, New Mexico) and May 30, 2017 (1RP-4664 Addendum Spill Delineation Report, Epperson 16 Inch Pipeline Release Site #1, Lea County, New Mexico). On July 13, 2017, NMOCD District 1 (Ms. Olivia Yu) approved the addendum delineation report and proposed remediation plan. Table 1 presents the delineation soil sample analytical data summary. Figure 2 presents the NMOCD approved remediation areas. Appendix B presents NMOCD correspondence.

4.0 SPILL REMEDIATION

Between October 13, 2017, and December 2, 2017, Gandy Corporation (Gandy), Lovington, New Mexico, excavated soil to about 20 feet bgs on the west side of the pipe and about 24 feet on the east side of the pipe. The total area of the excavation measures approximately 12,101 square feet. Approximately 2,940 cubic yards of soil was disposed at the Gandy Marley (GM) Landfill located west of Tatum, New Mexico. About 500 cubic yards of material including topsoil and caliche were retained on Site for backfilling purposes. Confirmation samples were collected in accordance with NMOCD requirements and guidelines ("Guidelines for Remediation of Leaks, Spills and Releases, August 13, 1993") in affect at that time. Discrete confirmation samples were collected from the bottom and sidewalls of the excavation and submitted under preservation and chain of custody to Permian Basin Environmental Lab (PBEL) in Midland, Texas. PBEL analyzed the samples for BTEX by EPA SW-846 Method 8021B, TPH including gasoline range organics (C6 to C12), diesel range organics (>C12 to C28) and oil range organics (>C28 to C35) by Method 8015 and chloride by EPA Method 300. Table 2 presents the remediation soil sample analytical data summary. Figure 2a presents the excavation and soil sample locations.

On February 20, 21 and 25, 2020, Hungry Horse Environmental LLC (Hungry Horse) personnel, on behalf of the surface owner, collected soil samples from seven (7) locations (SW-1 through SW-8) around the perimeter of the excavation and a boring (BH-5) near the center in the bottom of the excavation. The perimeter samples were collected to about 1-foot bgs and the boring samples were collected about 6 and 8 feet below the bottom of the excavation or about 26 and 28 feet bgs. LAI personnel collected split samples that were submitted to PBEL under preservation and were analyzed for BTEX, TPH, and chloride by methods previously presented. Benzene, BTEX, and TPH concentrations were below the analytical method reporting limits in all samples except BH-5, 8 feet or 28 feet bgs which is positioned immediately above the interface of light nonaqueous phase liquid (LNAPL) and groundwater at about 30 feet bgs. Benzene and BTEX were below the NMOCD closure criteria in Table 1 (19.15.29 NMAC) of 10 mg/Kg and 50 mg/Kg, respectively. TPH concentrations in sample BH-5, 8 feet was 129.7 mg/Kg and likely due to interference from LNAPL at the groundwater interface. Chloride concentrations ranged from 12.5 mg/Kg in sample BH-5, 6 and 8 feet to 93.6 mg/Kg in sample SW-6. Table 3 presents the split sample analytical data summary. Figure 2b presents the Hungry Horse sample locations.

On July 7 – 10, 2020, Gandy excavated an additional 760 cubic yards of soil from an area measuring about 2,975 square feet on the west side of the excavation where chloride concentrations were reported above 600 mg/Kg between 4 and 16 feet bgs. On July 7, 2020, LAI personnel collected

nOY1709044723 (1RP-4664) - Closure Report

Epperson 16 Inch Pipeline Release Site #1

August 4, 2021

eighteen (18) composite samples (C-1 through C-18) for about every 200 square feet of square feet of the excavation. PBEL analyzed the samples for chloride by EPA Method 300 and reported chloride concentrations below the NMOCD closure criteria (Table 1, 19.15.29 NMAC) in all samples except C-3 (822 mg/Kg), C-8 (2,820 mg/Kg), C-11 (808 mg/Kg). On July 30 and 31, 2020, Gandy excavated an additional 120 cubic yards of soil from C-3, C-8, and C-11. On July 31, 2020, LAI personnel collected composite samples at C-3, C-8, and C-11 from the excavation sidewalls that PEBL analyzed for chloride by EPA Method 300. The laboratory reported chloride concentration at 187 mg/Kg (C-3), 41.4 mg/Kg (C-8) and 74.4 mg/Kg (C-11). The soil was disposed at the GM landfill. Table 2 presents the remediation soil sample analytical data summary. Figure 2b presents the excavation location. Appendix C presents the laboratory soil analytical reports. Appendix D presents the GM waste disposal summary. Appendix E presents photographs.

On November 18 – 20, 2020, Gandy excavated soil from the bottom of the excavation between about 20 feet bgs and 26 feet bgs and measuring about 750 square feet east of the pipe. Approximately 612 cubic yards of soil were excavated and disposed at the GM Landfill. On November 20, 2020, LAI personnel collected ten (10) composite samples (C-1 through C-10) for about every 200 square feet of the excavation. On November 23, 2020, a confirmation soil sample was collected from the northwest ramp (C-11) where TPH was previously reported at 634 mg/Kg at approximately 21 feet bgs on October 18, 2017. The samples were delivered under chain of custody and preservation to Xenco-Eurofins Laboratories (Xenco) in Carlsbad, New Mexico and analyzed for BTEX, TPH, and chloride by EPA Method 8021B, 8015 and 300, respectively. Xenco reported BTEX, TPH, and chloride concentrations below the NMOCD closure criteria (Table 1, 19.15.29 NMAC) in all samples.

5.0 EXCAVATION CLOSURE

On February 9, 2021, Targa provided written notification to NMOCD prior to backfilling the excavation. OCD acknowledged the notification and approved excavation backfilling on February 18, 2021. On March 12, 2021, LAI personnel collected twelve (12) composite samples of caliche (Backfill-1 through Backfill-12) from the surface owner's pit located north of the Site. On May 27, 2021, LAI personnel collected five (5) composite samples of topsoil from the surface owner's pit located west of the Site. PBEL analyzed the backfill samples for BTEX, TPH and chloride by EPA Method 8021B, 8015 and 300, respectively. Benzene, BTEX and TPH concentrations were below the analytical method reporting limits. Chloride was less the 600 mg/Kg in all samples. Table 5 presents the backfill sample analytical data summary. Appendix B resents OCD correspondence. Appendix C presents the laboratory reports.

Between May 20, 2021, and June 1, 2021, LTP Enterprises (LTP) backfilled the excavation to within 1 foot of ground surface with soil (topsoil and caliche) retained on location that was approved by NMOCD for backfilling purposes and caliche obtained from the surface owner's pit located north of the Site. On June 2, 2021, LTP began filling the remainder of the excavation from 1-foot bgs to ground surface with topsoil from the surface owner's pit located west of the Site. On July 9, 2021, the location was seeded with a seed mix specified by the surface owner (Black Grama, Blue Grama, Sideoats Grama, Buffalo Grass and Sand Drop Seed). Appendix E presents photographs.

6.0 GROUNDWATER INVESTIGATION

On March 13, 2018, and July 16, 2019, Scarborough Drilling Inc. (SDI), Lamesa, Texas, under LAI supervision, installed three (3) monitoring wells (TMW-01, TWM-02 and TMW-03) between about 36 and 39 feet bgs. The borings were drilled using air to circulate cuttings to the surface. The wells were

nOY1709044723 (1RP-4664) - Closure Report

Epperson 16 Inch Pipeline Release Site #1

August 4, 2021

completed with 2-inch schedule 40 PVC threaded casing and 20 feet of 0.01-inch factory slotted screen. Graded silica sand was placed around the screen to about 2 feet above the screen. The remainder of the annulus between the well casing and borehole was filled with bentonite chips. The wells are secured with locking steel covers. West Companies, a New Mexico licensed professional land surveyor, surveyed the wells for elevation and location. Figure 1 presents the monitoring well locations. Appendix F presents the monitoring well logs and completion diagrams.

On July 19, 2019, LNAPL consistent with natural gas condensate was gauged in well TMW-01 at approximately 0.60 feet in thickness. LNAPL was gauged in TMW-01 at 0.86 and 0.55 feet in thickness on August 8, 2019 and February 24, 2020, respectively. LNAPL has not been observed in wells TMW-02 and TMW-03. On August 8, 2019, depth to groundwater ranged from 29.63 feet bgs at TMW-2 to 29.98 feet bgs at TMW-1. The groundwater elevation ranged from 4,198.29 feet above MSL at TMW-01 to 4,196.93 feet above MSL at TMW-3. On August 8, 2019, the apparent groundwater flow direction was from northwest to southeast at a gradient of about 0.002 feet per foot. Table 4 presents the monitoring well completion details and gauging summary. Figure 3 presents the groundwater potentiometric map.

Groundwater samples were collected from monitoring well TMW-01 on March 14, 2018 and January 31, 2019. Groundwater samples were collected from monitoring wells TMW-02 and TMW-03 after installation on July 22, 2019 and February 24, 2020. Samples were not collected from well TMW-01 on July 22, 2019 and February 24, 2020, due to the presence of LNAPL in the well. The groundwater samples were analyzed for BTEX and chloride. BTEX concentrations were reported above the New Mexico Water Quality Control Commission (NMWQCC) human health standards in the groundwater sample from well TMW-01, on January 31, 2019. BTEX concentrations have not been reported above the analytical method reporting limits in samples from wells TMW-02 and TMW-03. Chloride concentrations were not reported above the NMWQCC domestic water quality standard of 250 mg/L in samples from TMW-01 and TMW-02. Chloride concentrations exceeded the NMWQCC domestic water quality standard in groundwater samples from well TMW-03 on July 22, 2019 (276 mg/L) and February 24, 2020 (265 mg/L). Historical aerial photographs revealed a disposal pit at a former production tank battery located about 375 feet west from the Site as a potential source for the chloride. Table 5 presents the groundwater sample analytical data summary. Appendix G presents the laboratory groundwater analytical reports.

7.0 CONCLUSIONS

The release was successfully delineated and remediated by excavation and removal of contaminated source material for disposal. The remaining in-situ soil meets the NMOCD remediation standards in Table 1 of 19.15.29.12 NMAC. Approximately 4,432 cubic yards of soil disposed at the Gandy Marley Landfill located west of Tatum, New Mexico.

8.0 RECOMMENDATIONS

Targa requests no further action for the excavation associated with 1RP-4664 (Incident Number nOY1709044723). Targa will submit a separate remediation plan for addressing the LNAPL and dissolved phase constituents in groundwater.

Tables

Table 1
1RP-4664
Delineation Soil Sample Analytical Data Summary
Targa Midstream Services, LLC, Epperson 16" Pipeline Release Site 1
Lea County, New Mexico
N30° 20' 49.1352" W103° 34' 29.0172"

Page 1 of 4

Sample	Depth (Feet)	Collection Date	Status	PID (ppm)	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
RRAL:				**10	**50					**100	**600
Hand Auger Soil Samples											
HA-1	0.5	06/10/2016	In-Situ	0	--	--	<50.0	<4.00	<50.0	<50.0	68.4
HA-2	0.5	06/10/2016	In-Situ	0	--	--	<50.0	<4.00	<50.0	<50.0	843
HA-3	0.5	06/10/2016	In-Situ	0.8	--	--	<50.0	<4.00	<50.0	<50.0	<25.0
HA-4	0.5	06/10/2016	In-Situ	0	--	--	<50.0	<4.00	<50.0	<50.0	<25.0
HA-5	0.5	06/10/2016	In-Situ	0.8	--	--	<50.0	<4.00	<50.0	<50.0	<25.0
HA-6	0.5	06/10/2016	In-Situ	0	--	--	<50.0	<4.00	<50.0	<50.0	<25.0
HA-7	0.5	06/10/2016	In-Situ	0	--	--	<50.0	<4.00	<50.0	<50.0	405
HA-8	0.5	06/10/2016	In-Situ	0	--	--	<50.0	<4.00	<50.0	<50.0	40.5
Soil Boring Samples											
SB-1	1	06/30/2016	In-Situ	0.9	--	--	<50.0	<4.24	<50.0	<50.0	145
	2	06/30/2016	In-Situ	1.3	--	--	<50.0	<4.24	<50.0	<50.0	71
	3	06/30/2016	In-Situ	0	--	--	<50.0	<4.24	<50.0	<50.0	536
	4	06/30/2016	In-Situ	0	--	--	<50.0	<4.24	<50.0	<50.0	708
	5	06/30/2016	In-Situ	1.1	--	--	<50.0	<4.24	<50.0	<50.0	518
	6	06/30/2016	In-Situ	0	--	--	<50.0	<4.24	<50.0	<50.0	434
SB-3	1	06/30/2016	In-Situ	0	--	--	<50.0	<4.24	<50.0	<50.0	<25.0
SB-4	1	06/30/2016	In-Situ	0	--	--	<50.0	<4.24	<50.0	<50.0	<25.0
SB-5	1	06/30/2016	In-Situ	0	--	--	<50.0	<4.24	<50.0	<50.0	<25.0
SB-6	1	06/30/2016	In-Situ	0	--	--	<50.0	<4.24	<50.0	<50.0	<25.0

Table 1
1RP-4664
Delineation Soil Sample Analytical Data Summary
Targa Midstream Services, LLC, Epperson 16" Pipeline Release Site 1
Lea County, New Mexico
N30° 20' 49.1352" W103° 34' 29.0172"

Page 2 of 4

Sample	Depth (Feet)	Collection Date	Status	PID (ppm)	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
RRAL:				**10		**50	**100			**600	
SB-8	1	06/30/2016	In-Situ	0	--	--	<50.0	<4.24	<50.0	<50.0	476
	2	06/30/2016	In-Situ	0	--	--	<50.0	<4.24	<50.0	<50.0	1850
	3	06/30/2016	In-Situ	0	--	--	<50.0	<4.24	<50.0	<50.0	1440
	4	06/30/2016	In-Situ	0	--	--	<50.0	<4.24	<50.0	<50.0	884
	5	06/30/2016	In-Situ	0	--	--	<50.0	<4.24	<50.0	<50.0	469
	6	06/30/2016	In-Situ	0	--	--	<50.0	<4.24	<50.0	<50.0	452
	7	06/30/2016	In-Situ	3.4	--	--	<50.0	<4.24	<50.0	<50.0	519
	8	06/30/2016	In-Situ	2.1	--	--	<50.0	<4.24	<50.0	<50.0	295
S-1	10	10/18/2016	In-Situ	0.1	--	--	--	--	--	--	393
	12	10/18/2016	In-Situ	0.3	--	--	--	--	--	--	951
	14	10/18/2016	In-Situ	4.3	--	--	--	--	--	--	989
	16	10/18/2016	In-Situ	1.2	--	--	--	--	--	--	1,580
*SB-9	0	02/08/2017	In-Situ	2.3	0.0361	0.0611	<27.2	496	124	620	2,970
	5	02/08/2017	In-Situ	3	--	--	<29.1	<29.1	<29.1	<29.1	855
	10	02/08/2017	In-Situ	750	0.0491	3.52	1.43	76.4	<27.2	219.4	6,870
	15	02/08/2017	In-Situ	975	0.286	20.95	371	146	<132	517	527
	16	01/10/2017	In-Situ	450.6	0.119	9.49	280	69.7	<15.0	349.7	280
	18	01/10/2017	In-Situ	752.7	0.161	9.13	68	27.4	<15.0	95.4	17.2
	20	01/10/2017	In-Situ	683.6	0.0857	8.92	105	67.2	<15.0	172.2	136
	25	01/10/2017	In-Situ	172.7	--	--	17.8	15.4	<14.9	33.2	93.1
	30	01/10/2017	In-Situ	267.3	--	--	19.9	22.4	<15.0	42.3	25.8
	35	01/10/2017	In-Situ	36.3	--	--	<15.0	19.7	<15.0	19.7	24.6
	40	01/10/2017	In-Situ	20.2	--	--	<15.0	<15.0	<15.0	<15.0	24.6

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Page 3 of 4

Sample	Depth (Feet)	Collection Date	Status	PID (ppm)	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
RRAL:				**10		**50	**100			**600	
*SB-10	0	02/08/2017	In-Situ	0.6	--	--	<26.9	85.8	31.2	117	11.2
	5	02/08/2017	In-Situ	4.1	--	--	<28.4	<28.4	<28.4	<28.4	887
	10	02/08/2017	In-Situ	95	--	--	<27.5	<27.5	<27.5	<27.5	492
	15	02/08/2017	In-Situ	162	0.0483	0.8503	<26.6	<26.6	<26.6	<26.6	260
	20	02/08/2017	In-Situ	1,030	0.0848	3.5268	96.8	<26.3	<26.3	96.8	92.7
	25	02/08/2017	In-Situ	51	--	--	<25.5	<25.5	<25.5	<25.5	47.7
*SB-11	0	02/08/2017	In-Situ	0.5	--	--	<26.9	144	50.7	194.7	17.3
	5	02/08/2017	In-Situ	0.7	--	--	<27.2	<27.2	<27.2	<27.2	115
	10	02/08/2017	In-Situ	0.7	--	--	--	--	--	--	52.2
	15	02/08/2017	In-Situ	1	--	--	<26.6	<26.6	<26.6	<26.6	26.5
	20	02/08/2017	In-Situ	11	--	--	--	--	--	--	6.64
	25	02/08/2017	In-Situ	25	--	--	<26.0	<26.0	<26.0	<26.0	19.9
*SB-12	0	02/08/2017	In-Situ	5.5	--	--	<26.0	<26.0	<26.0	<26.0	8.55
	5	02/08/2017	In-Situ	1.5	--	--	<27.5	131	<27.5	131	738
	10	02/08/2017	In-Situ	3.6	--	--	--	--	--	--	1,730
	15	02/08/2017	In-Situ	11	--	--	<27.2	<27.2	<27.2	<27.2	834
	20	02/08/2017	In-Situ	9	--	--	--	--	--	--	479
	25	02/08/2017	In-Situ	32	--	--	<25.8	<25.8	<25.8	<25.8	126
*SB-13	0	02/08/2017	In-Situ	1.6	--	--	<26.9	42	27.1	69.1	15.5
	5	02/08/2017	In-Situ	1.1	--	--	<27.5	52.5	29.2	81.7	593
	10	02/08/2017	In-Situ	0.7	--	--	--	--	--	--	481
	15	02/08/2017	In-Situ	2.5	--	--	<27.2	38.3	<27.2	38.2	193
	20	02/08/2017	In-Situ	16	--	--	--	--	--	--	30
	25	02/08/2017	In-Situ	23	--	--	<25.8	<25.8	<25.8	<25.8	22

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Page 4 of 4

Sample	Depth (Feet)	Collection Date	Status	PID (ppm)	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
RRAL:				**10		**50	**100			**600	
*SB-14	0	02/08/2017	In-Situ	2.1	0.0281	0.0281	<26.0	74.4	<26.0	74.4	546
	5	02/08/2017	In-Situ	2,600	0.45	83.16	1,450	444	<272	1,894	31.3
	10	02/08/2017	In-Situ	190	<0.0215	1.4841	112	<26.9	<26.9	112	10.5
	15	02/08/2017	In-Situ	130	--	--	<25.8	42.2	33.5	75.7	18.3
	20	02/08/2017	In-Situ	88	--	--	<26.6	<26.6	<26.6	<26.6	60.8
	25	02/08/2017	In-Situ	49	--	--	--	--	--	--	122
*SB-15	0	02/09/2017	In-Situ	1.5	--	--	<27.2	46.5	<27.2	46.5	38.2
	5	02/09/2017	In-Situ	0.6	--	--	<28.1	<28.1	<28.1	<28.1	5.46
	10	02/09/2017	In-Situ	0.4	--	--	--	--	--	--	<1.06
	15	02/09/2017	In-Situ	0.8	--	--	<26.0	<26.0	<26.0	<26.0	8.53
	20	02/09/2017	In-Situ	5	--	--	--	--	--	--	<1.03
	25	02/09/2017	In-Situ	6.1	--	--	<25.5	<25.5	<25.5	<25.5	4.27

Notes:

Laboratory analysis performed by Trace Analysis, Inc., Lubbock, Texas by EPA SW-846 Method 8021B (BTEX), Method 8015M (TPH) and Method 300 (chloride).

*: Analysis performed by Permian Basin Environmental Lab, Midland, Texas

**: OCD delineation limit

--: no data available

mg/Kg: milligrams per kilogram equivalent to parts per million (ppm)

Bold and highlighted indicates that analyte concentration exceeds OCD closure criteria (Table 1, 19.15.29 NMAC)

Table 2

1RP-4664

Remediation Soil Sample Analytical Data Summary

Targa Midstream Services, LLC, Epperson 16" Pipeline Release Site 1

Lea County, New Mexico

N30° 20' 49.1352" W103° 34' 29.0172"

Page 1 of 6

Sample	Depth (Feet)	Collection Date	Status	PID (ppm)	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
RRAL:					*10	*50				*100	*600
Northeast (Ramp) Side	2	10/23/2017	Excavated	2.2	<0.00119	<0.00833	<29.8	<29.8	<29.8	<29.8	2,640
		11/10/2017	In-Situ	8.9	<0.00104	<0.00728	<26	<26	<26	<78	24.6
	4	10/23/2017	Excavated	196.2	<0.0222	1.7128	581	1220	<139	1,801	325
		11/10/2017	In-Situ	8.3	<0.00105	<0.00737	<26.3	<26.3	<26.3	<78.9	28.9
	8	10/23/2017	Excavated	1600	<0.0217	26.54	724	260	31.9	1015.9	12,800
		11/10/2017	In-Situ	6	<0.00106	<0.00335	26.6	<26.6	<26.6	<79.8	12.6
	12	10/23/2017	Excavated	2031	4.141	490.34	3290	751	<137	4,040	8,960
		11/10/2017	In-Situ	6.7	<0.00106	<0.00335	26.6	<26.6	<26.6	<79.8	<1.06
	16	10/23/2017	Excavated	3569	22.7	674.6	6240	1150	<137	7,390	1,860
		11/10/2017	In-Situ	15.4	<0.00110	<0.0077	<27.5	<27.5	<27.5	<82.5	<1.10
	20	10/23/2017	Excavated	5565	22.3	536.8	5,290	669	<134	5,959	176
		11/10/2017	In-Situ	732	<0.0217	<0.1519	<27.2	<27.2	<27.2	<81.6	116
Northwest (Ramp) Side (Originally SB-9)	2	10/23/2017	Excavated	4.8	<0.00112	<0.00786	<28.1	<28.1	<28.1	<28.1	1,210
		11/10/2017	In-Situ	2.6	<0.00108	<0.00754	<26.9	<26.9	<26.9	<80.7	23.6
	4	10/23/2017	Excavated	212.8	<0.0225	0.38	193	66.7	<28.1	259.7	858
		11/10/2017	In-Situ	5.8	<0.00109	<0.00763	<27.2	<27.2	<27.2	<81.6	46.8
	8	10/23/2017	Excavated	720	<0.0220	33.95	722	74.5	<27.5	796.5	3,400
		11/10/2017	In-Situ	8.5	<0.00108	<0.00754	<26.9	<26.9	<26.9	<80.7	19.2
	12	10/23/2017	Excavated	1923	0.339	198.339	2740	81.9	<27.8	2,821.8	1,770
		11/10/2017	In-Situ	5.5	<0.00114	<0.00798	<28.4	<28.4	<28.4	<85.2	75.7
	16	10/16/2017	In-Situ	1886	0.0139	14.7579	144	<29.1	<29.1	144	384
	16	10/16/2017	Excavated	1149	0.00172	0.94352	<27.2	<27.2	<27.2	<81.6	1,130
West of SB-9		10/23/2017	Excavated	1962	0.257	358.357	3050	254	142	3,450	848
		11/10/2017	In-Situ	9.7	<0.00106	<0.00744	<26.6	<26.6	<26.6	<79.8	124
	18	10/16/2017	Excavated	1243	0.0456	16.8556	102	<27.5	<27.5	102	535
	19.5	10/16/2017	Excavated	6770	0.162	63.532	273	29.1	<28.1	303	240
	20	10/16/2017	Excavated	2351	0.126	36.396	312	45	<27.5	357	56.6
	20.5	10/16/2017	Excavated	12550	0.357	48.637	377	37.7	<26.3	375	88.4
		10/23/2017	Excavated	2056	3.13	119.13	1,300	158	<134	1,450	1,300

Table 2

1RP-4664

Remediation Soil Sample Analytical Data Summary

Targa Midstream Services, LLC, Epperson 16" Pipeline Release Site 1

Lea County, New Mexico

N30° 20' 49.1352" W103° 34' 29.0172"

Page 2 of 6

Sample	Depth (Feet)	Collection Date	Status	PID (ppm)	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
RRAL:					*10	*50				*100	*600
C-11	20	11/10/2017	In-Situ	--	<0.0211	<0.1475	<26.3	<26.3	<26.3	<26.3	117
	24	10/18/2017	Excavated	5306	1.58	67.55	572	61.9	<26.0	634	17.9
		11/10/2017	In-Situ	13.2	<0.0211	<0.1477	<26.3	<26.3	<26.3	<78.9	117
	21	11/23/2020	In-Situ	--	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<10.1
Southeast (Ramp) Side (Originally SB-11)	2	10/16/2017	Excavated	7.8	<0.00122	<0.0122	<30.5	<30.5	<30.5	<91.5	53.9
		10/23/2017	In-Situ	11.5	<0.00115	0.01138	<28.7	<28.7	<28.7	<86.1	<1.15
	4	10/16/2017	Excavated	3.7	<0.00108	<0.0108	<26.9	<26.9	<26.9	<80.7	126
		10/23/2017	In-Situ	4	<0.0217	<0.1521	<27.2	<27.2	<27.2	<81.6	95.6
		10/31/2017	In-Situ	--	<0.00109	<0.00761	<27.2	<27.2	<27.2	<27.2	6.62
	6	10/16/2017	Excavated	1.5	<0.00106	<0.0106	<26.6	<26.6	<26.6	<77.8	99.8
	8	10/23/2017	In-Situ	4	<0.0220	0.024	<27.5	<27.5	<27.5	<82.5	178
		10/31/2017	In-Situ	--	<0.00109	<0.00761	<27.2	<27.2	<27.2	<27.2	<1.09
	10	10/16/2017	Excavated	1.8	<0.00110	<0.0110	<27.5	<27.5	<27.5	<82.5	103
	12	10/18/2017	Excavated	5.8	<0.00110	<0.0110	<27.5	<27.5	<27.5	<82.5	46.5
		10/23/2017	In-Situ	4	<0.0215	0.73	<26.9	<26.9	<26.9	<80.7	30.3
		10/31/2017	In-Situ	--	<0.00111	<0.00777	<27.8	<27.8	<27.8	<27.8	<1.11
	16	10/23/2017	In-Situ	4	<0.0217	0.4436	<27.2	<27.2	<27.2	<81.6	52.5
		10/31/2017	In-Situ	--	<0.0213	<0.1491	<26.6	<26.6	<26.6	<26.6	77.2
	20	10/23/2017	Excavated	1086	<0.0215	2.87	48.8	114	31.7	194.5	273
		10/31/2017	In-Situ	--	<0.0211	<0.1475	<26.3	<26.3	39.2	39.2	19.4

Table 2

1RP-4664

Remediation Soil Sample Analytical Data Summary

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Lea County, New Mexico

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Page 3 of 6

Sample	Depth (Feet)	Collection Date	Status	PID (ppm)	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
RRAL:					*10	*50				*100	*600
Southwest (Ramp) Side	2	10/23/2017	Excavated	12.6	<0.00109	<0.00761	<27.2	<27.2	<28.2	<27.2	738
		11/15/2017	In-Situ	0.1	<0.00106	<0.00744	<26.6	<26.6	<26.6	<79.8	<1.06
	4	10/23/2017	Excavated	1563	0.0481	57.2381	1120	51.4	<27.8	1,171.4	710
		11/15/2017	In-Situ	0.1	<0.00111	<0.00777	<27.8	<27.8	<27.8	<83.4	2.13
	8	10/23/2017	Excavated	15.96	<0.0225	6.642	252	<28.1	<28.1	252	83.7
		11/15/2017	In-Situ	2	<0.0220	<0.154	<27.5	<27.5	<27.5	<82.5	<1.10
	12	10/23/2017	Excavated	1502	0.0311	27.8411	673	<27.8	<27.8	673	44.1
		11/15/2017	In-Situ	2.5	<0.00108	<0.00754	<26.9	<26.9	<26.9	<80.7	<1.08
	16	10/23/2017	Excavated	1535	<0.0215	4.984	72.5	<26.9	<26.9	72.5	43.5
		11/15/2017	In-Situ	21.1	<0.00106	<0.00744	<26.6	<26.6	<26.6	<79.8	<1.06
	20	10/23/2017	Excavated	1471	0.103	18.733	238	58.2	<26.9	296.2	157
		11/15/2017	In-Situ	10	<0.0217	<0.4436	<27.2	<27.2	<27.2	<81.6	28.9
North Side (Below Pipe)	4	11/15/2017	Excavated	--	<0.0217	<0.1521	89.6	464	94.6	648	632
		12/01/2017	In-Situ	--	<0.00109	<0.00761	<27.2	<27.2	<27.2	<81.6	60.7
	8	11/15/2017	In-Situ	--	<0.00110	<0.0077	<27.8	<27.8	<27.8	<83.4	297
	12	11/15/2017	In-Situ	--	<0.00110	<0.0077	<27.5	<27.5	<27.5	<82.5	196
	16	11/15/2017	Excavated	--	<0.00106	<0.00744	<26.6	<26.6	<26.6	<79.8	931
		10/28/2020	In-Situ	--	--	--	--	--	--	--	10.3
	20	11/15/2017	In-Situ	--	<0.00101	<0.00707	<25.3	<25.3	<25.3	<75.9	204
South Side (Below Pipe)	4	11/15/2017	In-Situ	--	<0.00108	<0.00754	<26.9	<26.9	<26.9	<80.7	11.5
	8	11/15/2017	In-Situ	--	<0.00109	<0.00761	<27.2	<27.2	<27.2	<81.6	3.67
	12	11/15/2017	In-Situ	--	<0.00110	<0.0077	<27.5	<27.5	<27.5	<82.5	3.57
	16	11/15/2017	In-Situ	--	<0.00109	<0.00761	<27.2	<27.2	<27.2	<27.2	14.3
	20	11/15/2017	In-Situ	--	<0.00109	0.00425	<27.2	<27.2	<27.2	<81.6	27.0
East Side	2	10/31/2017	In-Situ	11.7	<0.00106	<0.00335	26.6	<26.6	<26.6	26.6	69.8
	4	10/31/2017	In-Situ	1	<0.00108	<0.00754	<26.9	<26.9	<26.9	<26.9	44.0

1RP-4664

Remediation Soil Sample Analytical Data Summary

Targa Midstream Services, LLC, Epperson 16" Pipeline Release Site 1

Lea County, New Mexico

N30° 20' 49.1352" W103° 34' 29.0172"

Page 4 of 6

Sample	Depth (Feet)	Collection Date	Status	PID (ppm)	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
RRAL:					*10	*50				*100	*600
	8	10/31/2017	In-Situ	0.5	<0.00110	<0.0077	<27.5	<27.5	<27.5	<27.5	47.3
	12	10/31/2017	In-Situ	0.6	<0.00109	<0.00761	<27.2	<27.2	<27.2	<27.2	59.1
	16	10/30/2017	In-Situ	6.7	<0.00109	0.00425	<27.2	<27.2	<27.2	<27.2	51.6
	20	10/31/2017	In-Situ	16.9	<0.0213	0.0721	<26.6	<26.6	<26.6	<26.6	92.3
West Side (SB-12)	2	11/03/2017	Excavated	1.4	<0.00103	<0.00721	<25.8	<25.8	73.4	73.4	193
	4	11/03/2017	Excavated	0.4	<0.00103	<0.00412	<25.8	<25.8	<25.8	<25.8	3,560
	8	11/03/2017	Excavated	0.5	0.00155	0.00155	<25.5	<25.5	<25.5	<25.5	1,140
	12	11/03/2017	Excavated	1.1	<0.00104	<0.00728	36.8	<26.0	<26.0	36.8	148
	16	11/03/2017	Excavated	1.1	<0.00103	<0.00721	35.8	<25.8	26.9	62.7	3,110
C-1	15	07/10/2020	In-Situ	--	--	--	--	--	--	--	28.7
C-2	15	07/10/2020	In-Situ	--	--	--	--	--	--	--	56.9
C-3	15	07/10/2020	Excavated	--	--	--	--	--	--	--	822
		07/30/2020	In-Situ	--	--	--	--	--	--	--	187
C-4	15	07/10/2020	In-Situ	--	--	--	--	--	--	--	358
C-5	15	07/10/2020	In-Situ	--	--	--	--	--	--	--	309
C-6	18	07/10/2020	In-Situ	--	--	--	--	--	--	--	486
C-7	18	07/10/2020	In-Situ	--	--	--	--	--	--	--	166
C-8	10	07/10/2020	Excavated	--	--	--	--	--	--	--	2,820
		07/30/2020	In-Situ	--	--	--	--	--	--	--	41.4
C-9	10	07/10/2020	In-Situ	--	--	--	--	--	--	--	271
C-10	10	07/10/2020	In-Situ	--	--	--	--	--	--	--	378
C-11	10	07/10/2020	Excavated	--	--	--	--	--	--	--	808
		07/30/2020	In-Situ	--	--	--	--	--	--	--	74.4
C-12	10	07/10/2020	In-Situ	--	--	--	--	--	--	--	376
C-13	5	07/10/2020	In-Situ	--	--	--	--	--	--	--	270
C-14	5	07/10/2020	In-Situ	--	--	--	--	--	--	--	74.0
C-15	5	07/10/2020	In-Situ	--	--	--	--	--	--	--	227
C-16	5	07/10/2020	In-Situ	--	--	--	--	--	--	--	122
C-17	5	07/10/2020	In-Situ	--	--	--	--	--	--	--	31.8

Table 2

1RP-4664

Remediation Soil Sample Analytical Data Summary

Targa Midstream Services, LLC, Epperson 16" Pipeline Release Site 1

Lea County, New Mexico

N30° 20' 49.1352" W103° 34' 29.0172"

Page 5 of 6

Sample	Depth (Feet)	Collection Date	Status	PID (ppm)	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
RRAL:					*10	*50				*100	*600
C-18	5	07/10/2020	In-Situ	--	--	--	--	--	--	--	60.5
West Bottom	20	11/15/2017	In-Situ	--	<0.0213	<0.3191	<26.6	<26.6	<26.6	<79.8	62.8
	26	02/25/2020	In-Situ	--	<0.00109	0.00211	<27.2	36.6	<27.2	36.6	12.5
	**28	02/25/2020	In-Situ	--	<0.0215	0.1193	95.8	33.9	<26.9	129.7	12.5
East Bottom	24	10/31/2017	Excavated	10,120	2.93	102.53	646	57.9	44.1	748	33.1
	24	01/15/2018	Excavated	--	56.7	675.6	6760	868	<134	7,628	17.1
	26	01/15/2018	Excavated	--	27.4	391.8	3,300	346	<137	3,646	45.8
C-1 (South Side)	**28	01/15/2018	In-Situ	--	11.0	156.8	1,490	238	<137	1,728	36.2
	26	11/20/2020	In-Situ	--	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<9.49
	26	11/20/2020	In-Situ	--	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	12.2
C-2 (West Side)	26	11/20/2020	In-Situ	--	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<10.1
C-3 (West side)	26	11/20/2020	In-Situ	--	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<10.0
C-4 (North Side)	26	11/20/2020	In-Situ	--	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<10.0
C-5 (East Side)	26	11/20/2020	In-Situ	--	<0.00198	<0.00198	<50.1	<50.1	<50.1	<50.1	11.1
C-6 (East Side)	26	11/20/2020	In-Situ	--	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	10.8
C-7 (Bottom)	26	11/20/2020	In-Situ	--	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<9.90
C-8 (Bottom)	26	11/20/2020	In-Situ	--	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<9.94
C-9 (Bottom)	26	11/20/2020	In-Situ	--	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<10.1
C-10 (Bottom)	26	11/20/2020	In-Situ	--	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<10.1
	**28	01/15/2018	In-Situ	--	11	156.8	1490	238	1,720	1,720	36.2
	**28	02/25/2020	In-Situ	--	<0.0215	0.01193	95.8	33.9	<26.9	129.7	12.5
Soil Piles (Contaminated)											
SP-1N	--	11/03/2017	Excavated	1.4	<0.00108	<0.0043	<26.9	61	126	187	2.35
SP-1 S	--	11/03/2017	Excavated	1.8	<0.00105	<0.00737	<26.3	185	321	497	19.8
SP-6	--	11/10/2017	Excavated	1855	<0.0220	7.347	144	72.9	<27.5	217	442

1RP-4664

Remediation Soil Sample Analytical Data Summary

Targa Midstream Services, LLC, Epperson 16" Pipeline Release Site 1

Lea County, New Mexico

N30° 20' 49.1352" W103° 34' 29.0172"

Page 6 of 6

Sample	Depth (Feet)	Collection Date	Status	PID (ppm)	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
RRAL:					*10	*50				*100	*600
Soil Piles (Clean)											
SP-1 (North)	--	11/13/2017	Excavated	7	<0.00110	<0.0077	<27.5	<27.5	<27.5	<82.5	2.04
SP-2	--	11/03/2017	Excavated	355	<0.00109	0.1006	28.8	<27.2	<27.2	28.8	387
SP-2 (South)		11/13/2017	Excavated	1	<0.00106	<0.00744	<26.6	<26.6	<26.6	<79.8	21.6
SP-3	--	11/10/2017	Excavated	76.1	<0.0215	<0.1505	<26.9	<26.9	<26.9	<80.7	188
SP-4 (South)	--	11/10/2017	Excavated	6.8	<0.00105	<0.00737	<26.3	<26.3	<26.3	<78.9	21.8
SP-4 (North)	--	11/10/2017	Excavated	2	<0.00106	<0.00744	<26.6	<26.6	<26.6	<79.8	34.7
SP-5	--	11/10/2017	Excavated	8	<0.00109	<0.00763	<27.2	<27.2	<27.2	<81.6	56.7
SP-7	--	11/13/2017	Excavated	1.1	<0.00108	<0.00754	<26.9	<26.9	<26.9	<80.7	45.1
SP-8	--	11/13/2017	Excavated	0.9	<0.00108	<0.00754	<26.9	<26.9	<26.9	<80.7	122

Notes: analysis performed by Permian Basin Environmental Lab by EPA SW-846 Method 8021B (BTEX), Methods 8015M (TPH) and 300 (chloride)

mg/Kg: milligrams per kilogram equivalent to parts per million (ppm)

*: OCD delineation limit

**: Inteferece from LNAPL

--: no data available

Bold and highlighted indicates that analyte concentration exceeds OCD closure criteria (Table 1 , 19.15.29 NMAC)

Table 3
1RP-4664
Split Soil Sample Analytical Data Summary
Targa Midstream Services, LLC, Epperson 16" Pipeline Release Site 1
Lea County, New Mexico
N30° 20' 49.1352" W103° 34' 29.0172"

Page 1 of 1

Sample	Excavation Depth (Feet)	Sample Depth (Feet BGS)	Collection Date	Status	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
RRAL:					*10	*50				*100	*600
Excavation Samples											
SW-1	2	2	02/20/2020	In-situ	<0.00105	<0.00105	<26.3	<26.3	<26.3	<26.3	79.2
SW-2	2	2	02/21/2020	In-situ	<0.00104	<0.00104	<26.0	<26.0	<26.0	<26.0	28.8
SW-3	2	2	02/25/2020	In-situ	<0.00108	<0.00108	<26.9	<26.9	<26.9	<26.9	18.9
SW-4	2	2	02/25/2020	In-situ	<0.00114	<0.00114	<28.4	<28.4	<28.4	<28.4	18.3
SW-5	2	2	02/25/2020	In-situ	<0.00111	<0.00111	<27.8	<27.8	<27.8	<27.8	19.7
SW-6	2	2	02/25/2020	In-situ	<0.00110	<0.00110	<27.5	<27.5	<27.5	<27.5	93.6
SW-7	2	2	02/25/2020	In-situ	<0.00110	<0.00110	<27.5	<27.5	<27.5	<27.5	21
SW-8	2	2	02/25/2020	In-situ	<0.00110	<0.00110	<27.5	<27.5	<27.5	<27.5	42.1
BH-5	6	26	02/25/2020	In-situ	<0.00109	0.00211	<27.1	36.6	<27.2	36.6	12.5
BH-5	8	28	02/25/2020	In-situ	<0.0215	0.1193	95.8	33.9	<26.9	129.7	12.5

Notes: Soil samples spit with landowner consultant (Hungry Horse Environmental) with analysis performed by Permian Basin Environmental Lab by EPA SW-846 Method 8021B (BTEX), Methods 8015M (TPH) and 300 (chloride)

bgs: depth in feet below ground surface

mg/Kg: milligrams per kilogram equivalent to parts per million (ppm)

*: OCD remediation limit

Bold and highlighted indicates that analyte exceeds NMOCD closure criteria (Table 1, 19.15.29 NMAC)

Table 4
Cumulative Monitoring Well Completion and Gauging Summary
Targa Midstream Services, L.P., Epperson 16" Pipeline Release
Lea County, New Mexico

Well Information		Groundwater Data					
Well ID		Date Gauged	Depth to Product (feet TOC)	LNAPL Thickness (feet)	Depth to Water (feet TOC)	Corrected Water Elevation (feet AMSL)	Depth to Water (feet BGS)
TMW-01		03/14/2018	--	--	33.25	4,198.17	30.35
Date Drilled:	03/13/2018	04/18/2019	--	--	33.31	4,198.11	30.41
Drilled Depth BGS (feet):	39	01/31/2019	--	--	33.45	4,197.97	30.55
Well Depth from TOC (feet):	40.55	07/18/2019	--	--	34.07	4,197.35	31.17
Well Diameter (inches):	2	07/19/2019	33.24	0.60	33.84	4,198.00	30.34
Screen Interval BGS (feet):	36.97 to 27.32	08/08/2019	33.17	0.86	34.03	4,197.99	30.27
Casing Stickup (feet):	2.9	02/24/2020	33.19	0.55	33.74	4,198.29	29.98
Ground Elevation AMSL (feet)	4,228.40						
TOC Elevation AMSL (feet)	4,231.42						
Notes:							
TMW-02		07/18/2019	--	--	32.29	4,197.01	29.76
Date Drilled:	07/16/2019	07/19/2019	--	--	32.22	4,197.08	29.69
Drilled Depth BGS (feet):	36	08/08/2019	--	--	32.21	4,197.09	29.68
Well Depth from TOC (feet):	38.31	02/24/2020	--	--	32.16	4,197.14	29.63
Well Diameter (inches):	2						
Screen Interval BGS (feet):	35.1 to 15.47						
Casing Stickup (feet):	2.53						
Ground Elevation AMSL (feet)	4,226.78						
TOC Elevation AMSL (feet)	4,229.30						
Notes:							
TMW-03		07/18/2019	--	--	32.13	4,197.01	29.62
Date Drilled:	07/16/2019	08/08/2019	--	--	32.13	4,197.01	29.62
Drilled Depth BGS (feet):	36	02/24/2020	--	--	32.05	4,196.93	29.54
Well Depth from TOC (feet):	38.34						
Well Diameter (inches):	2						
Screen Interval BGS (feet):	35.83 to 15.82						
Casing Stickup (feet):	2.51						
Ground Elevation AMSL (feet)	4,226.55						
TOC Elevation AMSL (feet)	4,229.14						
Notes:							

Notes: Wells drilled and installed by Scarborough Drilling, Inc., Lamesa, Texas, using 2 inch schedule 40 threaded PVC casing and screen.

Groundwater elevation corrected for LNAPL thickness assuming 0.7 specific gravity

bgs: below ground surface

TOC: top of casing

Elevations are above mean sea level referenced to 1984 Geodetic Datum.

All values are in feet, unless otherwise noted.

Table 5

1RP-4664

Groundwater Sample Analytical Data Summary

Targa Midstream Services, LLC, Epperson 16" Pipeline Release

Lea County, New Mexico

33°20'49.08" North and 103°34'28.98" West

Page 1 of 1

Sample	Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	Chloride (mg/L)
NMWQCC Standard:		0.005	1	0.7	0.62	250
TMW-1	03/14/2018	12.4	9.76	0.48	0.425	66.3
	01/31/2019	11.6	9.45	1.3	3.51	150
	02/24/2020	--	--	--	--	--
TMW-2	07/22/2019	<0.00100	<0.00100	<0.00100	<0.00300	47.0
	02/24/2020	<0.00100	<0.00100	<0.00100	<0.00300	47.7
TMW-3	07/22/2019	<0.00100	<0.00100	<0.00100	<0.00300	276
	02/24/2020	<0.00100	<0.00100	<0.00100	<0.00300	265

Notes: Analysis performed by Permian Basin Environmental Lab, Midland, Texas

Samples analyzed by EPA method SW-8021B (BTEX) and E-300 (chloride)

mg/L: milligrams per liter - equivalent to parts per million (ppm)

--: no data available

Bold and highlighted denotes analyte concentration exceeds NMWQCC human health standard**Bold and highlighted denotes analyte concentration exceeds NMWQCC domestic water quality standard**

Figures

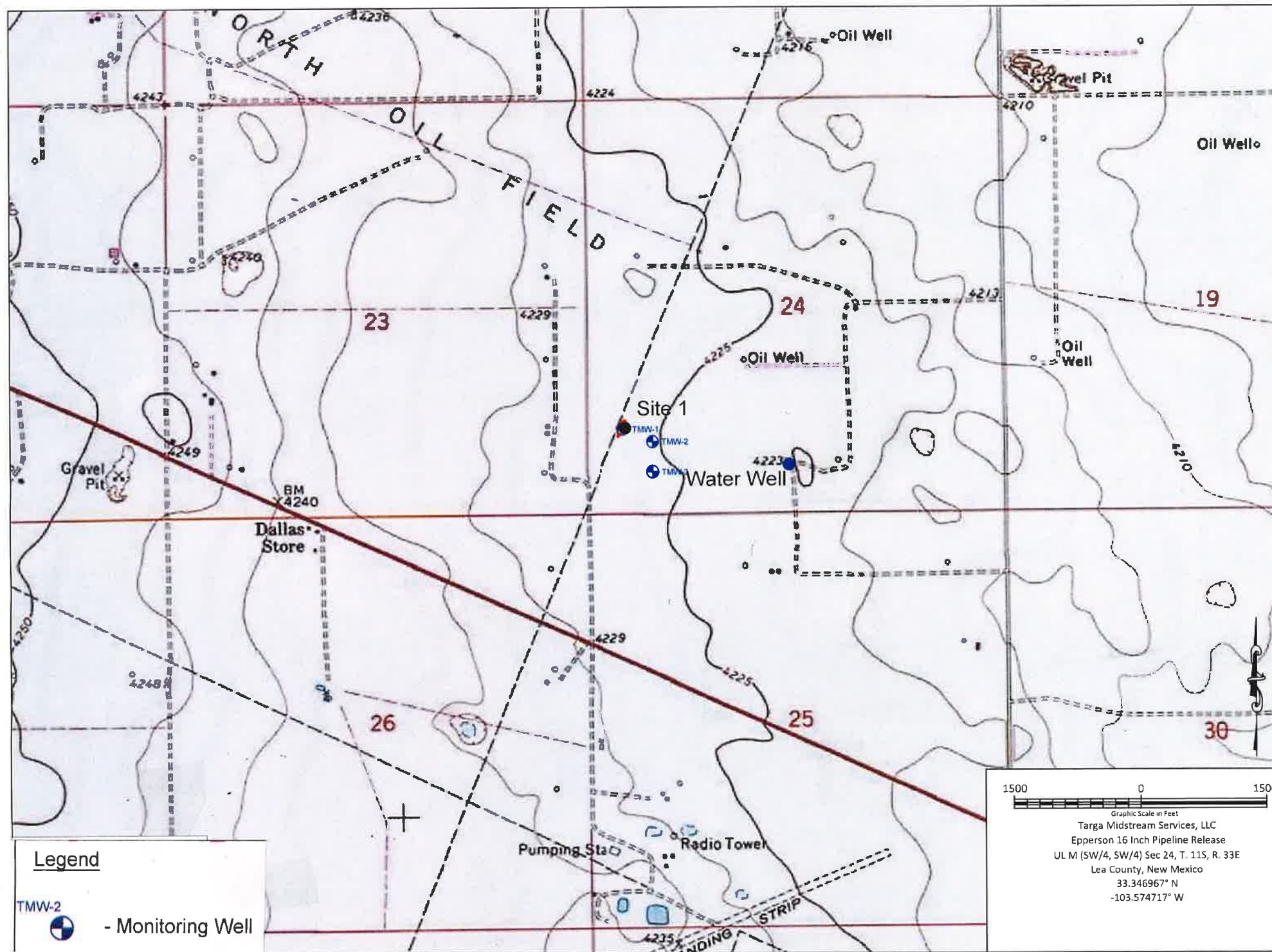
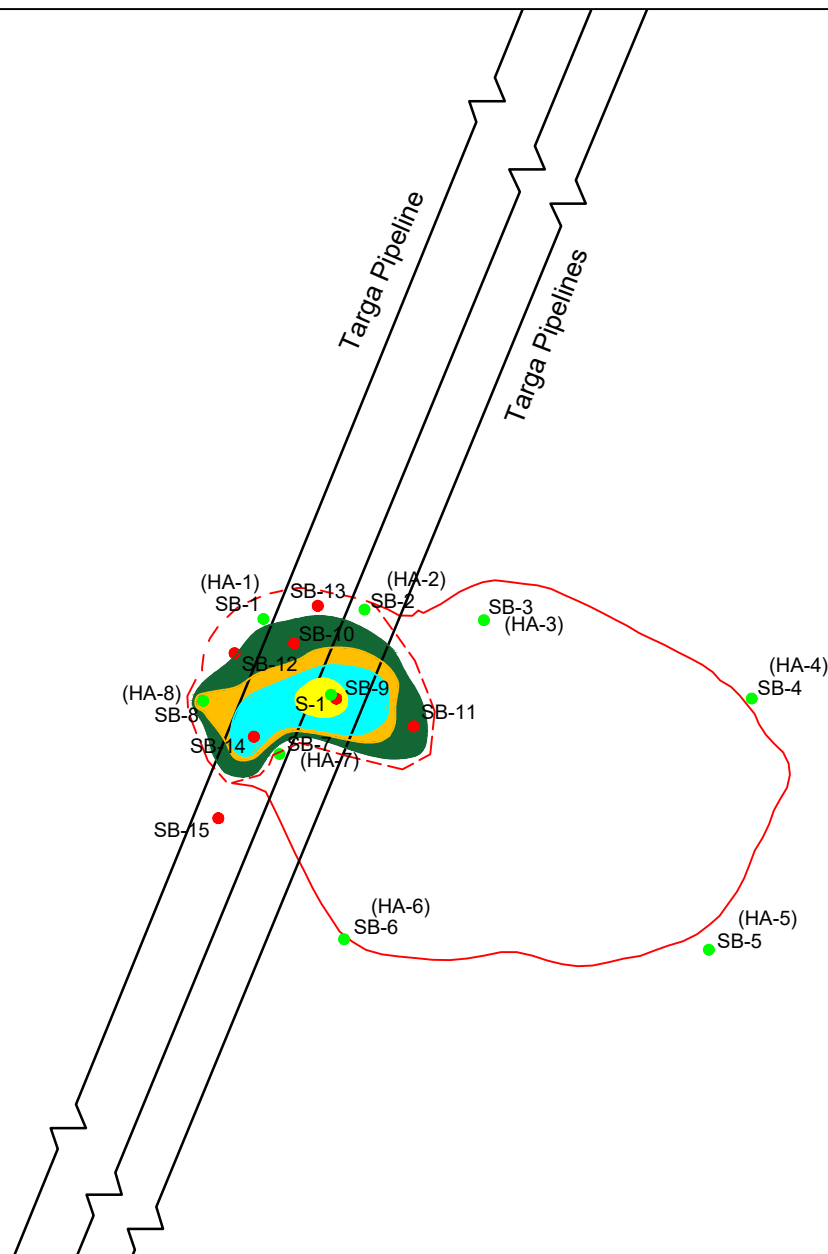
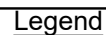


Figure 1 - Topographic Map

8.5" x 11"



Location	Sample Depth (Feet)	Excavation Depth (Feet)	TPH (mg/Kg)	Chloride (mg/Kg)
SB-8	1 2 3 4	4	<50 <50 <50 <50	476 1,850 1,440 884
SB-9	0 5 10 15 18	16	620 <29.1 219.4 517 95.4	2,970 855 6,870 527 280
SB-10	0 5	2	117 <28.4	11.2 887
SB-11	0 5	2	194.7 <27.1	17.3 115
SB-14	0 5 10 15	10	74.4 1,894 112 75.7	546 31.3 10.5 18.3



- (A-1)
 1 - Hand Auger (HA) and Direct Push (SB) Soil Sample Location, June 10 and 30, 2016
 9 - Air Rotary Soil Sample Location, January 10, 2017 and February 8-9, 2017
 - - - - - Spill Area
 - - - - - Spray Area
- Proposed Excavation Depth, 2 feet
 - Proposed Excavation Depth, 4 feet
 - Proposed Excavation Depth, 10 feet
 - Proposed Excavation Depth, 16 feet

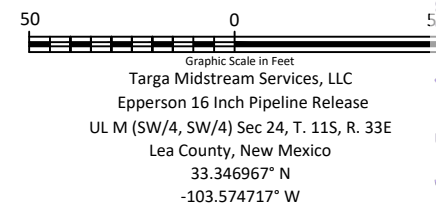


Figure 2 - Site Map Showing Proposed Excavation



Figure 3a - Aerial Map Showing Excavation - January 2018



Figure 3b - Aerial Map Showing Split Soil Sample Locations, February 2020

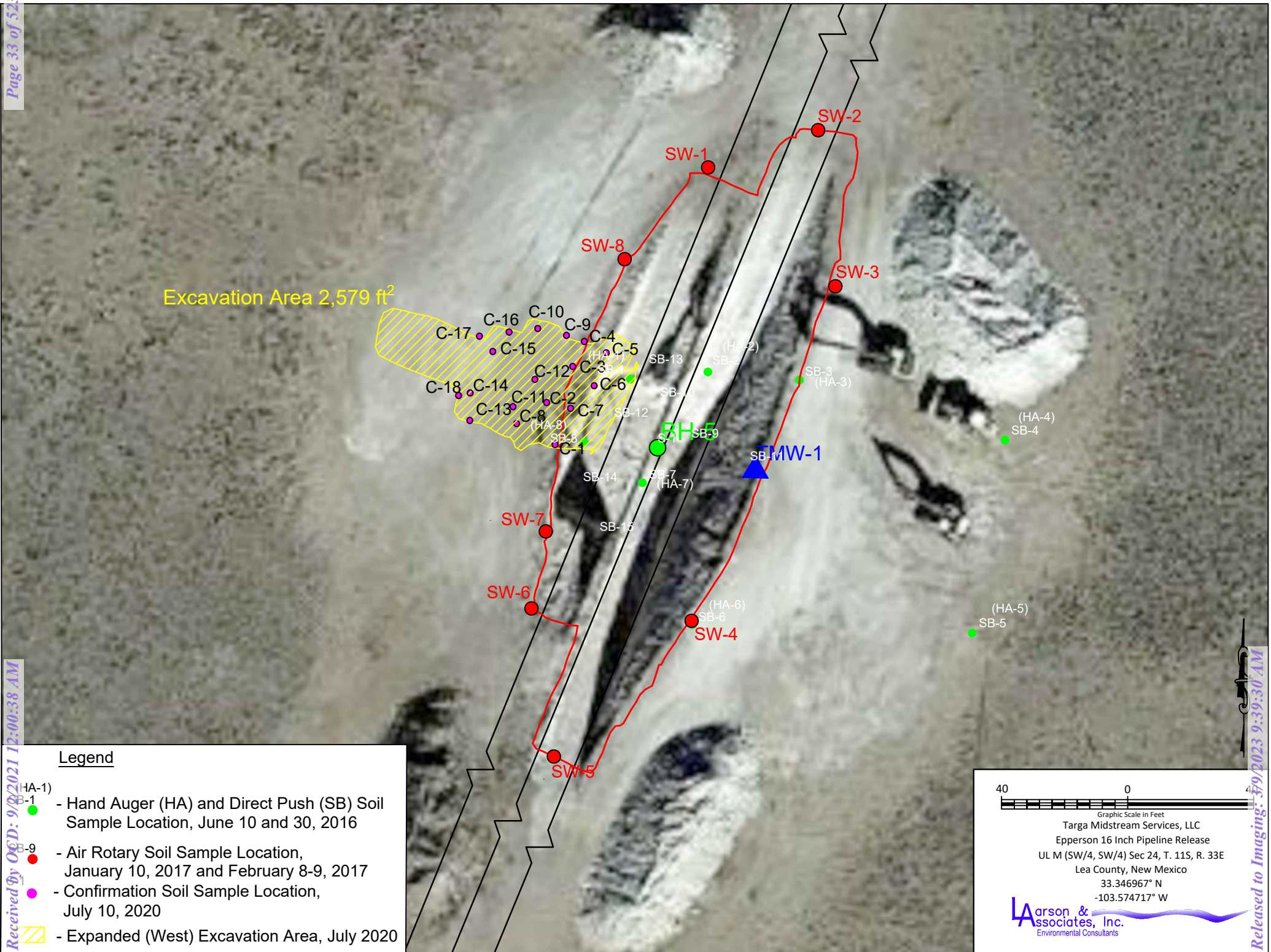


Figure 3c - Aerial Map Showing Expanded (West) Excavation Area (July 2020)

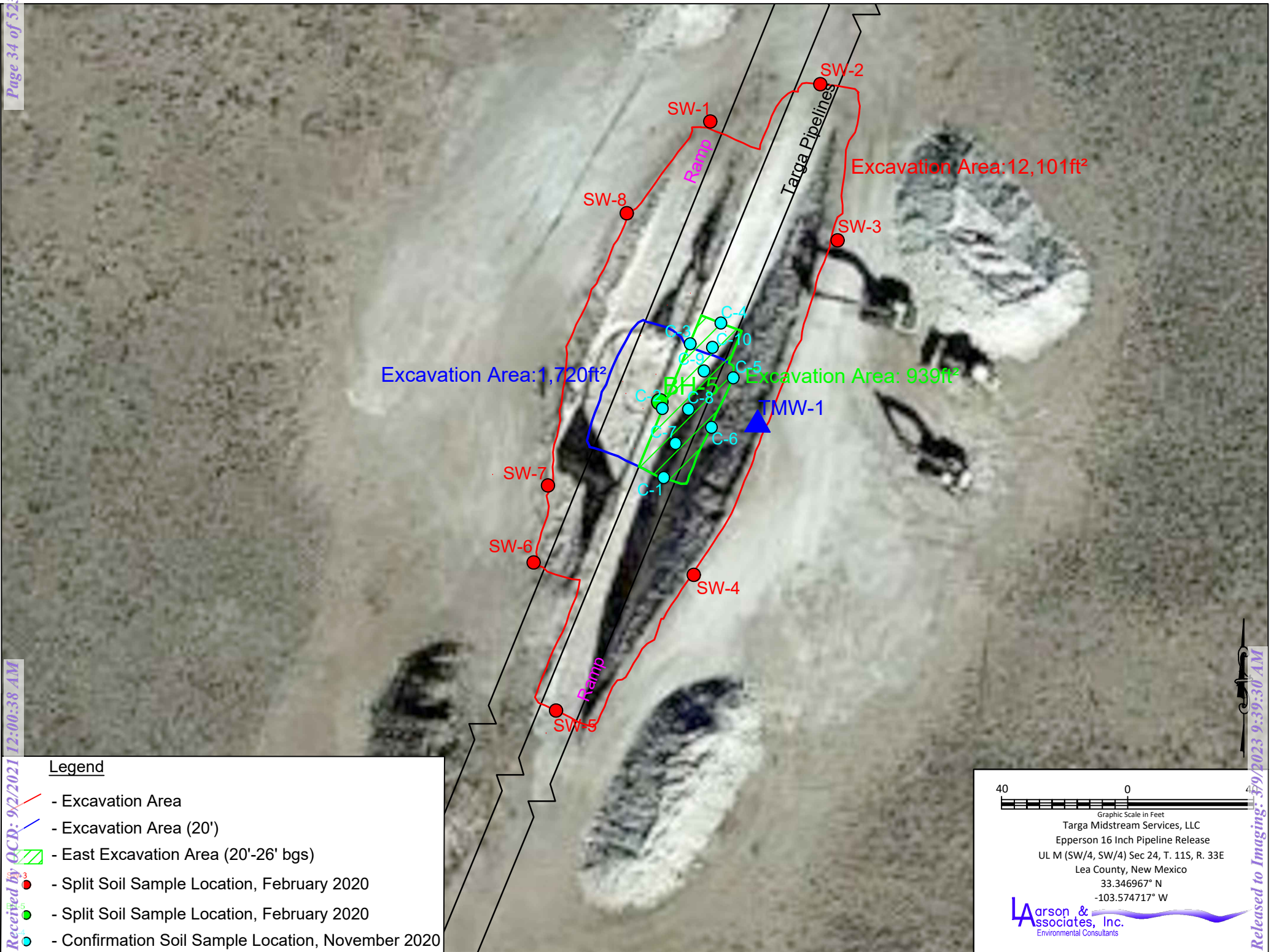
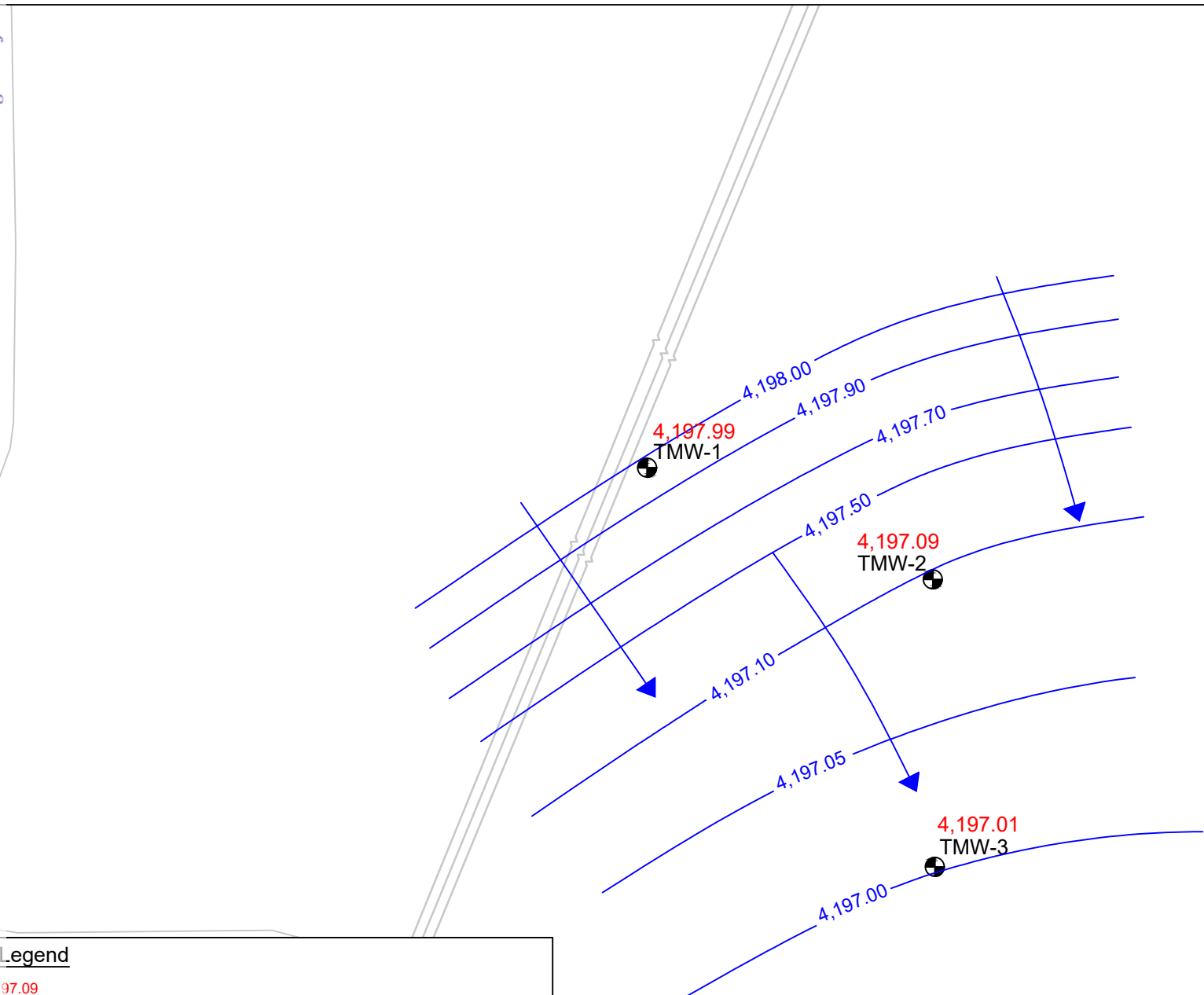





Figure 3d - Aerial Map Showing Excavation (East) Area, November 2020



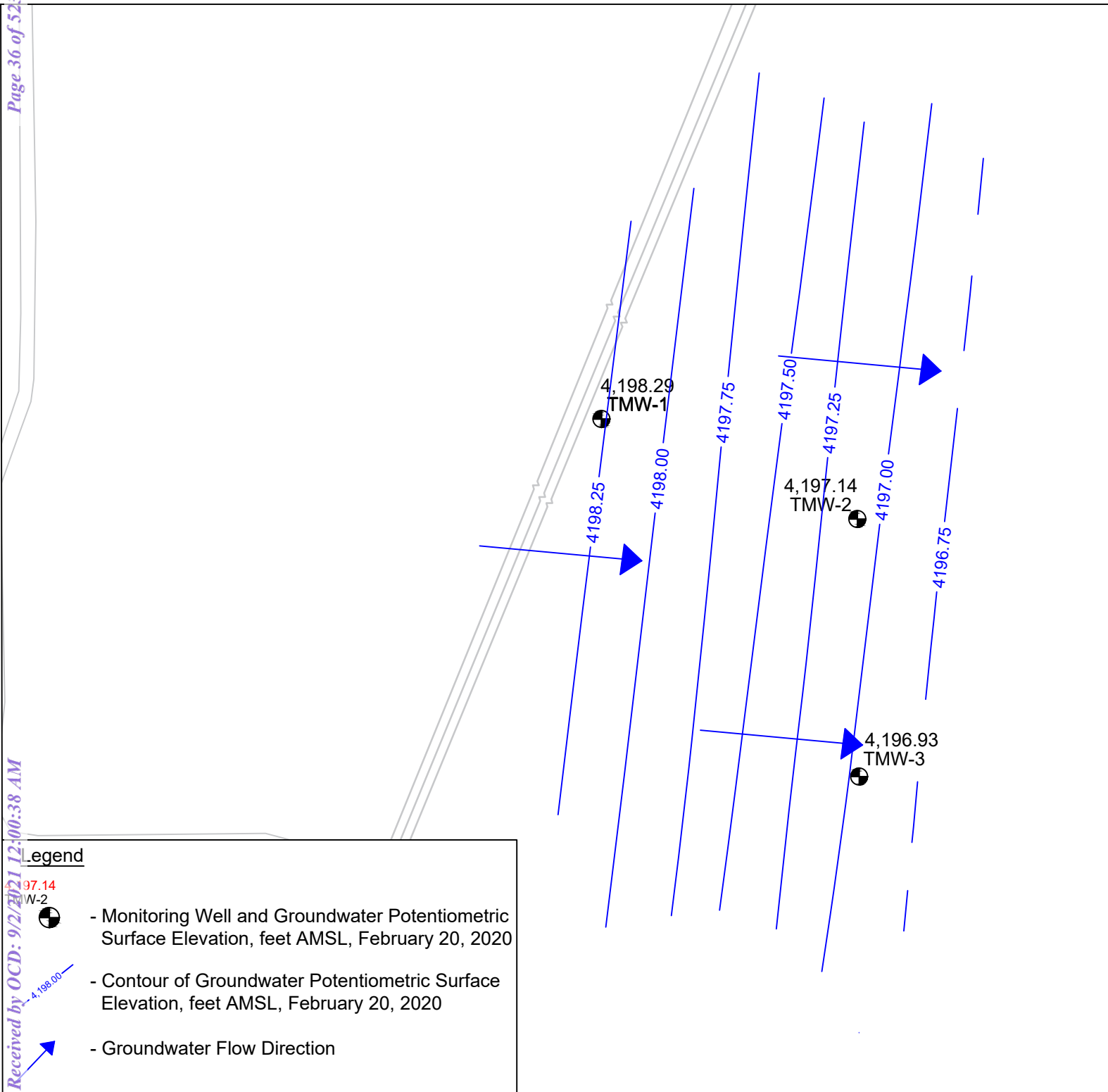
Legend

-  - Monitoring Well and Groundwater Potentiometric Surface Elevation, feet AMSL, August 8, 2019
-  - Contour of Groundwater Potentiometric Surface Elevation, feet AMSL, August 8, 2019
-  - Groundwater Flow Direction




200 0 200
Graphic Scale in Feet
Targa Midstream Services, LLC
Epperson 16 Inch Pipeline Release
UL M (SW/4, SW/4) Sec 24, T. 11S, R. 33E
Lea County, New Mexico
33° 20' 48.93"N
103° 34' 28.55"W

Larson & Associates, Inc.
Environmental Consultants

Figure 4a - Groundwater Potentiometric Map, August 8, 2019



Legend

-  - Monitoring Well and Groundwater Potentiometric Surface Elevation, feet AMSL, February 20, 2020
-  - Contour of Groundwater Potentiometric Surface Elevation, feet AMSL, February 20, 2020
-  - Groundwater Flow Direction

200 0 200
Graphic Scale in Feet
Targa Midstream Services, LLC
Epperson 16 Inch Pipeline Release
UL M (SW/4, SW/4) Sec 24, T. 11S, R. 33E
Lea County, New Mexico
33° 20' 48.93"N
103° 34' 28.55"W

Larson & Associates, Inc.
Environmental Consultants

Figure 4b - Groundwater Potentiometric Map, February 20, 2020

Appendix A

Initial C-141

Page 38 of 523
Received by OGD: 9/2/2021 12:00:38 AM
Released to Imaging: 3/9/2023 9:39:30 AM

District I
625 N. French Dr., Hobbs, NM 88240
District II
301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Form C-141
Revised October 10, 2003
Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action

OPERATOR ☒ Initial Report ☐ Final Report

Name of Company: Targa Midstream Services, LLC	Contact: Ralph England, Saunders Field Supervisor
Address: P.O. Box 1689, Lovington, NM 88269	Telephone No.: (575) 396-3221 Ext. 224
Facility Name: Epperson 16" Pipeline (Release Site #1)	Facility Type: Natural Gas Pipeline

Surface Owner: Ricky Pierce	Mineral Owner	Lease No.
-----------------------------	---------------	-----------

LOCATION OF RELEASE

Unit Letter F	Section 24	Township 11 S	Range 33 E	Feet from the 1,200	North/South Line South	Feet from the 450	East/West Line West	County Lea
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Latitude: N33° 21' 13.05622" Longitude: W103° 34' 17.05719"

NATURE OF RELEASE

Type of Release: Natural Gas Liquids	Volume of Release: Unknown	Volume Recovered: None
Source of Release: Pipeline Leak	Date and Hour of Occurrence: Unknown	Date and Hour of Discovery: May 2016
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.* Hole developed in 16 inch steel pipe due to external corrosion. Pipeline was shut-in repair leak and placed back into service. Larson & Associates, Inc. contracted to delineate and remediate soil impacted from natural gas liquids.

Describe Area Affected and Cleanup Action Taken.* NGL spray coated vegetation over area measuring about 100 x 100 feet. Affected soil area measures about 40 x 40 feet. Soil samples collected to delineate release vertically and horizontally. Will remediate to RRALs.

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

Signature: <i>Ralph England</i>	OIL CONSERVATION DIVISION	
Printed Name: Ralph England	Approved by District Supervisor: <i>[Signature]</i>	
Title: Saunders Field Supervisor	Approval Date: 3/31/2017	Expiration Date:
E-mail Address: REngland@targaresources.com	Conditions of Approval: see attached directive	Attached <input checked="" type="checkbox"/>
Date: 03-29-2017 Phone: (575) 396-3221 Ext. 224		

Attach Additional Sheets If Necessary

1RP-4664
nOY1709044723
pOY1709047138
fOY1709044496

Operator/Responsible Party,

The OCD has received the form C-141 you provided on _3/29/2017_ regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number __1R-_4664_ has been assigned. **Please refer to this case number in all future correspondence.**

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

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

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District _1_ office in __Hobbs__ on or before _4/31/2017_. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

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

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

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

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

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

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

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

Jim Griswold

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

Appendix B
Karst Risk Potential



Browser

★ Favorites

▶ Spatial Bookmarks

▶ Project Home

▶ Home

▶ C:\

▶ D:\

▶ L:\

▶ Z:\

▶ GeoPackage

▶ SpatiaLite

▶ PostGIS

▶ MSSQL

▶ Oracle

▶ DB2

▶ WMS/WMTS

▶ XYZ Tiles

▶ WCS

▶ WFS / OGC API - Features

▶ OWS

▶ ArcGisMapServer

▶ ArcGisFeatureServer

▶ GeoNode

Layers

☒ Added geom info

☒ Karst_or_No_Karst

- ☒ High
- ☒ Low
- ☒ Medium

☒ Bing Satellite



Appendix C
NMOCD Correspondence

From: Yu, Olivia, EMNRD [Olivia.Yu@state.nm.us]
Sent: Thursday, July 13, 2017 4:28 PM
To: Mark Larson; Oberding, Tomas, EMNRD
Cc: 'Higginbotham, Christina'; 'Duncan, Randy'; 'England, Ralph E.'; 'Klein, Cindy D.'
Subject: RE: 1RP-4665 - Addendum Spill Delineation Report, Epperson 16" Pipeline Release Site #2
Attachments: Approved_1RP-4665 Addendum Delineation Report, Epperson 16 Inch Pipeline Release Site 2, May 30, 2017.pdf

Dear Mr. Larson:

Based on the provided data in the addendum dated May 30, 2017 for 1RP-4665, NMOCD approves of the proposed remediation of no further action, although several locations 2-3 ft. bgs are above permissible chloride levels of 600 mg/kg. Please be advised that exceedance of permissible levels are evaluated on a case-by-case basis. The approved addendum is attached.

Please submit a concise closure report and final C-141 for 1RP-4665.

Thanks,

Olivia Yu
Environmental Specialist
NMOCD, District I
Olivia.yu@state.nm.us
575-393-6161 x113

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

From: Mark Larson [<mailto:Mark@laenvironmental.com>]
Sent: Tuesday, June 27, 2017 12:41 PM
To: Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>; Oberding, Tomas, EMNRD <Tomas.Oberding@state.nm.us>
Cc: 'Higginbotham, Christina' <chigginbotham@targaresources.com>; 'Duncan, Randy' <RDuncan@targaresources.com>; 'England, Ralph E.' <REngland@targaresources.com>; 'Klein, Cindy D.' <CynthiaKlein@targaresources.com>
Subject: Re: 1RP-4664 - Addendum Spill Delineation Report, Epperson 16" Pipeline Release Site #1, May 30, 2017 and 1RP-4665 - Addendum Spill Delineation Report, Epperson 16" Pipeline Release Site #2

Olivia/Tomas,

On behalf of Traga Midstream Services, LLC (Targa) please use the link below to download the above referenced reports for 1RP-4664 9Epperson 16" Pipeline Release #1) and 1RP-4665 (Epperson 16" Pipeline Release #2). Targa requests OCD approval to commence remediation at 1RP-4664 and closure with no further action for 1RP-4665. Please contact Christina Higginbotham with Targa at (713) 584-1396 or me if you have questions.

Link: <https://files.acrobat.com/a/preview/ec1decdd-256d-4710-a534-4bb079c9d97c>

Respectfully,

Mark J. Larson, P.G.
President/Sr. Project Manager
507 N. Marienfeld St., Suite 205
Midland, Texas 79701
Office – 432-687-0901
Cell – 432- 556-8656
Fax – 432-687-0456
mark@laenvironmental.com

Logo



“Serving the Permian Basin Since 2000”

From: Mark Larson
Sent: Wednesday, May 03, 2017 1:00 PM
To: 'Yu, Olivia, EMNRD'; 'Oberding, Tomas, EMNRD'; 'Higginbotham, Christina'
Subject: RE: Spill Delineation Report for 1RP-4664 (Epperson 16" Pipeline Release Site #1) and Spill Delineation Report for 1RP-4665 (Epperson 16" Pipeline Release Site #2)

That will work! I am assuming 10:00 AM in New Mexico and 11:00AM in Texas? Call in number: 1-877-411-9748 Access Code: 3669914

From: Yu, Olivia, EMNRD [<mailto:Olivia.Yu@state.nm.us>]
Sent: Wednesday, May 03, 2017 12:48 PM
To: Mark Larson
Cc: 'Higginbotham, Christina'; Oberding, Tomas, EMNRD
Subject: RE: Spill Delineation Report for 1RP-4664 (Epperson 16" Pipeline Release Site #1) and Spill Delineation Report for 1RP-4665 (Epperson 16" Pipeline Release Site #2)

Mr. Larson:

Does tomorrow, May 4, 2017, at 10 a.m. work? Dr. Oberding will also be calling in. Please provide a teleconference call number and code.

Thanks,
Olivia

From: Mark Larson [<mailto:Mark@laenvironmental.com>]
Sent: Wednesday, May 3, 2017 10:54 AM
To: Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>
Cc: 'Higginbotham, Christina' <chigginbotham@targaresources.com>
Subject: RE: Spill Delineation Report for 1RP-4664 (Epperson 16" Pipeline Release Site #1) and Spill Delineation Report for 1RP-4665 (Epperson 16" Pipeline Release Site #2)

Olivia,
Would be available for a conference call to discuss the questions you have concerning the delineation reports for 1RP-4664 and

1RP-4665? Christina Higginbotham with Targa would like to be on the call. Please let me know a convenient date/time for you.
Respectfully,

Mark J. Larson, P.G.
President/Sr. Project Manager
507 N. Marienfeld St., Suite 205
Midland, Texas 79701
Office – 432-687-0901
Cell – 432- 556-8656
Fax – 432-687-0456
mark@laenvironmental.com

Logo



“Serving the Permian Basin Since 2000”

From: Yu, Olivia, EMNRD [<mailto:Olivia.Yu@state.nm.us>]
Sent: Monday, May 01, 2017 4:34 PM
To: Mark Larson
Cc: 'England, Ralph E.'; 'Higginbotham, Christina'
Subject: RE: Spill Delineation Report for 1RP-4664 (Epperson 16" Pipeline Release Site #1)

Mr. Larson:

Please address the following concerns regarding the delineation workplan for 1RP-4664. Please confirm.

- Given that depth to groundwater is < 50 ft. bgs, additional vertical delineation is required at SB 1, 8 and 12 for chlorides. Obtain and maintain 250 mg/kg chloride levels for 10 more ft. below. At SB1, if the groundwater table is expected to be breached, a temporary monitoring well may be required.
- The remediation plan requires a revision with consideration to chlorides.

Thanks,

Olivia Yu
Environmental Specialist
NMOCD, District I
Olivia.yu@state.nm.us
575-393-6161 x113

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

From: Mark Larson [<mailto:Mark@laenvironmental.com>]

Sent: Thursday, April 20, 2017 8:01 AM

To: Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>

Cc: 'England, Ralph E.' <REngland@targaresources.com>; 'Higginbotham, Christina' <chigginbotham@targaresources.com>

Subject: RE: Spill Delineation Report for 1RP-4664 (Epperson 16" Pipeline Release Site #1)

Olivia,

I apologize for the oversight. The GPS coordinates on the C-141 and drawings are correct. The GPS coordinates on the report cover and on Page 1 have been corrected. The investigation was performed to understand the extent of the release and based on the evaluation of the data it was determined it was appropriate to report the release to OCD. The remediation plan is included as Section 3 Recommendations. Please contact Ralph England with Targa at (575) 396-3221 Ext. 224 or REngland@targaresources.com or me if you have questions.

Link to 1RP-4664: <https://files.acrobat.com/a/preview/d450c1c6-5a08-4d35-8929-029e8d1a9026>

Respectfully,

Mark J. Larson, P.G.

President/Sr. Project Manager

507 N. Marienfeld St., Suite 205

Midland, Texas 79701

Office – 432-687-0901

Cell – 432- 556-8656

Fax – 432-687-0456

mark@laenvironmental.com

cid:image001.jpg@01D2C273.FE86F250



“Serving the Permian Basin Since 2000”

From: Yu, Olivia, EMNRD [<mailto:Olivia.Yu@state.nm.us>]

Sent: Tuesday, April 18, 2017 11:41 AM

To: Mark Larson

Cc: 'England, Ralph E.'; 'Higginbotham, Christina'

Subject: Spill Delineation Report for 1RP-4664 (Epperson 16" Pipeline Release Site #1)

Dear Mr. Larson:

Please address these concerns regarding the delineation report for 1RP-4664:

1. The GPS location of the release on the C-141 and on Figure 2 does not correspond to the coordinates written on pg. 1, which refer to Site #2 release. Please correct or inform otherwise.
2. I overlooked the discovery date upon review of the initial C141. What is the rationale for submitting an initial C141 and delineation workplan in March 2017, when work began in June 2016?

Thanks,

Olivia Yu
Environmental Specialist
NMOCD, District I
Olivia.yu@state.nm.us
575-393-6161 x113

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

From: Yu, Olivia, EMNRD
Sent: Tuesday, April 11, 2017 3:56 PM
To: 'Mark Larson' <Mark@laenvironmental.com>
Cc: 'England, Ralph E.' <REngland@targaresources.com>; 'Higginbotham, Christina' <chigginbotham@targaresources.com>
Subject: RE: Spill Delineation Reports for 1RP-4664 (Epperson 16" Pipeline Release Site #1) and 1RP-4665 (Epperson 16" Pipeline Release Site #2) , Lea County, New Mexico

Mr. Larson:

Yes. I was able to download the 2 pdfs for 1RP-4664 and 1RP-4665, but I have not review them. They will be assessed in the order in which I received them. ETA is probably mid next week.

Olivia

From: Mark Larson [<mailto:Mark@laenvironmental.com>]
Sent: Tuesday, April 11, 2017 2:39 PM
To: Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>
Cc: 'England, Ralph E.' <REngland@targaresources.com>; 'Higginbotham, Christina' <chigginbotham@targaresources.com>
Subject: Re: Spill Delineation Reports for 1RP-4664 (Epperson 16" Pipeline Release Site #1) and 1RP-4665 (Epperson 16" Pipeline Release Site #2) , Lea County, New Mexico

Hello Olivia,
I'm following up to make confirm that you received and were able to down load and review the delineation reports for 1RP-4664 (Epperson 16" Pipeline Release Site #1) and 1RP-4665 (Epperson 16" Pipeline Release #2) that were submitted on April 5, 2017? Please contact Ralph England with Targa at (575) 396-3221 Ext. 224 or REngland@targaresources.com or me if you have questions.

Respectfully,

Mark J. Larson, P.G.
President/Sr. Project Manager
507 N. Marienfeld St., Suite 205
Midland, Texas 79701
Office – 432-687-0901

Cell – 432- 556-8656

Fax – 432-687-0456

mark@laenvironmental.com

Logo



“Serving the Permian Basin Since 2000”

From: Mark Larson

Sent: Wednesday, April 05, 2017 11:37 AM

To: 'Yu, Olivia, EMNRD'

Cc: 'England, Ralph E.'; 'Higginbotham, Christina'

Subject: RE: DSpill Delineation Reports for 1RP-4664 (Epperson 16" Pipeline Release Site #1) and 1RP-4665 (Epperson 16" Pipeline Release Site #2) , Lea County, New Mexico

Dear Ms. Yu,

Please use the links below to download electronic copies of the spill delineation reports for 1RP-4664 and 1RP-4665 submitted on behalf of Targa Midstream Services, LLC. Please contact Ralph England with Targa at (575) 396-3221 Ext. 224 or REngland@targaresources.com or me if you have questions.

Link to 1RP-4664: <https://files.acrobat.com/a/preview/1cba9ad8-322b-40a5-957c-6e1e37f93dda>

Link to 1RP-4665: <https://files.acrobat.com/a/preview/e83e9e5f-3410-4309-9548-4bedd03d580d>

Respectfully,

Mark J. Larson, P.G.

President/Sr. Project Manager

507 N. Marienfeld St., Suite 205

Midland, Texas 79701

Office – 432-687-0901

Cell – 432- 556-8656

Fax – 432-687-0456

mark@laenvironmental.com

Logo



“Serving the Permian Basin Since 2000”

From: Yu, Olivia, EMNRD [<mailto:Olivia.Yu@state.nm.us>]

Sent: Friday, March 31, 2017 2:35 PM

To: Mark Larson

Cc: 'England, Ralph E.'

Subject: RE: Initial C-141 - Targa Midstream Services, Epperson 16" Pipeline Release Site #1 and Release Site #2, Lea County, New Mexico

Dear Mr. England:

NB: The PLSS for the releases were adjusted based on the GPS coordinates provided. Please confirm.

The RPs for these incidents are

4664	3/31/2017	A	Targa Midstream Srvcs.	Epperson 16" pipeline (release site #1)		11S-33E- 24F	unknown
4665	3/31/2017	A	Targa Midstream Srvcs.	Epperson 16" pipeline (release site #2)		11S-33E- 24M	unknown

Please note that a release characterization/delineation workplan as detailed in the attachment must be approved by NMOCD BEFORE any remediation work.

Thanks,

Olivia Yu
Environmental Specialist
NMOCD, District I
Olivia.yu@state.nm.us
575-393-6161 x113

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

From: Mark Larson [<mailto:Mark@laenvironmental.com>]

Sent: Wednesday, March 29, 2017 2:24 PM

To: Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>

Cc: 'England, Ralph E.' <REngland@targaresources.com>

Subject: Re: Initial C-141 - Targa Midstream Services, Epperson 16" Pipeline Release Site #1 and Release Site #2, Lea County, New Mexico

Dear Ms. Yu,

Please find attached initial C-141 for Targa Midstream Services, LLC. The C-141s are for two (2) releases (Release Site #1 and Release Site #2) from the Epperson 16" pipeline located west of Tatum, in Lea County, New Mexico. Please contact Ralph England (REngland@targaresources.com) or call (575) 396-3221, Ext. 224 or me if you have questions.

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

Logo



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Appendix D
Soil Analytical Reports

From: [Billings, Bradford, EMNRD](#)
To: [Mark Larson](#)
Cc: [Higginbotham, Christina](#)
Subject: RE: 1RP-4664, Backfill Notification, Targa Midstream Services, LLC, Epperson 16 Inch Pipeline Release, Lea County, New Mexico
Date: Thursday, February 18, 2021 1:43:33 PM

02/18/2021

Christina Higginbotham – TARGA
Mark Larson – LAE

RE; Backfill request on areas associated with 1RP-4664

After review of the supplied data and information, the following: Approval is given by the Oil Conservation Division (OCD) to proceed with backfill operations as requested. OCD thanks you for your efforts. Please make OCD aware of timing for backfill and completion.

Sincerely,

Bradford G. Billings
EMNRD/OCD

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations

From: Mark Larson <Mark@laenvironmental.com>
Sent: Tuesday, February 9, 2021 8:51 AM
To: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Eads, Cristina, EMNRD <Cristina.Eads@state.nm.us>
Subject: [EXT] Re: 1RP-4664, Backfill Notification, Targa Midstream Services, LLC, Epperson 16 Inch Pipeline Release, Lea County, New Mexico

Hello Mr. Billings and Ms. Eads,

This message is submitted to the New Mexico Oil Conservation Division (OCD) on behalf of Targa Midstream Services, LLC (Targa) to provide notification as required by 19.15.29.12D(1)(a) NMAC for backfilling the excavation at the Epperson 16 inch pipeline (1RP-4664) located in Lea County, New Mexico. Between October 2017 and November 2020, Gandy Marley Inc. (GMI), under supervision from Larson & Associates, Inc. (LAI), excavated approximately 4,432 cubic yards of soil that was disposed at the Gandy Marly Landfill located between Tatum and Roswell, New Mexico. LIA personnel collected confirmation soil samples from the excavation bottom and sidewalls that were analyzed for benzene, toluene, ethylbenzene, xylenes (BTEX), total petroleum hydrocarbons (TPH) and chloride by EPA SW-846 Methods 8021B/8260, 8015 and 300, respectively. The final laboratory results are below the closure standards in Table 1 of [19.15.29.12](#) NMAC, therefore, Targa will backfill the excavation with clean material meeting the requirements by 19.15.29.13D(1). Please refer to

the attached analytical data tables and drawings. The closure report will be submitted upon completion of excavation backfilling. A remediation plan will be submitted separately for the groundwater impact. Please contact Christina Higginbotham with Targa Resources at (713) 584-1396 or email chigginbotham@targaresources.com or me if you have any questions.

Thank you,

Mark J. Larson, P.G.
President/Sr. Hydrogeologist
507 N. Marienfeld St., Suite 202
Midland, Texas 79701
Office – 432-687-0901
Cell – 432- 556-8656
Fax – 432-687-0456
mark@laenvironmental.com



"Serving the Permian Basin Since 2000"

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



Analytical Report

Prepared for:

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

Project: Epperson 16" Pipeline

Project Number: 16-0120-01

Location:

Lab Order Number: 0H03011



Current Certification

Report Date: 08/11/20

Larson & Associates, Inc.	Project: Epperson 16" Pipeline	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 16-0120-01	
Midland TX, 79710	Project Manager: Mark Larson	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C-8	0H03011-01	Soil	07/30/20 11:12	08-03-2020 11:07
C-11	0H03011-02	Soil	07/30/20 11:06	08-03-2020 11:07
C-3	0H03011-03	Soil	07/31/20 12:18	08-03-2020 11:07

Larson & Associates, Inc.	Project: Epperson 16" Pipeline	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 16-0120-01	
Midland TX, 79710	Project Manager: Mark Larson	

C-8
0H03011-01 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods									
Chloride	41.4	1.08	mg/kg dry	1	P0H0803	08/08/20 15:46	08/09/20 03:12	EPA 300.0	
% Moisture	7.0	0.1	%	1	P0H0402	08/04/20 09:46	08/04/20 09:52	ASTM D2216	

Permian Basin Environmental Lab, L.P.

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

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

C-11**0H03011-02 (Soil)**

Analyte	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Result	Limit							

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

Chloride	74.4	1.08	mg/kg dry	1	P0H1002	08/10/20 09:52	08/10/20 15:56	EPA 300.0	
% Moisture	7.0	0.1	%	1	P0H0402	08/04/20 09:46	08/04/20 09:52	ASTM D2216	

Permian Basin Environmental Lab, L.P.

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

Larson & Associates, Inc.	Project: Epperson 16" Pipeline	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 16-0120-01	
Midland TX, 79710	Project Manager: Mark Larson	

C-3

0H03011-03 (Soil)

Analyte	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Result	Limit							

Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	187	1.06	mg/kg dry	1	P0H1002	08/10/20 09:52	08/10/20 16:44	EPA 300.0	
% Moisture	6.0	0.1	%	1	P0H0402	08/04/20 09:46	08/04/20 09:52	ASTM D2216	

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P0H0402 - *** DEFAULT PREP ***										
Blank (P0H0402-BLK1)	Prepared & Analyzed: 08/04/20									
% Moisture	ND	0.1	%							
Blank (P0H0402-BLK2)	Prepared & Analyzed: 08/04/20									
% Moisture	ND	0.1	%							
Blank (P0H0402-BLK3)	Prepared & Analyzed: 08/04/20									
% Moisture	ND	0.1	%							
Duplicate (P0H0402-DUP1)	Source: 0G30014-01		Prepared & Analyzed: 08/04/20							
% Moisture	10.0	0.1	%		10.0			0.00	20	
Duplicate (P0H0402-DUP2)	Source: 0G31001-06		Prepared & Analyzed: 08/04/20							
% Moisture	2.0	0.1	%		2.0			0.00	20	
Duplicate (P0H0402-DUP3)	Source: 0G31007-02		Prepared & Analyzed: 08/04/20							
% Moisture	8.0	0.1	%		8.0			0.00	20	
Duplicate (P0H0402-DUP4)	Source: 0G31008-05		Prepared & Analyzed: 08/04/20							
% Moisture	3.0	0.1	%		3.0			0.00	20	
Duplicate (P0H0402-DUP5)	Source: 0H03007-03		Prepared & Analyzed: 08/04/20							
% Moisture	7.0	0.1	%		7.0			0.00	20	
Duplicate (P0H0402-DUP6)	Source: 0H03007-13		Prepared & Analyzed: 08/04/20							
% Moisture	2.0	0.1	%		2.0			0.00	20	
Duplicate (P0H0402-DUP7)	Source: 0H03011-03		Prepared & Analyzed: 08/04/20							
% Moisture	6.0	0.1	%		6.0			0.00	20	

Permian Basin Environmental Lab, L.P.

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P0H0803 - * DEFAULT PREP *****

LCS (P0H0803-BS1)				Prepared & Analyzed: 08/08/20						
Chloride	394	1.00	mg/kg wet	400		98.4	80-120			
LCS Dup (P0H0803-BSD1)				Prepared & Analyzed: 08/08/20						
Chloride	394	1.00	mg/kg wet	400		98.6	80-120	0.246	20	
Calibration Check (P0H0803-CCV1)				Prepared & Analyzed: 08/08/20						
Chloride	20.1		mg/kg	20.0		101	0-200			
Calibration Check (P0H0803-CCV2)				Prepared & Analyzed: 08/08/20						
Chloride	20.0		mg/kg	20.0		100	0-200			
Calibration Check (P0H0803-CCV3)				Prepared: 08/08/20 Analyzed: 08/09/20						
Chloride	19.8		mg/kg	20.0		99.0	0-200			
Matrix Spike (P0H0803-MS1)		Source: 0G31008-07		Prepared & Analyzed: 08/08/20						
Chloride	667	1.08	mg/kg dry	538	60.4	113	80-120			
Matrix Spike (P0H0803-MS2)		Source: 0H03007-05		Prepared: 08/08/20 Analyzed: 08/09/20						
Chloride	8820	26.0	mg/kg dry	2600	5920	111	80-120			
Matrix Spike Dup (P0H0803-MSD1)		Source: 0G31008-07		Prepared & Analyzed: 08/08/20						
Chloride	594	1.08	mg/kg dry	538	60.4	99.3	80-120	11.5	20	
Matrix Spike Dup (P0H0803-MSD2)		Source: 0H03007-05		Prepared: 08/08/20 Analyzed: 08/09/20						
Chloride	8530	26.0	mg/kg dry	2600	5920	100	80-120	3.37	20	

Batch P0H1002 - * DEFAULT PREP *****

LCS (P0H1002-BS1)				Prepared & Analyzed: 08/10/20						
Chloride	401	1.00	mg/kg wet	400		100	80-120			

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P0H1002 - *** DEFAULT PREP ***										
LCS Dup (P0H1002-BSD1)				Prepared & Analyzed: 08/10/20						
Chloride	402	1.00	mg/kg wet	400		100	80-120	0.187	20	
Calibration Check (P0H1002-CCV1)				Prepared & Analyzed: 08/10/20						
Chloride	19.8		mg/kg	20.0		99.2	0-200			
Calibration Check (P0H1002-CCV2)				Prepared & Analyzed: 08/10/20						
Chloride	20.0		mg/kg	20.0		99.9	0-200			
Calibration Check (P0H1002-CCV3)				Prepared & Analyzed: 08/10/20						
Chloride	21.7		mg/kg	20.0		108	0-200			
Matrix Spike (P0H1002-MS1)		Source: 0H03011-02		Prepared & Analyzed: 08/10/20						
Chloride	557	1.08	mg/kg dry	538	74.4	89.7	80-120			
Matrix Spike (P0H1002-MS2)		Source: 0H03013-09		Prepared & Analyzed: 08/10/20						
Chloride	4580	11.4	mg/kg dry	1140	3220	120	80-120			
Matrix Spike Dup (P0H1002-MSD1)		Source: 0H03011-02		Prepared & Analyzed: 08/10/20						
Chloride	547	1.08	mg/kg dry	538	74.4	87.9	80-120	1.74	20	
Matrix Spike Dup (P0H1002-MSD2)		Source: 0H03013-09		Prepared & Analyzed: 08/10/20						
Chloride	4410	11.4	mg/kg dry	1140	3220	105	80-120	3.66	20	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
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:



Date:

8/11/2020

Brent Barron, Laboratory Director/Technical Director

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

Permian Basin Environmental Lab, L.P.

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

Marson & Associates, Inc.
Environmental Consultants

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

Data Reported to:

DATE: 7/31/20 PAGE 1 OF 1
PO#: _____ LAB WORK ORDER#: 0403011
PROJECT LOCATION OR NAME: Epperson
LAI PROJECT #: 16-0120-01 COLLECTOR: DS + JT

CHAIN-OF-CUSTODY

LMD

CJTB

No 1218

Page 10 of 10

TRRP report?
☐ Yes ☒ No

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

TIME ZONE:
Time zone/State:
MST

Field Sample I.D.

Lab #

Date

Time

Matrix

of Containers

HCl

HNO₃H₂SO₄ ☐ 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) ☐ D.W. 200.8 ☐ TCLP ☐
LEAD - TOTAL ☐ FLASHPOINT ☐
RCI ☐ TOX ☐ % MOISTURE ☐ CYANIDE ☐
TDS ☐ TSS ☐
pH ☐ HEXAVALENT CHROMIUM ☐
EXPLOSIVES ☐ PECTHLORED ☐
CHLORIDE ☐ ANIONS ☐ ALKALINITY ☐

FIELD NOTES

C-8 1 7/30/20 1112 S 1
C-11 2 7/30/20 1106 L
C-3 3 7/31/20 L

TOTAL 3

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

LABORATORY: PBEL

TURN AROUND TIME

NORMAL ☒1 DAY ☐2 DAY ☐OTHER ☐

LABORATORY USE ONLY:

RECEIVING TEMP: 44

THERM#:

CUSTODY SEALS - ☐ BROKEN ☒ INTACT ☐ NOT USED

CARRIER BILL #

☒ HAND DELIVERED

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



Analytical Report

Prepared for:

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Location:

Lab Order Number: 7J23003



NELAP/TCEQ # T104704516-16-7

Report Date: 10/27/17

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-11 2'	7J23003-01	Soil	10/16/17 11:10	10-23-2017 09:08
SB-11 4'	7J23003-02	Soil	10/16/17 11:05	10-23-2017 09:08
SB-11 6'	7J23003-03	Soil	10/16/17 10:50	10-23-2017 09:08
SB-11 10'	7J23003-04	Soil	10/16/17 10:45	10-23-2017 09:08
SB-11 12'	7J23003-05	Soil	10/18/17 13:15	10-23-2017 09:08
SB-9 16'	7J23003-06	Soil	10/16/17 11:35	10-23-2017 09:08
SB-9 18'	7J23003-07	Soil	10/16/17 13:15	10-23-2017 09:08
SB-9 19.5'	7J23003-08	Soil	10/16/17 13:45	10-23-2017 09:08
SB-9 20'	7J23003-09	Soil	10/16/17 13:30	10-23-2017 09:08
SB-9 20.5'	7J23003-10	Soil	10/16/17 14:30	10-23-2017 09:08
SB-9 24'	7J23003-11	Soil	10/18/17 12:05	10-23-2017 09:08
SB-W9 16'	7J23003-12	Soil	10/16/17 14:45	10-23-2017 09:08

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SB-11 2'
7J23003-01 (Soil)

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

Organics by GC

Benzene	ND	0.00122	mg/kg dry	1	P7J2311	10/23/17	10/24/17	EPA 8021B	
Toluene	ND	0.00244	mg/kg dry	1	P7J2311	10/23/17	10/24/17	EPA 8021B	
Ethylbenzene	ND	0.00122	mg/kg dry	1	P7J2311	10/23/17	10/24/17	EPA 8021B	
Xylene (p/m)	ND	0.00244	mg/kg dry	1	P7J2311	10/23/17	10/24/17	EPA 8021B	
Xylene (o)	ND	0.00122	mg/kg dry	1	P7J2311	10/23/17	10/24/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		109 %	75-125		P7J2311	10/23/17	10/24/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		99.3 %	75-125		P7J2311	10/23/17	10/24/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	53.9	1.22	mg/kg dry	1	P7J2315	10/23/17	10/24/17	EPA 300.0	
% Moisture	18.0	0.1	%	1	P7J2403	10/24/17	10/24/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	30.5	mg/kg dry	1	P7J2310	10/23/17	10/23/17	TPH 8015M	
>C12-C28	ND	30.5	mg/kg dry	1	P7J2310	10/23/17	10/23/17	TPH 8015M	
>C28-C35	ND	30.5	mg/kg dry	1	P7J2310	10/23/17	10/23/17	TPH 8015M	
Surrogate: 1-Chlorooctane		108 %	70-130		P7J2310	10/23/17	10/23/17	TPH 8015M	
Surrogate: o-Terphenyl		122 %	70-130		P7J2310	10/23/17	10/23/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	30.5	mg/kg dry	1	[CALC]	10/23/17	10/23/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SB-11 4'
7J23003-02 (Soil)

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

Organics by GC

Benzene	ND	0.00108	mg/kg dry	1	P7J2311	10/23/17	10/24/17	EPA 8021B	
Toluene	ND	0.00215	mg/kg dry	1	P7J2311	10/23/17	10/24/17	EPA 8021B	
Ethylbenzene	ND	0.00108	mg/kg dry	1	P7J2311	10/23/17	10/24/17	EPA 8021B	
Xylene (p/m)	ND	0.00215	mg/kg dry	1	P7J2311	10/23/17	10/24/17	EPA 8021B	
Xylene (o)	ND	0.00108	mg/kg dry	1	P7J2311	10/23/17	10/24/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		89.4 %	75-125		P7J2311	10/23/17	10/24/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		87.6 %	75-125		P7J2311	10/23/17	10/24/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	126	1.08	mg/kg dry	1	P7J2315	10/23/17	10/24/17	EPA 300.0	
% Moisture	7.0	0.1	%	1	P7J2403	10/24/17	10/24/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.9	mg/kg dry	1	P7J2310	10/23/17	10/23/17	TPH 8015M	
>C12-C28	ND	26.9	mg/kg dry	1	P7J2310	10/23/17	10/23/17	TPH 8015M	
>C28-C35	ND	26.9	mg/kg dry	1	P7J2310	10/23/17	10/23/17	TPH 8015M	
Surrogate: 1-Chlorooctane		109 %	70-130		P7J2310	10/23/17	10/23/17	TPH 8015M	
Surrogate: o-Terphenyl		122 %	70-130		P7J2310	10/23/17	10/23/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.9	mg/kg dry	1	[CALC]	10/23/17	10/23/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SB-11 6'
7J23003-03 (Soil)

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

Organics by GC

Benzene	ND	0.00106	mg/kg dry	1	P7J2311	10/23/17	10/24/17	EPA 8021B	
Toluene	ND	0.00213	mg/kg dry	1	P7J2311	10/23/17	10/24/17	EPA 8021B	
Ethylbenzene	ND	0.00106	mg/kg dry	1	P7J2311	10/23/17	10/24/17	EPA 8021B	
Xylene (p/m)	ND	0.00213	mg/kg dry	1	P7J2311	10/23/17	10/24/17	EPA 8021B	
Xylene (o)	ND	0.00106	mg/kg dry	1	P7J2311	10/23/17	10/24/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		107 %	75-125		P7J2311	10/23/17	10/24/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		111 %	75-125		P7J2311	10/23/17	10/24/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	99.8	1.06	mg/kg dry	1	P7J2315	10/23/17	10/24/17	EPA 300.0	
% Moisture	6.0	0.1	%	1	P7J2403	10/24/17	10/24/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.6	mg/kg dry	1	P7J2310	10/23/17	10/23/17	TPH 8015M	
>C12-C28	ND	26.6	mg/kg dry	1	P7J2310	10/23/17	10/23/17	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P7J2310	10/23/17	10/23/17	TPH 8015M	
Surrogate: 1-Chlorooctane		107 %	70-130		P7J2310	10/23/17	10/23/17	TPH 8015M	
Surrogate: o-Terphenyl		120 %	70-130		P7J2310	10/23/17	10/23/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	10/23/17	10/23/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SB-11 10'
7J23003-04 (Soil)

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

Organics by GC

Benzene	ND	0.00110	mg/kg dry	1	P7J2311	10/23/17	10/24/17	EPA 8021B	
Toluene	ND	0.00220	mg/kg dry	1	P7J2311	10/23/17	10/24/17	EPA 8021B	
Ethylbenzene	ND	0.00110	mg/kg dry	1	P7J2311	10/23/17	10/24/17	EPA 8021B	
Xylene (p/m)	ND	0.00220	mg/kg dry	1	P7J2311	10/23/17	10/24/17	EPA 8021B	
Xylene (o)	ND	0.00110	mg/kg dry	1	P7J2311	10/23/17	10/24/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		109 %	75-125		P7J2311	10/23/17	10/24/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		103 %	75-125		P7J2311	10/23/17	10/24/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	103	1.10	mg/kg dry	1	P7J2315	10/23/17	10/24/17	EPA 300.0	
% Moisture	9.0	0.1	%	1	P7J2403	10/24/17	10/24/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.5	mg/kg dry	1	P7J2310	10/23/17	10/23/17	TPH 8015M	
>C12-C28	ND	27.5	mg/kg dry	1	P7J2310	10/23/17	10/23/17	TPH 8015M	
>C28-C35	ND	27.5	mg/kg dry	1	P7J2310	10/23/17	10/23/17	TPH 8015M	
Surrogate: 1-Chlorooctane		110 %	70-130		P7J2310	10/23/17	10/23/17	TPH 8015M	
Surrogate: o-Terphenyl		123 %	70-130		P7J2310	10/23/17	10/23/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.5	mg/kg dry	1	[CALC]	10/23/17	10/23/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SB-11 12'
7J23003-05 (Soil)

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

Organics by GC

Benzene	ND	0.00110	mg/kg dry	1	P7J2312	10/23/17	10/24/17	EPA 8021B	
Toluene	ND	0.00220	mg/kg dry	1	P7J2312	10/23/17	10/24/17	EPA 8021B	
Ethylbenzene	0.00355	0.00110	mg/kg dry	1	P7J2312	10/23/17	10/24/17	EPA 8021B	
Xylene (p/m)	0.00754	0.00220	mg/kg dry	1	P7J2312	10/23/17	10/24/17	EPA 8021B	
Xylene (o)	ND	0.00110	mg/kg dry	1	P7J2312	10/23/17	10/24/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		108 %	75-125		P7J2312	10/23/17	10/24/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		94.5 %	75-125		P7J2312	10/23/17	10/24/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	46.5	1.10	mg/kg dry	1	P7J2315	10/23/17	10/24/17	EPA 300.0	
% Moisture	9.0	0.1	%	1	P7J2403	10/24/17	10/24/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.5	mg/kg dry	1	P7J2310	10/23/17	10/24/17	TPH 8015M	
>C12-C28	ND	27.5	mg/kg dry	1	P7J2310	10/23/17	10/24/17	TPH 8015M	
>C28-C35	ND	27.5	mg/kg dry	1	P7J2310	10/23/17	10/24/17	TPH 8015M	
Surrogate: 1-Chlorooctane		111 %	70-130		P7J2310	10/23/17	10/24/17	TPH 8015M	
Surrogate: o-Terphenyl		124 %	70-130		P7J2310	10/23/17	10/24/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.5	mg/kg dry	1	[CALC]	10/23/17	10/24/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SB-9 16'
7J23003-06 (Soil)

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

Organics by GC

Benzene	0.00172	0.00109	mg/kg dry	1	P7J2312	10/23/17	10/24/17	EPA 8021B	
Toluene	0.0808	0.00217	mg/kg dry	1	P7J2312	10/23/17	10/24/17	EPA 8021B	
Ethylbenzene	0.205	0.00109	mg/kg dry	1	P7J2312	10/23/17	10/24/17	EPA 8021B	
Xylene (p/m)	0.407	0.00217	mg/kg dry	1	P7J2312	10/23/17	10/24/17	EPA 8021B	
Xylene (o)	0.249	0.00109	mg/kg dry	1	P7J2312	10/23/17	10/24/17	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		95.0 %	75-125		P7J2312	10/23/17	10/24/17	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		101 %	75-125		P7J2312	10/23/17	10/24/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	1130	5.43	mg/kg dry	5	P7J2315	10/23/17	10/24/17	EPA 300.0	
% Moisture	8.0	0.1	%	1	P7J2403	10/24/17	10/24/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.2	mg/kg dry	1	P7J2310	10/23/17	10/24/17	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P7J2310	10/23/17	10/24/17	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P7J2310	10/23/17	10/24/17	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		113 %	70-130		P7J2310	10/23/17	10/24/17	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		127 %	70-130		P7J2310	10/23/17	10/24/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	10/23/17	10/24/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SB-9 18'
7J23003-07 (Soil)

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

Organics by GC

Benzene	0.0456	0.00110	mg/kg dry	1	P7J2312	10/23/17	10/24/17	EPA 8021B	
Toluene	1.98	0.110	mg/kg dry	50	P7J2312	10/23/17	10/24/17	EPA 8021B	
Ethylbenzene	3.70	0.0549	mg/kg dry	50	P7J2312	10/23/17	10/24/17	EPA 8021B	
Xylene (p/m)	7.58	0.110	mg/kg dry	50	P7J2312	10/23/17	10/24/17	EPA 8021B	
Xylene (o)	3.55	0.0549	mg/kg dry	50	P7J2312	10/23/17	10/24/17	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		102 %	75-125		P7J2312	10/23/17	10/24/17	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		122 %	75-125		P7J2312	10/23/17	10/24/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	535	5.49	mg/kg dry	5	P7J2315	10/23/17	10/24/17	EPA 300.0	
% Moisture	9.0	0.1	%	1	P7J2403	10/24/17	10/24/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	102	27.5	mg/kg dry	1	P7J2310	10/23/17	10/24/17	TPH 8015M	
>C12-C28	ND	27.5	mg/kg dry	1	P7J2310	10/23/17	10/24/17	TPH 8015M	
>C28-C35	ND	27.5	mg/kg dry	1	P7J2310	10/23/17	10/24/17	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		114 %	70-130		P7J2310	10/23/17	10/24/17	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		125 %	70-130		P7J2310	10/23/17	10/24/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	102	27.5	mg/kg dry	1	[CALC]	10/23/17	10/24/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SB-9 19.5'
7J23003-08 (Soil)

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

Organics by GC

Benzene	0.162	0.00112	mg/kg dry	1	P7J2312	10/23/17	10/24/17	EPA 8021B	
Toluene	19.7	0.112	mg/kg dry	50	P7J2312	10/23/17	10/24/17	EPA 8021B	
Ethylbenzene	14.3	0.0562	mg/kg dry	50	P7J2312	10/23/17	10/24/17	EPA 8021B	
Xylene (p/m)	20.9	0.112	mg/kg dry	50	P7J2312	10/23/17	10/24/17	EPA 8021B	
Xylene (o)	8.47	0.0562	mg/kg dry	50	P7J2312	10/23/17	10/24/17	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		93.5 %		75-125	P7J2312	10/23/17	10/24/17	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		107 %		75-125	P7J2312	10/23/17	10/24/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	240	1.12	mg/kg dry	1	P7J2315	10/23/17	10/24/17	EPA 300.0	
% Moisture	11.0	0.1	%	1	P7J2403	10/24/17	10/24/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	273	28.1	mg/kg dry	1	P7J2310	10/23/17	10/24/17	TPH 8015M	
>C12-C28	29.1	28.1	mg/kg dry	1	P7J2310	10/23/17	10/24/17	TPH 8015M	
>C28-C35	ND	28.1	mg/kg dry	1	P7J2310	10/23/17	10/24/17	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		114 %		70-130	P7J2310	10/23/17	10/24/17	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		123 %		70-130	P7J2310	10/23/17	10/24/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	303	28.1	mg/kg dry	1	[CALC]	10/23/17	10/24/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SB-9 20'
7J23003-09 (Soil)

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

Organics by GC

Benzene	0.126	0.00110	mg/kg dry	1	P7J2312	10/23/17	10/24/17	EPA 8021B	
Toluene	7.42	0.110	mg/kg dry	50	P7J2312	10/23/17	10/24/17	EPA 8021B	
Ethylbenzene	8.52	0.0549	mg/kg dry	50	P7J2312	10/23/17	10/24/17	EPA 8021B	
Xylene (p/m)	14.1	0.110	mg/kg dry	50	P7J2312	10/23/17	10/24/17	EPA 8021B	
Xylene (o)	6.23	0.0549	mg/kg dry	50	P7J2312	10/23/17	10/24/17	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		91.6 %	75-125		P7J2312	10/23/17	10/24/17	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		94.1 %	75-125		P7J2312	10/23/17	10/24/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	56.6	1.10	mg/kg dry	1	P7J2315	10/23/17	10/24/17	EPA 300.0	
% Moisture	9.0	0.1	%	1	P7J2403	10/24/17	10/24/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	312	27.5	mg/kg dry	1	P7J2310	10/23/17	10/24/17	TPH 8015M	
>C12-C28	45.0	27.5	mg/kg dry	1	P7J2310	10/23/17	10/24/17	TPH 8015M	
>C28-C35	ND	27.5	mg/kg dry	1	P7J2310	10/23/17	10/24/17	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		119 %	70-130		P7J2310	10/23/17	10/24/17	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		123 %	70-130		P7J2310	10/23/17	10/24/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	357	27.5	mg/kg dry	1	[CALC]	10/23/17	10/24/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SB-9 20.5'
7J23003-10 (Soil)

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

Organics by GC

Benzene	0.357	0.0526	mg/kg dry	50	P7J2312	10/23/17	10/24/17	EPA 8021B	
Toluene	16.0	0.105	mg/kg dry	50	P7J2312	10/23/17	10/24/17	EPA 8021B	
Ethylbenzene	10.7	0.0526	mg/kg dry	50	P7J2312	10/23/17	10/24/17	EPA 8021B	
Xylene (p/m)	15.5	0.105	mg/kg dry	50	P7J2312	10/23/17	10/24/17	EPA 8021B	
Xylene (o)	6.08	0.0526	mg/kg dry	50	P7J2312	10/23/17	10/24/17	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		107 %	75-125		P7J2312	10/23/17	10/24/17	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		97.2 %	75-125		P7J2312	10/23/17	10/24/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	88.4	1.05	mg/kg dry	1	P7J2315	10/23/17	10/24/17	EPA 300.0	
% Moisture	5.0	0.1	%	1	P7J2403	10/24/17	10/24/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	337	26.3	mg/kg dry	1	P7J2310	10/23/17	10/24/17	TPH 8015M	
>C12-C28	37.7	26.3	mg/kg dry	1	P7J2310	10/23/17	10/24/17	TPH 8015M	
>C28-C35	ND	26.3	mg/kg dry	1	P7J2310	10/23/17	10/24/17	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		117 %	70-130		P7J2310	10/23/17	10/24/17	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		125 %	70-130		P7J2310	10/23/17	10/24/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	375	26.3	mg/kg dry	1	[CALC]	10/23/17	10/24/17	calc	

Permian Basin Environmental Lab, L.P.

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

Larson & Associates, Inc.
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Midland TX, 79710

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SB-9 24'
7J23003-11 (Soil)

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

Organics by GC

Benzene	1.58	0.0521	mg/kg dry	50	P7J2312	10/23/17	10/25/17	EPA 8021B	
Toluene	20.7	0.104	mg/kg dry	50	P7J2312	10/23/17	10/25/17	EPA 8021B	
Ethylbenzene	14.4	0.0521	mg/kg dry	50	P7J2312	10/23/17	10/25/17	EPA 8021B	
Xylene (p/m)	22.5	0.104	mg/kg dry	50	P7J2312	10/23/17	10/25/17	EPA 8021B	
Xylene (o)	8.37	0.0521	mg/kg dry	50	P7J2312	10/23/17	10/25/17	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.0 %	75-125		P7J2312	10/23/17	10/25/17	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		89.5 %	75-125		P7J2312	10/23/17	10/25/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	17.9	1.04	mg/kg dry	1	P7J2315	10/23/17	10/24/17	EPA 300.0	
% Moisture	4.0	0.1	%	1	P7J2403	10/24/17	10/24/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	572	26.0	mg/kg dry	1	P7J2310	10/23/17	10/24/17	TPH 8015M	
>C12-C28	61.9	26.0	mg/kg dry	1	P7J2310	10/23/17	10/24/17	TPH 8015M	
>C28-C35	ND	26.0	mg/kg dry	1	P7J2310	10/23/17	10/24/17	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		121 %	70-130		P7J2310	10/23/17	10/24/17	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		124 %	70-130		P7J2310	10/23/17	10/24/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	634	26.0	mg/kg dry	1	[CALC]	10/23/17	10/24/17	calc	

Permian Basin Environmental Lab, L.P.

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

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P.O. Box 50685
Midland TX, 79710

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SB-W9 16'
7J23003-12 (Soil)

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

Organics by GC

Benzene	0.0139	0.00116	mg/kg dry	1	P7J2312	10/23/17	10/24/17	EPA 8021B	
Toluene	0.346	0.116	mg/kg dry	50	P7J2312	10/23/17	10/24/17	EPA 8021B	
Ethylbenzene	0.158	0.0581	mg/kg dry	50	P7J2312	10/23/17	10/24/17	EPA 8021B	
Xylene (p/m)	9.64	0.116	mg/kg dry	50	P7J2312	10/23/17	10/24/17	EPA 8021B	
Xylene (o)	4.64	0.0581	mg/kg dry	50	P7J2312	10/23/17	10/24/17	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		107 %	75-125		P7J2312	10/23/17	10/24/17	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		103 %	75-125		P7J2312	10/23/17	10/24/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	384	1.16	mg/kg dry	1	P7J2315	10/23/17	10/24/17	EPA 300.0	
% Moisture	14.0	0.1	%	1	P7J2403	10/24/17	10/24/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	144	29.1	mg/kg dry	1	P7J2313	10/23/17	10/24/17	TPH 8015M	
>C12-C28	ND	29.1	mg/kg dry	1	P7J2313	10/23/17	10/24/17	TPH 8015M	
>C28-C35	ND	29.1	mg/kg dry	1	P7J2313	10/23/17	10/24/17	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		126 %	70-130		P7J2313	10/23/17	10/24/17	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		143 %	70-130		P7J2313	10/23/17	10/24/17	TPH 8015M	S-GC
Total Petroleum Hydrocarbon C6-C35	144	29.1	mg/kg dry	1	[CALC]	10/23/17	10/24/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7J2311 - General Preparation (GC)

Blank (P7J2311-BLK1)

Prepared & Analyzed: 10/23/17

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	0.0549		"	0.0600		91.5	75-125			
Surrogate: 4-Bromofluorobenzene	0.0545		"	0.0600		90.8	75-125			

LCS (P7J2311-BS1)

Prepared & Analyzed: 10/23/17

Benzene	0.117	0.00100	mg/kg wet				70-130			
Toluene	0.117	0.00200	"				70-130			
Ethylbenzene	0.116	0.00100	"				70-130			
Xylene (p/m)	0.215	0.00200	"				70-130			
Xylene (o)	0.120	0.00100	"				70-130			
Surrogate: 1,4-Difluorobenzene	0.0681		"	0.0600		113	75-125			
Surrogate: 4-Bromofluorobenzene	0.0638		"	0.0600		106	75-125			

LCS Dup (P7J2311-BS1)

Prepared & Analyzed: 10/23/17

Benzene	0.118	0.00100	mg/kg wet				70-130		20	
Toluene	0.116	0.00200	"				70-130		20	
Ethylbenzene	0.112	0.00100	"				70-130		20	
Xylene (p/m)	0.216	0.00200	"				70-130		20	
Xylene (o)	0.117	0.00100	"				70-130		20	
Surrogate: 4-Bromofluorobenzene	0.0649		"	0.0600		108	75-125			
Surrogate: 1,4-Difluorobenzene	0.0651		"	0.0600		108	75-125			

Calibration Blank (P7J2311-CCB1)

Prepared & Analyzed: 10/23/17

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	0.0560		"	0.0600		93.3	75-125			
Surrogate: 4-Bromofluorobenzene	0.0529		"	0.0600		88.2	75-125			

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7J2311 - General Preparation (GC)

Calibration Blank (P7J2311-CCB2)

Prepared: 10/23/17 Analyzed: 10/24/17

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	0.0534		"	0.0600		89.0	75-125			
Surrogate: 4-Bromofluorobenzene	0.0576		"	0.0600		96.0	75-125			

Calibration Check (P7J2311-CCV1)

Prepared & Analyzed: 10/23/17

Benzene	0.115	0.00100	mg/kg wet	0.100		115	80-120			
Toluene	0.107	0.00200	"	0.100		107	80-120			
Ethylbenzene	0.112	0.00100	"	0.100		112	80-120			
Xylene (p/m)	0.219	0.00200	"	0.200		109	80-120			
Xylene (o)	0.117	0.00100	"	0.100		117	80-120			
Surrogate: 1,4-Difluorobenzene	0.0640		"	0.0600		107	75-125			
Surrogate: 4-Bromofluorobenzene	0.0600		"	0.0600		100	75-125			

Calibration Check (P7J2311-CCV2)

Prepared: 10/23/17 Analyzed: 10/24/17

Benzene	0.101	0.00100	mg/kg wet	0.100		101	80-120			
Toluene	0.0972	0.00200	"	0.100		97.2	80-120			
Ethylbenzene	0.0997	0.00100	"	0.100		99.7	80-120			
Xylene (p/m)	0.217	0.00200	"	0.200		108	80-120			
Xylene (o)	0.113	0.00100	"	0.100		113	80-120			
Surrogate: 1,4-Difluorobenzene	0.0624		"	0.0600		104	75-125			
Surrogate: 4-Bromofluorobenzene	0.0625		"	0.0600		104	75-125			

Calibration Check (P7J2311-CCV3)

Prepared: 10/23/17 Analyzed: 10/24/17

Benzene	0.108	0.00100	mg/kg wet	0.100		108	80-120			
Toluene	0.105	0.00200	"	0.100		105	80-120			
Ethylbenzene	0.106	0.00100	"	0.100		106	80-120			
Xylene (p/m)	0.216	0.00200	"	0.200		108	80-120			
Xylene (o)	0.111	0.00100	"	0.100		111	80-120			
Surrogate: 4-Bromofluorobenzene	0.0646		"	0.0600		108	75-125			
Surrogate: 1,4-Difluorobenzene	0.0583		"	0.0600		97.2	75-125			

Permian Basin Environmental Lab, L.P.

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7J2311 - General Preparation (GC)

Matrix Spike (P7J2311-MS1)

Source: 7J23002-10

Prepared: 10/23/17 Analyzed: 10/24/17

Benzene	0.0974	0.00106	mg/kg dry		ND		80-120			
Toluene	0.0931	0.00213	"		ND		80-120			
Ethylbenzene	0.108	0.00106	"		ND		80-120			
Xylene (p/m)	0.196	0.00213	"		ND		80-120			
Xylene (o)	0.0892	0.00106	"		ND		80-120			
Surrogate: 4-Bromofluorobenzene	0.0697		"	0.0638		109	75-125			
Surrogate: 1,4-Difluorobenzene	0.0632		"	0.0638		98.9	75-125			

Matrix Spike Dup (P7J2311-MSD1)

Source: 7J23002-10

Prepared: 10/23/17 Analyzed: 10/24/17

Benzene	0.100	0.00106	mg/kg dry		ND		80-120		20	
Toluene	0.0939	0.00213	"		ND		80-120		20	
Ethylbenzene	0.126	0.00106	"		ND		80-120		20	
Xylene (p/m)	0.226	0.00213	"		ND		80-120		20	
Xylene (o)	0.102	0.00106	"		ND		80-120		20	
Surrogate: 1,4-Difluorobenzene	0.0589		"	0.0638		92.2	75-125			
Surrogate: 4-Bromofluorobenzene	0.0713		"	0.0638		112	75-125			

Batch P7J2312 - General Preparation (GC)

Blank (P7J2312-BLK1)

Prepared: 10/23/17 Analyzed: 10/24/17

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	0.0551		"	0.0600		91.9	75-125			
Surrogate: 4-Bromofluorobenzene	0.0585		"	0.0600		97.5	75-125			

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7J2312 - General Preparation (GC)

LCS (P7J2312-BS1)		Prepared: 10/23/17 Analyzed: 10/24/17								
Benzene	0.109	0.00100	mg/kg wet				70-130			
Toluene	0.102	0.00200	"				70-130			
Ethylbenzene	0.117	0.00100	"				70-130			
Xylene (p/m)	0.196	0.00200	"				70-130			
Xylene (o)	0.113	0.00100	"				70-130			
Surrogate: 1,4-Difluorobenzene	0.0628		"	0.0600		105	75-125			
Surrogate: 4-Bromofluorobenzene	0.0663		"	0.0600		110	75-125			

LCS Dup (P7J2312-BSD1)		Prepared: 10/23/17 Analyzed: 10/24/17								
Benzene	0.104	0.00100	mg/kg wet				70-130		20	
Toluene	0.0996	0.00200	"				70-130		20	
Ethylbenzene	0.109	0.00100	"				70-130		20	
Xylene (p/m)	0.218	0.00200	"				70-130		20	
Xylene (o)	0.104	0.00100	"				70-130		20	
Surrogate: 4-Bromofluorobenzene	0.0661		"	0.0600		110	75-125			
Surrogate: 1,4-Difluorobenzene	0.0655		"	0.0600		109	75-125			

Calibration Blank (P7J2312-CCB1)		Prepared: 10/23/17 Analyzed: 10/24/17								
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	0.0618		"	0.0600		103	75-125			
Surrogate: 4-Bromofluorobenzene	0.0619		"	0.0600		103	75-125			

Calibration Blank (P7J2312-CCB2)		Prepared: 10/23/17 Analyzed: 10/24/17								
Benzene	0.00		mg/kg wet							
Toluene	0.00		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.830		"							
Xylene (o)	0.00		"							
Surrogate: 1,4-Difluorobenzene	0.0534		"	0.0600		89.1	75-125			
Surrogate: 4-Bromofluorobenzene	0.0505		"	0.0600		84.2	75-125			

Permian Basin Environmental Lab, L.P.

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7J2312 - General Preparation (GC)

Calibration Check (P7J2312-CCV1)

Prepared: 10/23/17 Analyzed: 10/24/17

Benzene	0.108	0.00100	mg/kg wet	0.100		108	80-120			
Toluene	0.105	0.00200	"	0.100		105	80-120			
Ethylbenzene	0.106	0.00100	"	0.100		106	80-120			
Xylene (p/m)	0.216	0.00200	"	0.200		108	80-120			
Xylene (o)	0.111	0.00100	"	0.100		111	80-120			
Surrogate: 4-Bromofluorobenzene	0.0646		"	0.0600		108	75-125			
Surrogate: 1,4-Difluorobenzene	0.0583		"	0.0600		97.2	75-125			

Calibration Check (P7J2312-CCV2)

Prepared: 10/23/17 Analyzed: 10/24/17

Benzene	0.100	0.00100	mg/kg wet	0.100		100	80-120			
Toluene	0.0921	0.00200	"	0.100		92.1	80-120			
Ethylbenzene	0.0947	0.00100	"	0.100		94.7	80-120			
Xylene (p/m)	0.198	0.00200	"	0.200		98.8	80-120			
Xylene (o)	0.0997	0.00100	"	0.100		99.7	80-120			
Surrogate: 1,4-Difluorobenzene	0.0624		"	0.0600		104	75-125			
Surrogate: 4-Bromofluorobenzene	0.0580		"	0.0600		96.6	75-125			

Calibration Check (P7J2312-CCV3)

Prepared: 10/23/17 Analyzed: 10/24/17

Benzene	0.103	0.00100	mg/kg wet	0.100		103	80-120			
Toluene	0.0964	0.00200	"	0.100		96.4	80-120			
Ethylbenzene	0.100	0.00100	"	0.100		100	80-120			
Xylene (p/m)	0.210	0.00200	"	0.200		105	80-120			
Xylene (o)	0.110	0.00100	"	0.100		110	80-120			
Surrogate: 4-Bromofluorobenzene	0.0607		"	0.0600		101	75-125			
Surrogate: 1,4-Difluorobenzene	0.0633		"	0.0600		106	75-125			

Matrix Spike (P7J2312-MS1)

Source: 7J23003-05

Prepared: 10/23/17 Analyzed: 10/24/17

Benzene	0.0887	0.00110	mg/kg dry		0.000967		80-120			
Toluene	0.0880	0.00220	"		ND		80-120			
Ethylbenzene	0.104	0.00110	"		0.00355		80-120			
Xylene (p/m)	0.200	0.00220	"		0.00754		80-120			
Xylene (o)	0.0891	0.00110	"		ND		80-120			
Surrogate: 1,4-Difluorobenzene	0.0684		"	0.0659		104	75-125			
Surrogate: 4-Bromofluorobenzene	0.0705		"	0.0659		107	75-125			

Permian Basin Environmental Lab, L.P.

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Project Number: 16-0120-01
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Organics by GC - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7J2312 - General Preparation (GC)

Matrix Spike Dup (P7J2312-MSD1)

Source: 7J23003-05

Prepared: 10/23/17 Analyzed: 10/24/17

Benzene	0.0936	0.00110	mg/kg dry		0.000967		80-120		20	
Toluene	0.0884	0.00220	"		ND		80-120		20	
Ethylbenzene	0.114	0.00110	"		0.00355		80-120		20	
Xylene (p/m)	0.208	0.00220	"		0.00754		80-120		20	
Xylene (o)	0.0926	0.00110	"		ND		80-120		20	
Surrogate: 1,4-Difluorobenzene	0.0704		"	0.0659		107	75-125			
Surrogate: 4-Bromofluorobenzene	0.0740		"	0.0659		112	75-125			

Permian Basin Environmental Lab, L.P.

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7J2315 - * DEFAULT PREP *****

Blank (P7J2315-BLK1)				Prepared: 10/23/17 Analyzed: 10/24/17						
Chloride	ND	1.00	mg/kg wet							
LCS (P7J2315-BS1)				Prepared: 10/23/17 Analyzed: 10/24/17						
Chloride	416	1.00	mg/kg wet	400		104	80-120			
LCS Dup (P7J2315-BSD1)				Prepared: 10/23/17 Analyzed: 10/24/17						
Chloride	415	1.00	mg/kg wet	400		104	80-120	0.111	20	
Duplicate (P7J2315-DUP1)				Source: 7J23002-41		Prepared: 10/23/17 Analyzed: 10/24/17				
Chloride	ND	1.02	mg/kg dry		ND				20	
Duplicate (P7J2315-DUP2)				Source: 7J23003-03		Prepared: 10/23/17 Analyzed: 10/24/17				
Chloride	102	1.06	mg/kg dry		99.8			1.94	20	
Matrix Spike (P7J2315-MS1)				Source: 7J23002-41		Prepared: 10/23/17 Analyzed: 10/24/17				
Chloride	1070	1.02	mg/kg dry	1020	ND	105	80-120			

Batch P7J2403 - * DEFAULT PREP *****

Blank (P7J2403-BLK1)				Prepared & Analyzed: 10/24/17						
% Moisture	ND	0.1	%							
Blank (P7J2403-BLK2)				Prepared & Analyzed: 10/24/17						
% Moisture	ND	0.1	%							
Duplicate (P7J2403-DUP1)				Source: 7J23002-09		Prepared & Analyzed: 10/24/17				
% Moisture	8.0	0.1	%		9.0			11.8	20	

Permian Basin Environmental Lab, L.P.

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7J2403 - * DEFAULT PREP *****

Duplicate (P7J2403-DUP2)	Source: 7J23002-36			Prepared & Analyzed: 10/24/17						
% Moisture	11.0	0.1	%		10.0			9.52	20	
Duplicate (P7J2403-DUP3)	Source: 7J23004-03			Prepared & Analyzed: 10/24/17						
% Moisture	4.0	0.1	%		5.0			22.2	20	R2
Duplicate (P7J2403-DUP4)	Source: 7J23006-05			Prepared & Analyzed: 10/24/17						
% Moisture	4.0	0.1	%		5.0			22.2	20	R2

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Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

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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
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Batch P7J2310 - General Preparation (GC)

Blank (P7J2310-BLK1)

Prepared & Analyzed: 10/23/17

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	109		"	100		109	70-130			
Surrogate: o-Terphenyl	61.2		"	50.0		122	70-130			

LCS (P7J2310-BS1)

Prepared & Analyzed: 10/23/17

C6-C12	790	25.0	mg/kg wet	1000		79.0	75-125			
>C12-C28	927	25.0	"	1000		92.7	75-125			
Surrogate: 1-Chlorooctane	105		"	100		105	70-130			
Surrogate: o-Terphenyl	54.8		"	50.0		110	70-130			

LCS Dup (P7J2310-BSD1)

Prepared & Analyzed: 10/23/17

C6-C12	790	25.0	mg/kg wet	1000		79.0	75-125	0.0696	20	
>C12-C28	938	25.0	"	1000		93.8	75-125	1.18	20	
Surrogate: 1-Chlorooctane	106		"	100		106	70-130			
Surrogate: o-Terphenyl	55.6		"	50.0		111	70-130			

Calibration Blank (P7J2310-CCB1)

Prepared & Analyzed: 10/23/17

C6-C12	18.2		mg/kg wet							
>C12-C28	13.6		"							
Surrogate: 1-Chlorooctane	112		"	100		112	70-130			
Surrogate: o-Terphenyl	62.7		"	50.0		125	70-130			

Calibration Blank (P7J2310-CCB2)

Prepared & Analyzed: 10/23/17

C6-C12	17.4		mg/kg wet							
>C12-C28	19.6		"							
Surrogate: 1-Chlorooctane	118		"	100		118	70-130			
Surrogate: o-Terphenyl	66.5		"	50.0		133	70-130			S-GC

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7J2310 - General Preparation (GC)

Calibration Check (P7J2310-CCV1)

Prepared & Analyzed: 10/23/17

C6-C12	483	25.0	mg/kg wet	500		96.7	85-115			
>C12-C28	494	25.0	"	500		98.8	85-115			
Surrogate: 1-Chlorooctane	123		"	100		123	70-130			
Surrogate: o-Terphenyl	61.5		"	50.0		123	70-130			

Calibration Check (P7J2310-CCV2)

Prepared & Analyzed: 10/23/17

C6-C12	516	25.0	mg/kg wet	500		103	85-115			
>C12-C28	555	25.0	"	500		111	85-115			
Surrogate: 1-Chlorooctane	124		"	100		124	70-130			
Surrogate: o-Terphenyl	64.0		"	50.0		128	70-130			

Calibration Check (P7J2310-CCV3)

Prepared: 10/23/17 Analyzed: 10/24/17

C6-C12	521	25.0	mg/kg wet	500		104	85-115			
>C12-C28	564	25.0	"	500		113	85-115			
Surrogate: 1-Chlorooctane	122		"	100		122	70-130			
Surrogate: o-Terphenyl	63.8		"	50.0		128	70-130			

Matrix Spike (P7J2310-MS1)

Source: 7J23002-38

Prepared: 10/23/17 Analyzed: 10/24/17

C6-C12	843	25.5	mg/kg dry	1020	24.6	80.2	75-125			
>C12-C28	1030	25.5	"	1020	ND	101	75-125			
Surrogate: 1-Chlorooctane	123		"	102		120	70-130			
Surrogate: o-Terphenyl	63.7		"	51.0		125	70-130			

Matrix Spike Dup (P7J2310-MSD1)

Source: 7J23002-38

Prepared: 10/23/17 Analyzed: 10/24/17

C6-C12	846	25.5	mg/kg dry	1020	24.6	80.5	75-125	0.275	20	
>C12-C28	1030	25.5	"	1020	ND	101	75-125	0.153	20	
Surrogate: 1-Chlorooctane	125		"	102		122	70-130			
Surrogate: o-Terphenyl	63.6		"	51.0		125	70-130			

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7J2313 - General Preparation (GC)

Blank (P7J2313-BLK1)

Prepared: 10/23/17 Analyzed: 10/24/17

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	124		"	100		124	70-130			
Surrogate: o-Terphenyl	71.6		"	50.0		143	70-130			S-GC

LCS (P7J2313-BS1)

Prepared: 10/23/17 Analyzed: 10/24/17

C6-C12	1200	25.0	mg/kg wet	1000		120	75-125			
>C12-C28	1170	25.0	"	1000		117	75-125			
Surrogate: 1-Chlorooctane	124		"	100		124	70-130			
Surrogate: o-Terphenyl	69.5		"	50.0		139	70-130			S-GC

LCS Dup (P7J2313-BSD1)

Prepared: 10/23/17 Analyzed: 10/24/17

C6-C12	1220	25.0	mg/kg wet	1000		122	75-125	1.76	20	
>C12-C28	1190	25.0	"	1000		119	75-125	1.86	20	
Surrogate: 1-Chlorooctane	128		"	100		128	70-130			
Surrogate: o-Terphenyl	70.7		"	50.0		141	70-130			S-GC

Calibration Blank (P7J2313-CCB1)

Prepared: 10/23/17 Analyzed: 10/24/17

C6-C12	13.0		mg/kg wet							
>C12-C28	10.6		"							
Surrogate: 1-Chlorooctane	122		"	100		122	70-130			
Surrogate: o-Terphenyl	69.8		"	50.0		140	70-130			S-GC

Calibration Blank (P7J2313-CCB2)

Prepared: 10/23/17 Analyzed: 10/24/17

C6-C12	12.8		mg/kg wet							
>C12-C28	14.1		"							
Surrogate: 1-Chlorooctane	122		"	100		122	70-130			
Surrogate: o-Terphenyl	70.0		"	50.0		140	70-130			S-GC

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7J2313 - General Preparation (GC)

Calibration Check (P7J2313-CCV1)

Prepared: 10/23/17 Analyzed: 10/24/17

C6-C12	556	25.0	mg/kg wet	500		111	85-115			
>C12-C28	501	25.0	"	500		100	85-115			
Surrogate: 1-Chlorooctane	115		"	100		115	70-130			
Surrogate: o-Terphenyl	61.9		"	50.0		124	70-130			

Calibration Check (P7J2313-CCV2)

Prepared: 10/23/17 Analyzed: 10/24/17

C6-C12	529	25.0	mg/kg wet	500		106	85-115			
>C12-C28	507	25.0	"	500		101	85-115			
Surrogate: 1-Chlorooctane	114		"	100		114	70-130			
Surrogate: o-Terphenyl	64.0		"	50.0		128	70-130			

Calibration Check (P7J2313-CCV3)

Prepared: 10/23/17 Analyzed: 10/25/17

C6-C12	563	25.0	mg/kg wet	500		113	85-115			
>C12-C28	570	25.0	"	500		114	85-115			
Surrogate: 1-Chlorooctane	123		"	100		123	70-130			
Surrogate: o-Terphenyl	64.0		"	50.0		128	70-130			

Matrix Spike (P7J2313-MS1)

Source: 7J20002-03

Prepared: 10/23/17 Analyzed: 10/24/17

C6-C12	1210	30.9	mg/kg dry	1230	13.2	96.7	75-125			
>C12-C28	1130	30.9	"	1230	20.9	90.1	75-125			
Surrogate: 1-Chlorooctane	137		"	123		111	70-130			
Surrogate: o-Terphenyl	79.1		"	61.7		128	70-130			

Matrix Spike Dup (P7J2313-MSD1)

Source: 7J20002-03

Prepared: 10/23/17 Analyzed: 10/24/17

C6-C12	1180	30.9	mg/kg dry	1230	13.2	94.9	75-125	1.94	20	
>C12-C28	1130	30.9	"	1230	20.9	90.2	75-125	0.0799	20	
Surrogate: 1-Chlorooctane	146		"	123		118	70-130			
Surrogate: o-Terphenyl	73.3		"	61.7		119	70-130			

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Notes and Definitions

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

R2 The RPD exceeded the acceptance limit.

BULK Samples received in Bulk soil containers

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By: _____



Date: 10/27/2017

Brent Barron, Laboratory Director/Technical Director

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

Permian Basin Environmental Lab, L.P.

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

CHAIN-OF-CUSTODY

frozen

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



Analytical Report

Prepared for:

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

Project: Epperson Site 1
Project Number: 16-0120-01

Location:

Lab Order Number: 7J24009



NELAP/TCEQ # T104704516-16-7

Report Date: 10/27/17

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
NE (2)	7J24009-01	Soil	10/23/17 09:05	10-24-2017 11:20
NW (2)	7J24009-02	Soil	10/23/17 09:47	10-24-2017 11:20
SE (2)	7J24009-03	Soil	10/23/17 10:51	10-24-2017 11:20
SW (2)	7J24009-04	Soil	10/23/17 13:00	10-24-2017 11:20
NE (4)	7J24009-05	Soil	10/23/17 09:13	10-24-2017 11:20
NW (4)	7J24009-06	Soil	10/23/17 10:10	10-24-2017 11:20
SE (4)	7J24009-07	Soil	10/23/17 10:54	10-24-2017 11:20
SW (4)	7J24009-08	Soil	10/23/17 13:20	10-24-2017 11:20
NE (8)	7J24009-09	Soil	10/23/17 09:21	10-24-2017 11:20
NW (8)	7J24009-10	Soil	10/23/17 10:15	10-24-2017 11:20
SE(8)	7J24009-11	Soil	10/23/17 11:00	10-24-2017 11:20
SW (8)	7J24009-12	Soil	10/23/17 13:26	10-24-2017 11:20
NE (12)	7J24009-13	Soil	10/23/17 09:30	10-24-2017 11:20
NW (12)	7J24009-14	Soil	10/23/17 10:20	10-24-2017 11:20
SE (12)	7J24009-15	Soil	10/23/17 11:21	10-24-2017 11:20
SW(12)	7J24009-16	Soil	10/23/17 13:45	10-24-2017 11:20
NE (16)	7J24009-17	Soil	10/23/17 09:35	10-24-2017 11:20
NW (16)	7J24009-18	Soil	10/23/17 10:25	10-24-2017 11:20
SE (16)	7J24009-19	Soil	10/23/17 01:30	10-24-2017 11:20
SW (16)	7J24009-20	Soil	10/23/17 13:53	10-24-2017 11:20
NE (20)	7J24009-21	Soil	10/23/17 09:40	10-24-2017 11:20
NW (20)	7J24009-22	Soil	10/23/17 10:30	10-24-2017 11:20
SE (20)	7J24009-23	Soil	10/23/17 11:40	10-24-2017 11:20
SW (20)	7J24009-24	Soil	10/23/17 14:00	10-24-2017 11:20

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

NE (2)
7J24009-01 (Soil)

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

Organics by GC

Benzene	ND	0.00119	mg/kg dry	1	P7J2409	10/24/17	10/25/17	EPA 8021B	
Toluene	ND	0.00238	mg/kg dry	1	P7J2409	10/24/17	10/25/17	EPA 8021B	
Ethylbenzene	ND	0.00119	mg/kg dry	1	P7J2409	10/24/17	10/25/17	EPA 8021B	
Xylene (p/m)	ND	0.00238	mg/kg dry	1	P7J2409	10/24/17	10/25/17	EPA 8021B	
Xylene (o)	ND	0.00119	mg/kg dry	1	P7J2409	10/24/17	10/25/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		93.3 %		75-125	P7J2409	10/24/17	10/25/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		89.1 %		75-125	P7J2409	10/24/17	10/25/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	2640	11.9	mg/kg dry	10	P7J2411	10/24/17	10/25/17	EPA 300.0	
% Moisture	16.0	0.1	%	1	P7J2501	10/25/17	10/25/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	29.8	mg/kg dry	1	P7J2407	10/24/17	10/24/17	TPH 8015M	
>C12-C28	ND	29.8	mg/kg dry	1	P7J2407	10/24/17	10/24/17	TPH 8015M	
>C28-C35	ND	29.8	mg/kg dry	1	P7J2407	10/24/17	10/24/17	TPH 8015M	
Surrogate: 1-Chlorooctane		103 %		70-130	P7J2407	10/24/17	10/24/17	TPH 8015M	
Surrogate: o-Terphenyl		114 %		70-130	P7J2407	10/24/17	10/24/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	29.8	mg/kg dry	1	[CALC]	10/24/17	10/24/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

NW (2)
7J24009-02 (Soil)

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

Organics by GC

Benzene	ND	0.00112	mg/kg dry	1	P7J2409	10/24/17	10/25/17	EPA 8021B	
Toluene	ND	0.00225	mg/kg dry	1	P7J2409	10/24/17	10/25/17	EPA 8021B	
Ethylbenzene	ND	0.00112	mg/kg dry	1	P7J2409	10/24/17	10/25/17	EPA 8021B	
Xylene (p/m)	ND	0.00225	mg/kg dry	1	P7J2409	10/24/17	10/25/17	EPA 8021B	
Xylene (o)	ND	0.00112	mg/kg dry	1	P7J2409	10/24/17	10/25/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		92.9 %	75-125		P7J2409	10/24/17	10/25/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		98.2 %	75-125		P7J2409	10/24/17	10/25/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	1210	5.62	mg/kg dry	5	P7J2411	10/24/17	10/25/17	EPA 300.0	
% Moisture	11.0	0.1	%	1	P7J2501	10/25/17	10/25/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	28.1	mg/kg dry	1	P7J2407	10/24/17	10/24/17	TPH 8015M	
>C12-C28	ND	28.1	mg/kg dry	1	P7J2407	10/24/17	10/24/17	TPH 8015M	
>C28-C35	ND	28.1	mg/kg dry	1	P7J2407	10/24/17	10/24/17	TPH 8015M	
Surrogate: 1-Chlorooctane		93.7 %	70-130		P7J2407	10/24/17	10/24/17	TPH 8015M	
Surrogate: o-Terphenyl		101 %	70-130		P7J2407	10/24/17	10/24/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	28.1	mg/kg dry	1	[CALC]	10/24/17	10/24/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SE (2)
7J24009-03 (Soil)

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

Organics by GC

Benzene	ND	0.00115	mg/kg dry	1	P7J2409	10/24/17	10/25/17	EPA 8021B	
Toluene	ND	0.00230	mg/kg dry	1	P7J2409	10/24/17	10/25/17	EPA 8021B	
Ethylbenzene	ND	0.00115	mg/kg dry	1	P7J2409	10/24/17	10/25/17	EPA 8021B	
Xylene (p/m)	0.00485	0.00230	mg/kg dry	1	P7J2409	10/24/17	10/25/17	EPA 8021B	
Xylene (o)	0.00653	0.00115	mg/kg dry	1	P7J2409	10/24/17	10/25/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		95.0 %	75-125		P7J2409	10/24/17	10/25/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		101 %	75-125		P7J2409	10/24/17	10/25/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	ND	1.15	mg/kg dry	1	P7J2411	10/24/17	10/25/17	EPA 300.0	
% Moisture	13.0	0.1	%	1	P7J2501	10/25/17	10/25/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	28.7	mg/kg dry	1	P7J2407	10/24/17	10/24/17	TPH 8015M	
>C12-C28	ND	28.7	mg/kg dry	1	P7J2407	10/24/17	10/24/17	TPH 8015M	
>C28-C35	ND	28.7	mg/kg dry	1	P7J2407	10/24/17	10/24/17	TPH 8015M	
Surrogate: 1-Chlorooctane		99.1 %	70-130		P7J2407	10/24/17	10/24/17	TPH 8015M	
Surrogate: o-Terphenyl		109 %	70-130		P7J2407	10/24/17	10/24/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	28.7	mg/kg dry	1	[CALC]	10/24/17	10/24/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SW (2)
7J24009-04 (Soil)

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

Organics by GC

Benzene	ND	0.00109	mg/kg dry	1	P7J2409	10/24/17	10/25/17	EPA 8021B	
Toluene	ND	0.00217	mg/kg dry	1	P7J2409	10/24/17	10/25/17	EPA 8021B	
Ethylbenzene	ND	0.00109	mg/kg dry	1	P7J2409	10/24/17	10/25/17	EPA 8021B	
Xylene (p/m)	ND	0.00217	mg/kg dry	1	P7J2409	10/24/17	10/25/17	EPA 8021B	
Xylene (o)	ND	0.00109	mg/kg dry	1	P7J2409	10/24/17	10/25/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		97.2 %	75-125		P7J2409	10/24/17	10/25/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		104 %	75-125		P7J2409	10/24/17	10/25/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	738	1.09	mg/kg dry	1	P7J2411	10/24/17	10/25/17	EPA 300.0	
% Moisture	8.0	0.1	%	1	P7J2501	10/25/17	10/25/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.2	mg/kg dry	1	P7J2407	10/24/17	10/24/17	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P7J2407	10/24/17	10/24/17	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P7J2407	10/24/17	10/24/17	TPH 8015M	
Surrogate: 1-Chlorooctane		95.3 %	70-130		P7J2407	10/24/17	10/24/17	TPH 8015M	
Surrogate: o-Terphenyl		104 %	70-130		P7J2407	10/24/17	10/24/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	10/24/17	10/24/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

NE (4)
7J24009-05 (Soil)

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

Organics by GC

Benzene	ND	0.0222	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Toluene	0.0578	0.0444	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Ethylbenzene	0.105	0.0222	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Xylene (p/m)	0.845	0.0444	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Xylene (o)	0.705	0.0222	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		98.0 %	75-125		P7J2409	10/24/17	10/25/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		95.7 %	75-125		P7J2409	10/24/17	10/25/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	325	5.56	mg/kg dry	5	P7J2411	10/24/17	10/25/17	EPA 300.0	
% Moisture	10.0	0.1	%	1	P7J2501	10/25/17	10/25/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	581	139	mg/kg dry	5	P7J2407	10/24/17	10/24/17	TPH 8015M	
>C12-C28	1220	139	mg/kg dry	5	P7J2407	10/24/17	10/24/17	TPH 8015M	
>C28-C35	ND	139	mg/kg dry	5	P7J2407	10/24/17	10/24/17	TPH 8015M	
Surrogate: 1-Chlorooctane		105 %	70-130		P7J2407	10/24/17	10/24/17	TPH 8015M	
Surrogate: o-Terphenyl		104 %	70-130		P7J2407	10/24/17	10/24/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	1800	139	mg/kg dry	5	[CALC]	10/24/17	10/24/17	calc	

Permian Basin Environmental Lab, L.P.

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Midland TX, 79710

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

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NW (4)
7J24009-06 (Soil)

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

Organics by GC

Benzene	ND	0.0225	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Toluene	ND	0.0449	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Ethylbenzene	ND	0.0225	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Xylene (p/m)	0.182	0.0449	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Xylene (o)	0.198	0.0225	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		112 %	75-125		P7J2409	10/24/17	10/25/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		104 %	75-125		P7J2409	10/24/17	10/25/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	858	5.62	mg/kg dry	5	P7J2411	10/24/17	10/25/17	EPA 300.0	
% Moisture	11.0	0.1	%	1	P7J2501	10/25/17	10/25/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	193	28.1	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
>C12-C28	66.7	28.1	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
>C28-C35	ND	28.1	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
Surrogate: 1-Chlorooctane		125 %	70-130		P7J2407	10/24/17	10/25/17	TPH 8015M	
Surrogate: o-Terphenyl		125 %	70-130		P7J2407	10/24/17	10/25/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	260	28.1	mg/kg dry	1	[CALC]	10/24/17	10/25/17	calc	

Permian Basin Environmental Lab, L.P.

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SE (4)
7J24009-07 (Soil)

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

Organics by GC

Benzene	ND	0.0217	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Toluene	ND	0.0435	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Ethylbenzene	ND	0.0217	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Xylene (p/m)	ND	0.0435	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Xylene (o)	ND	0.0217	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		95.7 %	75-125		P7J2409	10/24/17	10/25/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		93.8 %	75-125		P7J2409	10/24/17	10/25/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	95.6	1.09	mg/kg dry	1	P7J2411	10/24/17	10/25/17	EPA 300.0	
% Moisture	8.0	0.1	%	1	P7J2501	10/25/17	10/25/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.2	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
Surrogate: 1-Chlorooctane		103 %	70-130		P7J2407	10/24/17	10/25/17	TPH 8015M	
Surrogate: o-Terphenyl		115 %	70-130		P7J2407	10/24/17	10/25/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	10/24/17	10/25/17	calc	

Permian Basin Environmental Lab, L.P.

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Project Manager: Mark Larson

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SW (4)
7J24009-08 (Soil)

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

Organics by GC

Benzene	0.0481	0.0222	mg/kg dry	20	P7J2409	10/24/17	10/26/17	EPA 8021B	
Toluene	3.22	0.111	mg/kg dry	50	P7J2409	10/24/17	10/26/17	EPA 8021B	
Ethylbenzene	4.57	0.0556	mg/kg dry	50	P7J2409	10/24/17	10/26/17	EPA 8021B	
Xylene (p/m)	34.4	0.111	mg/kg dry	50	P7J2409	10/24/17	10/26/17	EPA 8021B	
Xylene (o)	15.0	0.0556	mg/kg dry	50	P7J2409	10/24/17	10/26/17	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		94.8 %		75-125	P7J2409	10/24/17	10/26/17	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		112 %		75-125	P7J2409	10/24/17	10/26/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	710	1.11	mg/kg dry	1	P7J2411	10/24/17	10/25/17	EPA 300.0	
% Moisture	10.0	0.1	%	1	P7J2501	10/25/17	10/25/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	1120	27.8	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
>C12-C28	51.4	27.8	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
>C28-C35	ND	27.8	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		108 %		70-130	P7J2407	10/24/17	10/25/17	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		111 %		70-130	P7J2407	10/24/17	10/25/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	1170	27.8	mg/kg dry	1	[CALC]	10/24/17	10/25/17	calc	

Permian Basin Environmental Lab, L.P.

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Project Number: 16-0120-01
Project Manager: Mark Larson

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NE (8)
7J24009-09 (Soil)

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

Organics by GC

Benzene	ND	0.0217	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Toluene	2.27	0.0435	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Ethylbenzene	6.39	0.0217	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Xylene (p/m)	11.8	0.0435	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Xylene (o)	6.08	0.0217	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		103 %	75-125		P7J2409	10/24/17	10/25/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		92.2 %	75-125		P7J2409	10/24/17	10/25/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	12800	54.3	mg/kg dry	50	P7J2412	10/24/17	10/25/17	EPA 300.0	
% Moisture	8.0	0.1	%	1	P7J2501	10/25/17	10/25/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	724	27.2	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
>C12-C28	260	27.2	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
>C28-C35	31.9	27.2	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
Surrogate: 1-Chlorooctane		108 %	70-130		P7J2407	10/24/17	10/25/17	TPH 8015M	
Surrogate: o-Terphenyl		110 %	70-130		P7J2407	10/24/17	10/25/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	1020	27.2	mg/kg dry	1	[CALC]	10/24/17	10/25/17	calc	

Permian Basin Environmental Lab, L.P.

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

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Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

NW (8)
7J24009-10 (Soil)

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

Organics by GC

Benzene	ND	0.0220	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Toluene	2.54	0.0440	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Ethylbenzene	8.56	0.0220	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Xylene (p/m)	15.8	0.0440	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Xylene (o)	7.05	0.0220	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		99.1 %	75-125		P7J2409	10/24/17	10/25/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		91.8 %	75-125		P7J2409	10/24/17	10/25/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	3400	27.5	mg/kg dry	25	P7J2412	10/24/17	10/25/17	EPA 300.0	
% Moisture	9.0	0.1	%	1	P7J2501	10/25/17	10/25/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	722	27.5	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
>C12-C28	74.5	27.5	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
>C28-C35	ND	27.5	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
Surrogate: 1-Chlorooctane		125 %	70-130		P7J2407	10/24/17	10/25/17	TPH 8015M	
Surrogate: o-Terphenyl		112 %	70-130		P7J2407	10/24/17	10/25/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	796	27.5	mg/kg dry	1	[CALC]	10/24/17	10/25/17	calc	

Permian Basin Environmental Lab, L.P.

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Midland TX, 79710

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

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SE(8)

7J24009-11 (Soil)

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

Organics by GC

Benzene	ND	0.0220	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Toluene	ND	0.0440	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Ethylbenzene	0.0240	0.0220	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Xylene (p/m)	ND	0.0440	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Xylene (o)	ND	0.0220	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		104 %	75-125		P7J2409	10/24/17	10/25/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		103 %	75-125		P7J2409	10/24/17	10/25/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	178	1.10	mg/kg dry	1	P7J2412	10/24/17	10/25/17	EPA 300.0	
% Moisture	9.0	0.1	%	1	P7J2501	10/25/17	10/25/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.5	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
>C12-C28	ND	27.5	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
>C28-C35	ND	27.5	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
Surrogate: 1-Chlorooctane		97.9 %	70-130		P7J2407	10/24/17	10/25/17	TPH 8015M	
Surrogate: o-Terphenyl		108 %	70-130		P7J2407	10/24/17	10/25/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.5	mg/kg dry	1	[CALC]	10/24/17	10/25/17	calc	

Permian Basin Environmental Lab, L.P.

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SW (8)
7J24009-12 (Soil)

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

Organics by GC

Benzene	ND	0.0225	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Toluene	0.144	0.0449	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Ethylbenzene	0.138	0.0225	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Xylene (p/m)	4.27	0.0449	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Xylene (o)	2.09	0.0225	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		90.0 %	75-125		P7J2409	10/24/17	10/25/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		113 %	75-125		P7J2409	10/24/17	10/25/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	83.7	1.12	mg/kg dry	1	P7J2412	10/24/17	10/25/17	EPA 300.0	
% Moisture	11.0	0.1	%	1	P7J2501	10/25/17	10/25/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	252	28.1	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
>C12-C28	ND	28.1	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
>C28-C35	ND	28.1	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
Surrogate: 1-Chlorooctane		104 %	70-130		P7J2407	10/24/17	10/25/17	TPH 8015M	
Surrogate: o-Terphenyl		106 %	70-130		P7J2407	10/24/17	10/25/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	252	28.1	mg/kg dry	1	[CALC]	10/24/17	10/25/17	calc	

Permian Basin Environmental Lab, L.P.

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P.O. Box 50685
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Project Number: 16-0120-01
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NE (12)
7J24009-13 (Soil)

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

Organics by GC

Benzene	4.14	0.0220	mg/kg dry	20	P7J2409	10/24/17	10/26/17	EPA 8021B	
Toluene	118	1.10	mg/kg dry	500	P7J2409	10/24/17	10/26/17	EPA 8021B	
Ethylbenzene	124	0.549	mg/kg dry	500	P7J2409	10/24/17	10/26/17	EPA 8021B	
Xylene (p/m)	182	1.10	mg/kg dry	500	P7J2409	10/24/17	10/26/17	EPA 8021B	
Xylene (o)	62.2	0.549	mg/kg dry	500	P7J2409	10/24/17	10/26/17	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		117 %		75-125	P7J2409	10/24/17	10/26/17	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		85.8 %		75-125	P7J2409	10/24/17	10/26/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	8960	27.5	mg/kg dry	25	P7J2412	10/24/17	10/25/17	EPA 300.0	
% Moisture	9.0	0.1	%	1	P7J2501	10/25/17	10/25/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	3290	137	mg/kg dry	5	P7J2407	10/24/17	10/25/17	TPH 8015M	
>C12-C28	751	137	mg/kg dry	5	P7J2407	10/24/17	10/25/17	TPH 8015M	
>C28-C35	ND	137	mg/kg dry	5	P7J2407	10/24/17	10/25/17	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		107 %		70-130	P7J2407	10/24/17	10/25/17	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		108 %		70-130	P7J2407	10/24/17	10/25/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	4040	137	mg/kg dry	5	[CALC]	10/24/17	10/25/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

NW (12)
7J24009-14 (Soil)

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

Organics by GC

Benzene	0.339	0.0222	mg/kg dry	20	P7J2409	10/24/17	10/26/17	EPA 8021B	
Toluene	33.0	0.222	mg/kg dry	100	P7J2409	10/24/17	10/26/17	EPA 8021B	
Ethylbenzene	43.0	0.111	mg/kg dry	100	P7J2409	10/24/17	10/26/17	EPA 8021B	
Xylene (p/m)	87.4	0.222	mg/kg dry	100	P7J2409	10/24/17	10/26/17	EPA 8021B	
Xylene (o)	34.6	0.111	mg/kg dry	100	P7J2409	10/24/17	10/26/17	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		86.8 %		75-125	P7J2409	10/24/17	10/26/17	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		80.9 %		75-125	P7J2409	10/24/17	10/26/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	1770	1.11	mg/kg dry	1	P7J2412	10/24/17	10/25/17	EPA 300.0	
% Moisture	10.0	0.1	%	1	P7J2501	10/25/17	10/25/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	2740	27.8	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
>C12-C28	81.9	27.8	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
>C28-C35	ND	27.8	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		114 %		70-130	P7J2407	10/24/17	10/25/17	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		111 %		70-130	P7J2407	10/24/17	10/25/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	2820	27.8	mg/kg dry	1	[CALC]	10/24/17	10/25/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SE (12)
7J24009-15 (Soil)

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

Organics by GC

Benzene	ND	0.0215	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Toluene	0.190	0.0430	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Ethylbenzene	0.182	0.0215	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Xylene (p/m)	0.266	0.0430	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Xylene (o)	0.0920	0.0215	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		93.2 %	75-125		P7J2409	10/24/17	10/25/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		102 %	75-125		P7J2409	10/24/17	10/25/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	30.3	1.08	mg/kg dry	1	P7J2412	10/24/17	10/25/17	EPA 300.0	
% Moisture	7.0	0.1	%	1	P7J2501	10/25/17	10/25/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.9	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
>C12-C28	ND	26.9	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
>C28-C35	ND	26.9	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
Surrogate: 1-Chlorooctane		102 %	70-130		P7J2407	10/24/17	10/25/17	TPH 8015M	
Surrogate: o-Terphenyl		113 %	70-130		P7J2407	10/24/17	10/25/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.9	mg/kg dry	1	[CALC]	10/24/17	10/25/17	calc	

Permian Basin Environmental Lab, L.P.

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

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Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SW(12)
7J24009-16 (Soil)

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

Organics by GC

Benzene	0.0311	0.0222	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Toluene	3.30	0.0444	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Ethylbenzene	3.43	0.0222	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Xylene (p/m)	14.8	0.0444	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Xylene (o)	6.28	0.0222	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		90.0 %	75-125		P7J2409	10/24/17	10/25/17	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		93.9 %	75-125		P7J2409	10/24/17	10/25/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	44.1	1.11	mg/kg dry	1	P7J2412	10/24/17	10/25/17	EPA 300.0	
% Moisture	10.0	0.1	%	1	P7J2501	10/25/17	10/25/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	673	27.8	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
>C12-C28	ND	27.8	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
>C28-C35	ND	27.8	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		110 %	70-130		P7J2407	10/24/17	10/25/17	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		111 %	70-130		P7J2407	10/24/17	10/25/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	673	27.8	mg/kg dry	1	[CALC]	10/24/17	10/25/17	calc	

Permian Basin Environmental Lab, L.P.

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Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

NE (16)
7J24009-17 (Soil)

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

Organics by GC

Benzene	22.7	0.549	mg/kg dry	500	P7J2409	10/24/17	10/26/17	EPA 8021B	
Toluene	264	1.10	mg/kg dry	500	P7J2409	10/24/17	10/26/17	EPA 8021B	
Ethylbenzene	134	0.549	mg/kg dry	500	P7J2409	10/24/17	10/26/17	EPA 8021B	
Xylene (p/m)	191	1.10	mg/kg dry	500	P7J2409	10/24/17	10/26/17	EPA 8021B	
Xylene (o)	62.9	0.549	mg/kg dry	500	P7J2409	10/24/17	10/26/17	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		75-125	P7J2409	10/24/17	10/26/17	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		97.4 %		75-125	P7J2409	10/24/17	10/26/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	1860	5.49	mg/kg dry	5	P7J2412	10/24/17	10/25/17	EPA 300.0	
% Moisture	9.0	0.1	%	1	P7J2501	10/25/17	10/25/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	6240	137	mg/kg dry	5	P7J2407	10/24/17	10/25/17	TPH 8015M	
>C12-C28	1150	137	mg/kg dry	5	P7J2407	10/24/17	10/25/17	TPH 8015M	
>C28-C35	ND	137	mg/kg dry	5	P7J2407	10/24/17	10/25/17	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		115 %		70-130	P7J2407	10/24/17	10/25/17	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		116 %		70-130	P7J2407	10/24/17	10/25/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	7390	137	mg/kg dry	5	[CALC]	10/24/17	10/25/17	calc	

Permian Basin Environmental Lab, L.P.

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Midland TX, 79710

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Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

NW (16)
7J24009-18 (Soil)

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

Organics by GC

Benzene	0.257	0.0222	mg/kg dry	20	P7J2409	10/24/17	10/26/17	EPA 8021B	
Toluene	142	1.11	mg/kg dry	500	P7J2409	10/24/17	10/26/17	EPA 8021B	
Ethylbenzene	71.9	0.556	mg/kg dry	500	P7J2409	10/24/17	10/26/17	EPA 8021B	
Xylene (p/m)	109	1.11	mg/kg dry	500	P7J2409	10/24/17	10/26/17	EPA 8021B	
Xylene (o)	35.2	0.556	mg/kg dry	500	P7J2409	10/24/17	10/26/17	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.1 %		75-125	P7J2409	10/24/17	10/26/17	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		89.0 %		75-125	P7J2409	10/24/17	10/26/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	848	1.11	mg/kg dry	1	P7J2412	10/24/17	10/25/17	EPA 300.0	
% Moisture	10.0	0.1	%	1	P7J2501	10/25/17	10/25/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	3050	139	mg/kg dry	5	P7J2407	10/24/17	10/25/17	TPH 8015M	
>C12-C28	254	139	mg/kg dry	5	P7J2407	10/24/17	10/25/17	TPH 8015M	
>C28-C35	142	139	mg/kg dry	5	P7J2407	10/24/17	10/25/17	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		110 %		70-130	P7J2407	10/24/17	10/25/17	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		109 %		70-130	P7J2407	10/24/17	10/25/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	3450	139	mg/kg dry	5	[CALC]	10/24/17	10/25/17	calc	

Permian Basin Environmental Lab, L.P.

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

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Midland TX, 79710

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SE (16)
7J24009-19 (Soil)

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

Organics by GC

Benzene	ND	0.0217	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Toluene	0.125	0.0435	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Ethylbenzene	0.130	0.0217	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Xylene (p/m)	0.136	0.0435	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Xylene (o)	0.0526	0.0217	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		94.2 %	75-125		P7J2409	10/24/17	10/25/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		94.3 %	75-125		P7J2409	10/24/17	10/25/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	52.5	1.09	mg/kg dry	1	P7J2412	10/24/17	10/25/17	EPA 300.0	
% Moisture	8.0	0.1	%	1	P7J2501	10/25/17	10/25/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.2	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
Surrogate: 1-Chlorooctane		95.7 %	70-130		P7J2407	10/24/17	10/25/17	TPH 8015M	
Surrogate: o-Terphenyl		107 %	70-130		P7J2407	10/24/17	10/25/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	10/24/17	10/25/17	calc	

Permian Basin Environmental Lab, L.P.

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Midland TX, 79710

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SW (16)
7J24009-20 (Soil)

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

Organics by GC

Benzene	ND	0.0215	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Toluene	0.468	0.0430	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Ethylbenzene	1.06	0.0215	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Xylene (p/m)	2.49	0.0430	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Xylene (o)	0.966	0.0215	mg/kg dry	20	P7J2409	10/24/17	10/25/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		108 %	75-125		P7J2409	10/24/17	10/25/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		112 %	75-125		P7J2409	10/24/17	10/25/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	43.5	1.08	mg/kg dry	1	P7J2412	10/24/17	10/25/17	EPA 300.0	
% Moisture	7.0	0.1	%	1	P7J2501	10/25/17	10/25/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	72.5	26.9	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
>C12-C28	ND	26.9	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
>C28-C35	ND	26.9	mg/kg dry	1	P7J2407	10/24/17	10/25/17	TPH 8015M	
Surrogate: 1-Chlorooctane		96.5 %	70-130		P7J2407	10/24/17	10/25/17	TPH 8015M	
Surrogate: o-Terphenyl		107 %	70-130		P7J2407	10/24/17	10/25/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	72.5	26.9	mg/kg dry	1	[CALC]	10/24/17	10/25/17	calc	

Permian Basin Environmental Lab, L.P.

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P.O. Box 50685
Midland TX, 79710

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

NE (20)
7J24009-21 (Soil)

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

Organics by GC

Benzene	22.3	0.549	mg/kg dry	500	P7J2410	10/24/17	10/26/17	EPA 8021B	
Toluene	219	1.10	mg/kg dry	500	P7J2410	10/24/17	10/26/17	EPA 8021B	
Ethylbenzene	101	0.549	mg/kg dry	500	P7J2410	10/24/17	10/26/17	EPA 8021B	
Xylene (p/m)	146	1.10	mg/kg dry	500	P7J2410	10/24/17	10/26/17	EPA 8021B	
Xylene (o)	48.5	0.549	mg/kg dry	500	P7J2410	10/24/17	10/26/17	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		86.3 %		75-125	P7J2410	10/24/17	10/26/17	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		86.0 %		75-125	P7J2410	10/24/17	10/26/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	176	1.10	mg/kg dry	1	P7J2412	10/24/17	10/25/17	EPA 300.0	
% Moisture	9.0	0.1	%	1	P7J2501	10/25/17	10/25/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	5290	137	mg/kg dry	5	P7J2408	10/24/17	10/25/17	TPH 8015M	
>C12-C28	669	137	mg/kg dry	5	P7J2408	10/24/17	10/25/17	TPH 8015M	
>C28-C35	ND	137	mg/kg dry	5	P7J2408	10/24/17	10/25/17	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		111 %		70-130	P7J2408	10/24/17	10/25/17	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		103 %		70-130	P7J2408	10/24/17	10/25/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	5960	137	mg/kg dry	5	[CALC]	10/24/17	10/25/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

NW (20)
7J24009-22 (Soil)

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

Organics by GC

Benzene	3.13	0.108	mg/kg dry	100	P7J2410	10/24/17	10/26/17	EPA 8021B	
Toluene	42.7	0.215	mg/kg dry	100	P7J2410	10/24/17	10/26/17	EPA 8021B	
Ethylbenzene	24.1	0.108	mg/kg dry	100	P7J2410	10/24/17	10/26/17	EPA 8021B	
Xylene (p/m)	36.5	0.215	mg/kg dry	100	P7J2410	10/24/17	10/26/17	EPA 8021B	
Xylene (o)	12.7	0.108	mg/kg dry	100	P7J2410	10/24/17	10/26/17	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		94.0 %	75-125		P7J2410	10/24/17	10/26/17	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		99.3 %	75-125		P7J2410	10/24/17	10/26/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	760	1.08	mg/kg dry	1	P7J2412	10/24/17	10/25/17	EPA 300.0	
% Moisture	7.0	0.1	%	1	P7J2501	10/25/17	10/25/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	1300	134	mg/kg dry	5	P7J2408	10/24/17	10/25/17	TPH 8015M	
>C12-C28	158	134	mg/kg dry	5	P7J2408	10/24/17	10/25/17	TPH 8015M	
>C28-C35	ND	134	mg/kg dry	5	P7J2408	10/24/17	10/25/17	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		106 %	70-130		P7J2408	10/24/17	10/25/17	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		98.9 %	70-130		P7J2408	10/24/17	10/25/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	1450	134	mg/kg dry	5	[CALC]	10/24/17	10/25/17	calc	

Permian Basin Environmental Lab, L.P.

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SE (20)
7J24009-23 (Soil)

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

Organics by GC

Benzene	ND	0.0215	mg/kg dry	20	P7J2410	10/24/17	10/25/17	EPA 8021B	
Toluene	0.508	0.0430	mg/kg dry	20	P7J2410	10/24/17	10/25/17	EPA 8021B	
Ethylbenzene	0.668	0.0215	mg/kg dry	20	P7J2410	10/24/17	10/25/17	EPA 8021B	
Xylene (p/m)	1.20	0.0430	mg/kg dry	20	P7J2410	10/24/17	10/25/17	EPA 8021B	
Xylene (o)	0.494	0.0215	mg/kg dry	20	P7J2410	10/24/17	10/25/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		82.8 %	75-125		P7J2410	10/24/17	10/25/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		88.9 %	75-125		P7J2410	10/24/17	10/25/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	273	1.08	mg/kg dry	1	P7J2412	10/24/17	10/25/17	EPA 300.0	
% Moisture	7.0	0.1	%	1	P7J2501	10/25/17	10/25/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	48.8	26.9	mg/kg dry	1	P7J2408	10/24/17	10/26/17	TPH 8015M	
>C12-C28	114	26.9	mg/kg dry	1	P7J2408	10/24/17	10/26/17	TPH 8015M	
>C28-C35	31.7	26.9	mg/kg dry	1	P7J2408	10/24/17	10/26/17	TPH 8015M	
Surrogate: 1-Chlorooctane		101 %	70-130		P7J2408	10/24/17	10/26/17	TPH 8015M	
Surrogate: o-Terphenyl		108 %	70-130		P7J2408	10/24/17	10/26/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	194	26.9	mg/kg dry	1	[CALC]	10/24/17	10/26/17	calc	

Permian Basin Environmental Lab, L.P.

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SW (20)
7J24009-24 (Soil)

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

Organics by GC

Benzene	0.103	0.0215	mg/kg dry	20	P7J2410	10/24/17	10/25/17	EPA 8021B	
Toluene	6.28	0.0430	mg/kg dry	20	P7J2410	10/24/17	10/25/17	EPA 8021B	
Ethylbenzene	3.96	0.0215	mg/kg dry	20	P7J2410	10/24/17	10/25/17	EPA 8021B	
Xylene (p/m)	6.14	0.0430	mg/kg dry	20	P7J2410	10/24/17	10/25/17	EPA 8021B	
Xylene (o)	2.25	0.0215	mg/kg dry	20	P7J2410	10/24/17	10/25/17	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		83.8 %		75-125	P7J2410	10/24/17	10/25/17	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		93.0 %		75-125	P7J2410	10/24/17	10/25/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	157	1.08	mg/kg dry	1	P7J2412	10/24/17	10/25/17	EPA 300.0	
% Moisture	7.0	0.1	%	1	P7J2501	10/25/17	10/25/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	238	26.9	mg/kg dry	1	P7J2408	10/24/17	10/26/17	TPH 8015M	
>C12-C28	58.2	26.9	mg/kg dry	1	P7J2408	10/24/17	10/26/17	TPH 8015M	
>C28-C35	ND	26.9	mg/kg dry	1	P7J2408	10/24/17	10/26/17	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		111 %		70-130	P7J2408	10/24/17	10/26/17	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		114 %		70-130	P7J2408	10/24/17	10/26/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	296	26.9	mg/kg dry	1	[CALC]	10/24/17	10/26/17	calc	

Permian Basin Environmental Lab, L.P.

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7J2409 - General Preparation (GC)

Blank (P7J2409-BLK1)

Prepared: 10/24/17 Analyzed: 10/25/17

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	0.0622		"	0.0600		104	75-125			
Surrogate: 4-Bromofluorobenzene	0.0580		"	0.0600		96.7	75-125			

LCS (P7J2409-BS1)

Prepared: 10/24/17 Analyzed: 10/25/17

Benzene	0.103	0.00100	mg/kg wet	0.100		103	70-130			
Toluene	0.0985	0.00200	"	0.100		98.5	70-130			
Ethylbenzene	0.115	0.00100	"	0.100		115	70-130			
Xylene (p/m)	0.216	0.00200	"				70-130			
Xylene (o)	0.109	0.00100	"				70-130			
Surrogate: 4-Bromofluorobenzene	0.0627		"	0.0600		105	75-125			
Surrogate: 1,4-Difluorobenzene	0.0694		"	0.0600		116	75-125			

LCS Dup (P7J2409-BSD1)

Prepared: 10/24/17 Analyzed: 10/25/17

Benzene	0.107	0.00100	mg/kg wet	0.100		107	70-130	4.41	20	
Toluene	0.102	0.00200	"	0.100		102	70-130	3.08	20	
Ethylbenzene	0.115	0.00100	"	0.100		115	70-130	0.0696	20	
Xylene (p/m)	0.204	0.00200	"				70-130		20	
Xylene (o)	0.117	0.00100	"				70-130		20	
Surrogate: 4-Bromofluorobenzene	0.0635		"	0.0600		106	75-125			
Surrogate: 1,4-Difluorobenzene	0.0690		"	0.0600		115	75-125			

Calibration Blank (P7J2409-CCB1)

Prepared: 10/24/17 Analyzed: 10/25/17

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	0.0566		"	0.0600		94.4	75-125			
Surrogate: 4-Bromofluorobenzene	0.0512		"	0.0600		85.3	75-125			

Permian Basin Environmental Lab, L.P.

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Page 27 of 39

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7J2409 - General Preparation (GC)

Calibration Blank (P7J2409-CCB2)

Prepared: 10/24/17 Analyzed: 10/25/17

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	0.0531		"	0.0600		88.5	75-125			
Surrogate: 4-Bromofluorobenzene	0.0501		"	0.0600		83.5	75-125			

Calibration Check (P7J2409-CCV1)

Prepared: 10/24/17 Analyzed: 10/25/17

Benzene	0.108	0.00100	mg/kg wet	0.100		108	80-120			
Toluene	0.102	0.00200	"	0.100		102	80-120			
Ethylbenzene	0.0984	0.00100	"	0.100		98.4	80-120			
Xylene (p/m)	0.203	0.00200	"	0.200		102	80-120			
Xylene (o)	0.105	0.00100	"	0.100		105	80-120			
Surrogate: 1,4-Difluorobenzene	0.0640		"	0.0600		107	75-125			
Surrogate: 4-Bromofluorobenzene	0.0570		"	0.0600		95.0	75-125			

Calibration Check (P7J2409-CCV2)

Prepared: 10/24/17 Analyzed: 10/25/17

Benzene	0.112	0.00100	mg/kg wet	0.100		112	80-120			
Toluene	0.102	0.00200	"	0.100		102	80-120			
Ethylbenzene	0.103	0.00100	"	0.100		103	80-120			
Xylene (p/m)	0.213	0.00200	"	0.200		106	80-120			
Xylene (o)	0.107	0.00100	"	0.100		107	80-120			
Surrogate: 1,4-Difluorobenzene	0.0657		"	0.0600		110	75-125			
Surrogate: 4-Bromofluorobenzene	0.0602		"	0.0600		100	75-125			

Calibration Check (P7J2409-CCV3)

Prepared: 10/24/17 Analyzed: 10/25/17

Benzene	0.104	0.00100	mg/kg wet	0.100		104	80-120			
Toluene	0.0956	0.00200	"	0.100		95.6	80-120			
Ethylbenzene	0.0914	0.00100	"	0.100		91.4	80-120			
Xylene (p/m)	0.191	0.00200	"	0.200		95.5	80-120			
Xylene (o)	0.0959	0.00100	"	0.100		95.9	80-120			
Surrogate: 4-Bromofluorobenzene	0.0581		"	0.0600		96.9	75-125			
Surrogate: 1,4-Difluorobenzene	0.0667		"	0.0600		111	75-125			

Permian Basin Environmental Lab, L.P.

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7J2409 - General Preparation (GC)

Matrix Spike (P7J2409-MS1)

Source: 7J24009-01

Prepared: 10/24/17 Analyzed: 10/25/17

Benzene	0.0982	0.00119	mg/kg dry	0.119	ND	82.5	80-120			
Toluene	0.0958	0.00238	"	0.119	ND	80.5	80-120			
Ethylbenzene	0.114	0.00119	"	0.119	ND	96.0	80-120			
Xylene (p/m)	0.218	0.00238	"		ND		80-120			
Xylene (o)	0.102	0.00119	"		ND		80-120			
Surrogate: 1,4-Difluorobenzene	0.0813		"	0.0714		114	75-125			
Surrogate: 4-Bromofluorobenzene	0.0793		"	0.0714		111	75-125			

Matrix Spike Dup (P7J2409-MSD1)

Source: 7J24009-01

Prepared: 10/24/17 Analyzed: 10/25/17

Benzene	0.109	0.00119	mg/kg dry	0.119	ND	91.6	80-120	10.5	20	
Toluene	0.0960	0.00238	"	0.119	ND	80.6	80-120	0.137	20	
Ethylbenzene	0.113	0.00119	"	0.119	ND	94.8	80-120	1.30	20	
Xylene (p/m)	0.219	0.00238	"		ND		80-120		20	
Xylene (o)	0.104	0.00119	"		ND		80-120		20	
Surrogate: 1,4-Difluorobenzene	0.0722		"	0.0714		101	75-125			
Surrogate: 4-Bromofluorobenzene	0.0823		"	0.0714		115	75-125			

Batch P7J2410 - General Preparation (GC)

Blank (P7J2410-BLK1)

Prepared: 10/24/17 Analyzed: 10/25/17

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	0.0579		"	0.0600		96.5	75-125			
Surrogate: 4-Bromofluorobenzene	0.0620		"	0.0600		103	75-125			

Permian Basin Environmental Lab, L.P.

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Page 29 of 39

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P.O. Box 50685
Midland TX, 79710

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7J2410 - General Preparation (GC)

LCS (P7J2410-BS1)

Prepared: 10/24/17 Analyzed: 10/25/17

Benzene	0.115	0.00100	mg/kg wet	0.100		115	70-130			
Toluene	0.106	0.00200	"	0.100		106	70-130			
Ethylbenzene	0.106	0.00100	"	0.100		106	70-130			
Xylene (p/m)	0.214	0.00200	"				70-130			
Xylene (o)	0.112	0.00100	"				70-130			
Surrogate: 4-Bromofluorobenzene	0.0642		"	0.0600		107	75-125			
Surrogate: 1,4-Difluorobenzene	0.0680		"	0.0600		113	75-125			

LCS Dup (P7J2410-BSD1)

Prepared: 10/24/17 Analyzed: 10/25/17

Benzene	0.0956	0.00100	mg/kg wet	0.100		95.6	70-130	18.3	20	
Toluene	0.0896	0.00200	"	0.100		89.6	70-130	17.1	20	
Ethylbenzene	0.111	0.00100	"	0.100		111	70-130	4.68	20	
Xylene (p/m)	0.195	0.00200	"				70-130		20	
Xylene (o)	0.0987	0.00100	"				70-130		20	
Surrogate: 4-Bromofluorobenzene	0.0575		"	0.0600		95.9	75-125			
Surrogate: 1,4-Difluorobenzene	0.0623		"	0.0600		104	75-125			

Calibration Blank (P7J2410-CCB1)

Prepared: 10/24/17 Analyzed: 10/25/17

Benzene	0.00		mg/kg wet							
Toluene	0.00		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.510		"							
Xylene (o)	0.380		"							
Surrogate: 1,4-Difluorobenzene	0.0615		"	0.0600		102	75-125			
Surrogate: 4-Bromofluorobenzene	0.0595		"	0.0600		99.1	75-125			

Calibration Check (P7J2410-CCV1)

Prepared: 10/24/17 Analyzed: 10/25/17

Benzene	0.104	0.00100	mg/kg wet	0.100		104	80-120			
Toluene	0.0956	0.00200	"	0.100		95.6	80-120			
Ethylbenzene	0.0914	0.00100	"	0.100		91.4	80-120			
Xylene (p/m)	0.191	0.00200	"	0.200		95.5	80-120			
Xylene (o)	0.0959	0.00100	"	0.100		95.9	80-120			
Surrogate: 4-Bromofluorobenzene	0.0581		"	0.0600		96.9	75-125			
Surrogate: 1,4-Difluorobenzene	0.0667		"	0.0600		111	75-125			

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7J2410 - General Preparation (GC)

Calibration Check (P7J2410-CCV2)

Prepared: 10/24/17 Analyzed: 10/26/17

Benzene	0.0940	0.00100	mg/kg wet	0.100		94.0	80-120			
Toluene	0.0850	0.00200	"	0.100		85.0	80-120			
Ethylbenzene	0.0890	0.00100	"	0.100		89.0	80-120			
Xylene (p/m)	0.180	0.00200	"	0.200		90.1	80-120			
Xylene (o)	0.0906	0.00100	"	0.100		90.6	80-120			
Surrogate: 1,4-Difluorobenzene	0.0606		"	0.0600		101	75-125			
Surrogate: 4-Bromofluorobenzene	0.0530		"	0.0600		88.4	75-125			

Matrix Spike (P7J2410-MS1)

Source: 7J24009-21

Prepared: 10/24/17 Analyzed: 10/26/17

Benzene	13.3	0.549	mg/kg dry	0.110	22.3	NR	80-120			QM-07
Toluene	197	1.10	"	0.110	219	NR	80-120			QM-07
Ethylbenzene	84.9	0.549	"	0.110	101	NR	80-120			QM-07
Xylene (p/m)	125	1.10	"		146		80-120			
Xylene (o)	40.8	0.549	"		48.5		80-120			
Surrogate: 4-Bromofluorobenzene	0.0579		"	0.0659		87.8	75-125			
Surrogate: 1,4-Difluorobenzene	0.0561		"	0.0659		85.0	75-125			

Matrix Spike Dup (P7J2410-MSD1)

Source: 7J24009-21

Prepared: 10/24/17 Analyzed: 10/26/17

Benzene	0.0264	0.00110	mg/kg dry	0.110	22.3	NR	80-120	NR	20	QM-07, R3
Toluene	0.389	0.00220	"	0.110	219	NR	80-120	NR	20	QM-07, R3
Ethylbenzene	0.168	0.00110	"	0.110	101	NR	80-120	NR	20	QM-07, R3
Xylene (p/m)	0.247	0.00220	"		146		80-120		20	
Xylene (o)	0.0819	0.00110	"		48.5		80-120		20	
Surrogate: 4-Bromofluorobenzene	0.0528		"	0.0659		80.0	75-125			
Surrogate: 1,4-Difluorobenzene	0.0550		"	0.0659		83.4	75-125			

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7J2411 - * DEFAULT PREP *****

Blank (P7J2411-BLK1)				Prepared: 10/24/17 Analyzed: 10/25/17						
Chloride	ND	1.00	mg/kg wet							
LCS (P7J2411-BS1)				Prepared: 10/24/17 Analyzed: 10/25/17						
Chloride	421	1.00	mg/kg wet	400		105	80-120			
LCS Dup (P7J2411-BSD1)				Prepared: 10/24/17 Analyzed: 10/25/17						
Chloride	432	1.00	mg/kg wet	400		108	80-120	2.45	20	
Duplicate (P7J2411-DUP1)				Prepared: 10/24/17 Analyzed: 10/25/17						
Chloride	59.5	1.16	mg/kg dry		49.0			19.2	20	
Duplicate (P7J2411-DUP2)				Prepared: 10/24/17 Analyzed: 10/25/17						
Chloride	ND	1.14	mg/kg dry		ND				20	
Matrix Spike (P7J2411-MS1)				Prepared: 10/24/17 Analyzed: 10/25/17						
Chloride	1280	1.16	mg/kg dry	1160	49.0	106	80-120			

Batch P7J2412 - * DEFAULT PREP *****

LCS (P7J2412-BS1)				Prepared: 10/24/17 Analyzed: 10/25/17						
Chloride	406	1.00	mg/kg wet	400		102	80-120			
LCS Dup (P7J2412-BSD1)				Prepared: 10/24/17 Analyzed: 10/25/17						
Chloride	405	1.00	mg/kg wet	400		101	80-120	0.321	20	
Duplicate (P7J2412-DUP1)				Prepared: 10/24/17 Analyzed: 10/25/17						
Chloride	12900	54.3	mg/kg dry		12800			0.572	20	

Permian Basin Environmental Lab, L.P.

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7J2412 - * DEFAULT PREP *****

Duplicate (P7J2412-DUP2)	Source: 7J24009-19			Prepared: 10/24/17 Analyzed: 10/25/17						
Chloride	44.8	1.09	mg/kg dry		52.5			15.8	20	
Matrix Spike (P7J2412-MS1)	Source: 7J24009-09			Prepared: 10/24/17 Analyzed: 10/25/17						
Chloride	18400	54.3	mg/kg dry	5430	12800	103	80-120			

Batch P7J2501 - * DEFAULT PREP *****

Blank (P7J2501-BLK1)				Prepared & Analyzed: 10/25/17						
% Moisture	ND	0.1	%							
Blank (P7J2501-BLK2)				Prepared & Analyzed: 10/25/17						
% Moisture	ND	0.1	%							
Duplicate (P7J2501-DUP1)	Source: 7J24002-09			Prepared & Analyzed: 10/25/17						
% Moisture	10.0	0.1	%		10.0			0.00	20	
Duplicate (P7J2501-DUP2)	Source: 7J24002-36			Prepared & Analyzed: 10/25/17						
% Moisture	8.0	0.1	%		9.0			11.8	20	
Duplicate (P7J2501-DUP3)	Source: 7J24011-04			Prepared & Analyzed: 10/25/17						
% Moisture	3.0	0.1	%		2.0			40.0	20	R3

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7J2407 - General Preparation (GC)

Blank (P7J2407-BLK1)

Prepared & Analyzed: 10/24/17

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	109		"	100		109	70-130			
Surrogate: o-Terphenyl	61.6		"	50.0		123	70-130			

LCS (P7J2407-BS1)

Prepared & Analyzed: 10/24/17

C6-C12	818	25.0	mg/kg wet	1000		81.8	75-125			
>C12-C28	953	25.0	"	1000		95.3	75-125			
Surrogate: 1-Chlorooctane	112		"	100		112	70-130			
Surrogate: o-Terphenyl	59.7		"	50.0		119	70-130			

LCS Dup (P7J2407-BSD1)

Prepared & Analyzed: 10/24/17

C6-C12	798	25.0	mg/kg wet	1000		79.8	75-125	2.49	20	
>C12-C28	947	25.0	"	1000		94.7	75-125	0.642	20	
Surrogate: 1-Chlorooctane	112		"	100		112	70-130			
Surrogate: o-Terphenyl	59.7		"	50.0		119	70-130			

Calibration Blank (P7J2407-CCB1)

Prepared & Analyzed: 10/24/17

C6-C12	12.9		mg/kg wet							
>C12-C28	13.7		"							
Surrogate: 1-Chlorooctane	108		"	100		108	70-130			
Surrogate: o-Terphenyl	60.8		"	50.0		122	70-130			

Calibration Blank (P7J2407-CCB2)

Prepared & Analyzed: 10/24/17

C6-C12	17.8		mg/kg wet							
>C12-C28	13.9		"							
Surrogate: 1-Chlorooctane	112		"	100		112	70-130			
Surrogate: o-Terphenyl	64.0		"	50.0		128	70-130			

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7J2407 - General Preparation (GC)

Calibration Check (P7J2407-CCV1)

Prepared & Analyzed: 10/24/17

C6-C12	473	25.0	mg/kg wet	500		94.7	85-115			
>C12-C28	515	25.0	"	500		103	85-115			
Surrogate: 1-Chlorooctane	123		"	100		123	70-130			
Surrogate: o-Terphenyl	62.1		"	50.0		124	70-130			

Calibration Check (P7J2407-CCV2)

Prepared & Analyzed: 10/24/17

C6-C12	475	25.0	mg/kg wet	500		95.1	85-115			
>C12-C28	498	25.0	"	500		99.7	85-115			
Surrogate: 1-Chlorooctane	116		"	100		116	70-130			
Surrogate: o-Terphenyl	63.8		"	50.0		128	70-130			

Calibration Check (P7J2407-CCV3)

Prepared: 10/24/17 Analyzed: 10/25/17

C6-C12	477	25.0	mg/kg wet	500		95.4	85-115			
>C12-C28	507	25.0	"	500		101	85-115			
Surrogate: 1-Chlorooctane	116		"	100		116	70-130			
Surrogate: o-Terphenyl	64.0		"	50.0		128	70-130			

Matrix Spike (P7J2407-MS1)

Source: 7J24009-01

Prepared: 10/24/17 Analyzed: 10/25/17

C6-C12	1020	29.8	mg/kg dry	1190	25.7	83.4	75-125			
>C12-C28	1220	29.8	"	1190	ND	102	75-125			
Surrogate: 1-Chlorooctane	117		"	119		98.4	70-130			
Surrogate: o-Terphenyl	60.5		"	59.5		102	70-130			

Matrix Spike Dup (P7J2407-MSD1)

Source: 7J24009-01

Prepared: 10/24/17 Analyzed: 10/25/17

C6-C12	1040	29.8	mg/kg dry	1190	25.7	85.1	75-125	2.01	20	
>C12-C28	1240	29.8	"	1190	ND	104	75-125	1.47	20	
Surrogate: 1-Chlorooctane	118		"	119		99.2	70-130			
Surrogate: o-Terphenyl	61.4		"	59.5		103	70-130			

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7J2408 - General Preparation (GC)

Blank (P7J2408-BLK1)

Prepared: 10/24/17 Analyzed: 10/25/17

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	102		"	100		102	70-130			
Surrogate: o-Terphenyl	56.9		"	50.0		114	70-130			

LCS (P7J2408-BS1)

Prepared: 10/24/17 Analyzed: 10/25/17

C6-C12	1000	25.0	mg/kg wet	1000		100	75-125			
>C12-C28	959	25.0	"	1000		95.9	75-125			
Surrogate: 1-Chlorooctane	123		"	100		123	70-130			
Surrogate: o-Terphenyl	60.5		"	50.0		121	70-130			

LCS Dup (P7J2408-BSD1)

Prepared: 10/24/17 Analyzed: 10/25/17

C6-C12	928	25.0	mg/kg wet	1000		92.8	75-125	7.90	20	
>C12-C28	935	25.0	"	1000		93.5	75-125	2.51	20	
Surrogate: 1-Chlorooctane	126		"	100		126	70-130			
Surrogate: o-Terphenyl	58.3		"	50.0		117	70-130			

Calibration Blank (P7J2408-CCB1)

Prepared: 10/24/17 Analyzed: 10/25/17

C6-C12	15.2		mg/kg wet							
>C12-C28	9.00		"							
Surrogate: 1-Chlorooctane	107		"	100		107	70-130			
Surrogate: o-Terphenyl	62.4		"	50.0		125	70-130			

Calibration Check (P7J2408-CCV1)

Prepared: 10/24/17 Analyzed: 10/25/17

C6-C12	563	25.0	mg/kg wet	500		113	85-115			
>C12-C28	570	25.0	"	500		114	85-115			
Surrogate: 1-Chlorooctane	123		"	100		123	70-130			
Surrogate: o-Terphenyl	64.0		"	50.0		128	70-130			

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Notes and Definitions

R3 The RPD exceeded the acceptance limit due to sample matrix effects.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:



Date: 10/27/2017

Brent Barron, Laboratory Director/Technical Director

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

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

Permian Basin Environmental Lab, L.P.

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Page 38 of 39

FIELD NOTES

[illegible]

HAND DELIVERED

CHAIN-OF-CUSTODY

PAGE 1 OF 2

PO #: _____ LAB WORK ORDER #: 7524007

PROJECT LOCATION OR NAME: EXPERSON 1

LA1 PROJECT #: 16-0126-01 COLLECTOR: AT

COLLECTOR: AT

Page 38 of 39

Released to Imaging: 3/9/2023 9:39:30 AM

CHAIN-OF-CUSTODY

COLLECTOR: AT

PRESERVATION			
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HCl

HNO₃

H₂SO₄ ☐ NaOH ☐

ICE

UNPRESERVED

ANALYSES

BTEX ☒ MTBE ☐
TPRH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐
GASOLINE MOD 8015 ☒
DIESEL - MOD 8015 ☒
VOC 8260 ☐
SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐
8081 PESTICIDES ☐ 8151 HERBICIDES ☐
8082 PCBs ☐
TCPL - METALS (RCRA) ☐ TCPL VOC ☐
TCPL - METALS (RCRA) ☐ Semi-VOC ☐
TOTAL PEST ☐ HERB ☐ OTHER LIST ☐
LEAD - TOTAL ☐ D.W. 200.8 ☐ TCPL ☐
RCI ☐ TOX ☐ FLASHPOINT ☐
TDS ☐ TSS ☐ % MOISTURE ☐
PH ☐ HEXAVALENT CHROMIUM ☐
EXPLOSIVES ☐ PECHLORATE ☐
CHLORIDE ☒ ANIONS ☐ ALKALINITY ☐
300

FIELD

FIELD NOTES[illegible][illegible]

LABORATORY USE ONLY: 79

RECEIVING TEMP: -5.6 THERM #: _____

DO NOT REUSE OR REBROKEN

☐ CARRIER BILL # _____

☒ HAND DELIVERED

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



Analytical Report

Prepared for:

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Location:

Lab Order Number: 7K01001



NELAP/TCEQ # T104704516-16-7

Report Date: 11/03/17

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
East 2'	7K01001-01	Soil	10/31/17 08:15	11-01-2017 09:02
East 4'	7K01001-02	Soil	10/31/17 08:20	11-01-2017 09:02
East 8'	7K01001-03	Soil	10/31/17 08:24	11-01-2017 09:02
East 12'	7K01001-04	Soil	10/31/17 08:30	11-01-2017 09:02
East 16'	7K01001-05	Soil	10/30/17 14:30	11-01-2017 09:02
East 20'	7K01001-06	Soil	10/31/17 09:25	11-01-2017 09:02
E. Bottom 24'	7K01001-07	Soil	10/31/17 10:32	11-01-2017 09:02
SE Ramp 4'	7K01001-08	Soil	10/31/17 10:15	11-01-2017 09:02
SE Ramp 8'	7K01001-09	Soil	10/31/17 10:17	11-01-2017 09:02
SE Ramp 12'	7K01001-10	Soil	10/31/17 10:19	11-01-2017 09:02
SE Ramp 16'	7K01001-11	Soil	10/31/17 10:23	11-01-2017 09:02
SE Ramp 20'	7K01001-12	Soil	10/31/17 10:40	11-01-2017 09:02

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

East 2'
7K01001-01 (Soil)

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

Organics by GC

Benzene	ND	0.00106	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Toluene	ND	0.00213	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Ethylbenzene	ND	0.00106	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Xylene (p/m)	0.00335	0.00213	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Xylene (o)	ND	0.00106	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		98.8 %	75-125		P7K0106	11/01/17	11/01/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		88.6 %	75-125		P7K0106	11/01/17	11/01/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	69.8	1.06	mg/kg dry	1	P7K0104	11/01/17	11/01/17	EPA 300.0	
% Moisture	6.0	0.1	%	1	P7K0207	11/02/17	11/02/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	26.6	26.6	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
>C12-C28	ND	26.6	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
Surrogate: 1-Chlorooctane		96.6 %	70-130		P7K0102	11/01/17	11/01/17	TPH 8015M	
Surrogate: o-Terphenyl		111 %	70-130		P7K0102	11/01/17	11/01/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	11/01/17	11/01/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

East 4'
7K01001-02 (Soil)

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

Organics by GC

Benzene	ND	0.00108	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Toluene	ND	0.00215	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Ethylbenzene	ND	0.00108	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Xylene (p/m)	ND	0.00215	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Xylene (o)	ND	0.00108	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		103 %	75-125		P7K0106	11/01/17	11/01/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		111 %	75-125		P7K0106	11/01/17	11/01/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	44.0	1.08	mg/kg dry	1	P7K0104	11/01/17	11/01/17	EPA 300.0	
% Moisture	7.0	0.1	%	1	P7K0207	11/02/17	11/02/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.9	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
>C12-C28	ND	26.9	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
>C28-C35	ND	26.9	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
Surrogate: 1-Chlorooctane		102 %	70-130		P7K0102	11/01/17	11/01/17	TPH 8015M	
Surrogate: o-Terphenyl		115 %	70-130		P7K0102	11/01/17	11/01/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.9	mg/kg dry	1	[CALC]	11/01/17	11/01/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

East 8'
7K01001-03 (Soil)

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

Organics by GC

Benzene	ND	0.00110	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Toluene	ND	0.00220	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Ethylbenzene	ND	0.00110	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Xylene (p/m)	ND	0.00220	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Xylene (o)	ND	0.00110	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		87.6 %	75-125		P7K0106	11/01/17	11/01/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		93.7 %	75-125		P7K0106	11/01/17	11/01/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	47.3	1.10	mg/kg dry	1	P7K0104	11/01/17	11/01/17	EPA 300.0	
% Moisture	9.0	0.1	%	1	P7K0207	11/02/17	11/02/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.5	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
>C12-C28	ND	27.5	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
>C28-C35	ND	27.5	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
Surrogate: 1-Chlorooctane		97.9 %	70-130		P7K0102	11/01/17	11/01/17	TPH 8015M	
Surrogate: o-Terphenyl		110 %	70-130		P7K0102	11/01/17	11/01/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.5	mg/kg dry	1	[CALC]	11/01/17	11/01/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

East 12'
7K01001-04 (Soil)

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

Organics by GC

Benzene	ND	0.00109	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Toluene	ND	0.00217	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Ethylbenzene	ND	0.00109	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Xylene (p/m)	ND	0.00217	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Xylene (o)	ND	0.00109	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		103 %	75-125		P7K0106	11/01/17	11/01/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		106 %	75-125		P7K0106	11/01/17	11/01/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	59.1	1.09	mg/kg dry	1	P7K0104	11/01/17	11/01/17	EPA 300.0	
% Moisture	8.0	0.1	%	1	P7K0207	11/02/17	11/02/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.2	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
Surrogate: 1-Chlorooctane		98.5 %	70-130		P7K0102	11/01/17	11/01/17	TPH 8015M	
Surrogate: o-Terphenyl		112 %	70-130		P7K0102	11/01/17	11/01/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	11/01/17	11/01/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

East 16'
7K01001-05 (Soil)

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

Organics by GC

Benzene	ND	0.00109	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Toluene	ND	0.00217	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Ethylbenzene	ND	0.00109	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Xylene (p/m)	0.00425	0.00217	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Xylene (o)	ND	0.00109	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		106 %	75-125		P7K0106	11/01/17	11/01/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		98.3 %	75-125		P7K0106	11/01/17	11/01/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	51.6	1.09	mg/kg dry	1	P7K0104	11/01/17	11/01/17	EPA 300.0	
% Moisture	8.0	0.1	%	1	P7K0207	11/02/17	11/02/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.2	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
Surrogate: 1-Chlorooctane		95.5 %	70-130		P7K0102	11/01/17	11/01/17	TPH 8015M	
Surrogate: o-Terphenyl		108 %	70-130		P7K0102	11/01/17	11/01/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	11/01/17	11/01/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

East 20'
7K01001-06 (Soil)

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

Organics by GC

Benzene	ND	0.0213	mg/kg dry	20	P7K0106	11/01/17	11/02/17	EPA 8021B	
Toluene	0.0721	0.0426	mg/kg dry	20	P7K0106	11/01/17	11/02/17	EPA 8021B	
Ethylbenzene	ND	0.0213	mg/kg dry	20	P7K0106	11/01/17	11/02/17	EPA 8021B	
Xylene (p/m)	ND	0.0426	mg/kg dry	20	P7K0106	11/01/17	11/02/17	EPA 8021B	
Xylene (o)	ND	0.0213	mg/kg dry	20	P7K0106	11/01/17	11/02/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		98.4 %	75-125		P7K0106	11/01/17	11/02/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		86.9 %	75-125		P7K0106	11/01/17	11/02/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	92.3	1.06	mg/kg dry	1	P7K0104	11/01/17	11/01/17	EPA 300.0	
% Moisture	6.0	0.1	%	1	P7K0207	11/02/17	11/02/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.6	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
>C12-C28	ND	26.6	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
Surrogate: 1-Chlorooctane		98.6 %	70-130		P7K0102	11/01/17	11/01/17	TPH 8015M	
Surrogate: o-Terphenyl		112 %	70-130		P7K0102	11/01/17	11/01/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	11/01/17	11/01/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

E. Bottom 24'
7K01001-07 (Soil)

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

Organics by GC

Benzene	2.93	0.106	mg/kg dry	100	P7K0106	11/01/17	11/01/17	EPA 8021B	
Toluene	34.4	0.213	mg/kg dry	100	P7K0106	11/01/17	11/01/17	EPA 8021B	
Ethylbenzene	20.8	0.106	mg/kg dry	100	P7K0106	11/01/17	11/01/17	EPA 8021B	
Xylene (p/m)	32.7	0.213	mg/kg dry	100	P7K0106	11/01/17	11/01/17	EPA 8021B	
Xylene (o)	11.7	0.106	mg/kg dry	100	P7K0106	11/01/17	11/01/17	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		95.7 %		75-125	P7K0106	11/01/17	11/01/17	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		113 %		75-125	P7K0106	11/01/17	11/01/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	33.1	1.06	mg/kg dry	1	P7K0104	11/01/17	11/01/17	EPA 300.0	
% Moisture	6.0	0.1	%	1	P7K0207	11/02/17	11/02/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	646	26.6	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
>C12-C28	57.9	26.6	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
>C28-C35	44.1	26.6	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		109 %		70-130	P7K0102	11/01/17	11/01/17	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		110 %		70-130	P7K0102	11/01/17	11/01/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	748	26.6	mg/kg dry	1	[CALC]	11/01/17	11/01/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SE Ramp 4'
7K01001-08 (Soil)

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

Organics by GC

Benzene	ND	0.00109	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Toluene	ND	0.00217	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Ethylbenzene	ND	0.00109	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Xylene (p/m)	ND	0.00217	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Xylene (o)	ND	0.00109	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		91.0 %	75-125		P7K0106	11/01/17	11/01/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		98.7 %	75-125		P7K0106	11/01/17	11/01/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	6.62	1.09	mg/kg dry	1	P7K0104	11/01/17	11/01/17	EPA 300.0	
% Moisture	8.0	0.1	%	1	P7K0207	11/02/17	11/02/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.2	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
Surrogate: 1-Chlorooctane		94.8 %	70-130		P7K0102	11/01/17	11/01/17	TPH 8015M	
Surrogate: o-Terphenyl		105 %	70-130		P7K0102	11/01/17	11/01/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	11/01/17	11/01/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SE Ramp 8'
7K01001-09 (Soil)

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

Organics by GC

Benzene	ND	0.00109	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Toluene	ND	0.00217	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Ethylbenzene	ND	0.00109	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Xylene (p/m)	ND	0.00217	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Xylene (o)	ND	0.00109	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		111 %	75-125		P7K0106	11/01/17	11/01/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		101 %	75-125		P7K0106	11/01/17	11/01/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	ND	1.09	mg/kg dry	1	P7K0104	11/01/17	11/01/17	EPA 300.0	
% Moisture	8.0	0.1	%	1	P7K0207	11/02/17	11/02/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.2	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
Surrogate: 1-Chlorooctane		96.7 %	70-130		P7K0102	11/01/17	11/01/17	TPH 8015M	
Surrogate: o-Terphenyl		109 %	70-130		P7K0102	11/01/17	11/01/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	11/01/17	11/01/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SE Ramp 12'
7K01001-10 (Soil)

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

Organics by GC

Benzene	ND	0.00111	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Toluene	ND	0.00222	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Ethylbenzene	ND	0.00111	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Xylene (p/m)	ND	0.00222	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Xylene (o)	ND	0.00111	mg/kg dry	1	P7K0106	11/01/17	11/01/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		94.3 %	75-125		P7K0106	11/01/17	11/01/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		96.9 %	75-125		P7K0106	11/01/17	11/01/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	ND	1.11	mg/kg dry	1	P7K0104	11/01/17	11/01/17	EPA 300.0	
% Moisture	10.0	0.1	%	1	P7K0207	11/02/17	11/02/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.8	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
>C12-C28	ND	27.8	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
>C28-C35	ND	27.8	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
Surrogate: 1-Chlorooctane		102 %	70-130		P7K0102	11/01/17	11/01/17	TPH 8015M	
Surrogate: o-Terphenyl		113 %	70-130		P7K0102	11/01/17	11/01/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.8	mg/kg dry	1	[CALC]	11/01/17	11/01/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SE Ramp 16'
7K01001-11 (Soil)

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

Organics by GC

Benzene	ND	0.0213	mg/kg dry	20	P7K0106	11/01/17	11/02/17	EPA 8021B	
Toluene	ND	0.0426	mg/kg dry	20	P7K0106	11/01/17	11/02/17	EPA 8021B	
Ethylbenzene	ND	0.0213	mg/kg dry	20	P7K0106	11/01/17	11/02/17	EPA 8021B	
Xylene (p/m)	ND	0.0426	mg/kg dry	20	P7K0106	11/01/17	11/02/17	EPA 8021B	
Xylene (o)	ND	0.0213	mg/kg dry	20	P7K0106	11/01/17	11/02/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		101 %	75-125		P7K0106	11/01/17	11/02/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		96.7 %	75-125		P7K0106	11/01/17	11/02/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	77.2	1.06	mg/kg dry	1	P7K0104	11/01/17	11/01/17	EPA 300.0	
% Moisture	6.0	0.1	%	1	P7K0207	11/02/17	11/02/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.6	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
>C12-C28	ND	26.6	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
Surrogate: 1-Chlorooctane		98.6 %	70-130		P7K0102	11/01/17	11/01/17	TPH 8015M	
Surrogate: o-Terphenyl		111 %	70-130		P7K0102	11/01/17	11/01/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	11/01/17	11/01/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SE Ramp 20'
7K01001-12 (Soil)

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

Organics by GC

Benzene	ND	0.0211	mg/kg dry	20	P7K0106	11/01/17	11/02/17	EPA 8021B	
Toluene	ND	0.0421	mg/kg dry	20	P7K0106	11/01/17	11/02/17	EPA 8021B	
Ethylbenzene	ND	0.0211	mg/kg dry	20	P7K0106	11/01/17	11/02/17	EPA 8021B	
Xylene (p/m)	ND	0.0421	mg/kg dry	20	P7K0106	11/01/17	11/02/17	EPA 8021B	
Xylene (o)	ND	0.0211	mg/kg dry	20	P7K0106	11/01/17	11/02/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		78.2 %	75-125		P7K0106	11/01/17	11/02/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		89.6 %	75-125		P7K0106	11/01/17	11/02/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	19.4	1.05	mg/kg dry	1	P7K0104	11/01/17	11/01/17	EPA 300.0	
% Moisture	5.0	0.1	%	1	P7K0207	11/02/17	11/02/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.3	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
>C12-C28	ND	26.3	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
>C28-C35	39.2	26.3	mg/kg dry	1	P7K0102	11/01/17	11/01/17	TPH 8015M	
Surrogate: 1-Chlorooctane		96.6 %	70-130		P7K0102	11/01/17	11/01/17	TPH 8015M	
Surrogate: o-Terphenyl		109 %	70-130		P7K0102	11/01/17	11/01/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	39.2	26.3	mg/kg dry	1	[CALC]	11/01/17	11/01/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K0106 - General Preparation (GC)

Blank (P7K0106-BLK1)

Prepared & Analyzed: 11/01/17

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	0.0638		"	0.0600		106	75-125			
Surrogate: 4-Bromofluorobenzene	0.0620		"	0.0600		103	75-125			

LCS (P7K0106-BS1)

Prepared & Analyzed: 11/01/17

Benzene	0.111	0.00100	mg/kg wet	0.100		111	70-130			
Toluene	0.109	0.00200	"	0.100		109	70-130			
Ethylbenzene	0.116	0.00100	"	0.100		116	70-130			
Xylene (p/m)	0.219	0.00200	"				70-130			
Xylene (o)	0.120	0.00100	"				70-130			
Surrogate: 4-Bromofluorobenzene	0.0630		"	0.0600		105	75-125			
Surrogate: 1,4-Difluorobenzene	0.0684		"	0.0600		114	75-125			

LCS Dup (P7K0106-BSD1)

Prepared & Analyzed: 11/01/17

Benzene	0.111	0.00100	mg/kg wet	0.100		111	70-130	0.0270	20	
Toluene	0.103	0.00200	"	0.100		103	70-130	5.06	20	
Ethylbenzene	0.110	0.00100	"	0.100		110	70-130	5.05	20	
Xylene (p/m)	0.218	0.00200	"				70-130		20	
Xylene (o)	0.119	0.00100	"				70-130		20	
Surrogate: 1,4-Difluorobenzene	0.0688		"	0.0600		115	75-125			
Surrogate: 4-Bromofluorobenzene	0.0616		"	0.0600		103	75-125			

Calibration Blank (P7K0106-CCB1)

Prepared & Analyzed: 11/01/17

Benzene	0.00		mg/kg wet							
Toluene	0.00		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	1.10		"							
Xylene (o)	0.00		"							
Surrogate: 4-Bromofluorobenzene	0.0522		"	0.0600		87.1	75-125			
Surrogate: 1,4-Difluorobenzene	0.0557		"	0.0600		92.8	75-125			

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K0106 - General Preparation (GC)

Calibration Blank (P7K0106-CCB2)

Prepared: 11/01/17 Analyzed: 11/02/17

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	0.0604		"	0.0600		101	75-125			
Surrogate: 4-Bromofluorobenzene	0.0524		"	0.0600		87.4	75-125			

Calibration Check (P7K0106-CCV1)

Prepared & Analyzed: 11/01/17

Benzene	0.114	0.00100	mg/kg wet	0.100		114	80-120			
Toluene	0.106	0.00200	"	0.100		106	80-120			
Ethylbenzene	0.111	0.00100	"	0.100		111	80-120			
Xylene (p/m)	0.219	0.00200	"	0.200		109	80-120			
Xylene (o)	0.118	0.00100	"	0.100		118	80-120			
Surrogate: 1,4-Difluorobenzene	0.0568		"	0.0600		94.6	75-125			
Surrogate: 4-Bromofluorobenzene	0.0580		"	0.0600		96.8	75-125			

Calibration Check (P7K0106-CCV2)

Prepared: 11/01/17 Analyzed: 11/02/17

Benzene	0.107	0.00100	mg/kg wet	0.100		107	80-120			
Toluene	0.0936	0.00200	"	0.100		93.6	80-120			
Ethylbenzene	0.0928	0.00100	"	0.100		92.8	80-120			
Xylene (p/m)	0.209	0.00200	"	0.200		104	80-120			
Xylene (o)	0.103	0.00100	"	0.100		103	80-120			
Surrogate: 4-Bromofluorobenzene	0.0598		"	0.0600		99.7	75-125			
Surrogate: 1,4-Difluorobenzene	0.0668		"	0.0600		111	75-125			

Calibration Check (P7K0106-CCV3)

Prepared: 11/01/17 Analyzed: 11/02/17

Benzene	0.114	0.00100	mg/kg wet	0.100		114	80-120			
Toluene	0.115	0.00200	"	0.100		115	80-120			
Ethylbenzene	0.112	0.00100	"	0.100		112	80-120			
Xylene (p/m)	0.236	0.00200	"	0.200		118	80-120			
Xylene (o)	0.119	0.00100	"	0.100		119	80-120			
Surrogate: 4-Bromofluorobenzene	0.0624		"	0.0600		104	75-125			
Surrogate: 1,4-Difluorobenzene	0.0610		"	0.0600		102	75-125			

Permian Basin Environmental Lab, L.P.

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K0106 - General Preparation (GC)

Matrix Spike (P7K0106-MS1)

Source: 7J30001-05

Prepared: 11/01/17 Analyzed: 11/02/17

Benzene	0.0738	0.00105	mg/kg dry	0.105	ND	70.1	80-120			QM-07
Toluene	0.0748	0.00211	"	0.105	ND	71.1	80-120			QM-07
Ethylbenzene	0.0903	0.00105	"	0.105	ND	85.7	80-120			
Xylene (p/m)	0.162	0.00211	"		ND		80-120			
Xylene (o)	0.0885	0.00105	"		ND		80-120			
Surrogate: 1,4-Difluorobenzene	0.0823		"	0.0632		130	75-125			S-GC1
Surrogate: 4-Bromofluorobenzene	0.0878		"	0.0632		139	75-125			S-GC1

Matrix Spike Dup (P7K0106-MSD1)

Source: 7J30001-05

Prepared: 11/01/17 Analyzed: 11/02/17

Benzene	0.0605	0.00105	mg/kg dry	0.105	ND	57.5	80-120	19.7	20	QM-07
Toluene	0.0518	0.00211	"	0.105	ND	49.2	80-120	36.4	20	QM-07, R3
Ethylbenzene	0.0633	0.00105	"	0.105	ND	60.1	80-120	35.1	20	QM-07, R3
Xylene (p/m)	0.107	0.00211	"		ND		80-120		20	
Xylene (o)	0.0574	0.00105	"		ND		80-120		20	
Surrogate: 4-Bromofluorobenzene	0.0774		"	0.0632		123	75-125			
Surrogate: 1,4-Difluorobenzene	0.0624		"	0.0632		98.9	75-125			

Permian Basin Environmental Lab, L.P.

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Midland TX, 79710

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K0104 - * DEFAULT PREP *****

Blank (P7K0104-BLK1)			Prepared & Analyzed: 11/01/17							
Chloride	ND	1.00	mg/kg wet							
LCS (P7K0104-BS1)			Prepared & Analyzed: 11/01/17							
Chloride	427	1.00	mg/kg wet	400		107	80-120			
LCS Dup (P7K0104-BSD1)			Prepared & Analyzed: 11/01/17							
Chloride	425	1.00	mg/kg wet	400		106	80-120	0.376	20	
Duplicate (P7K0104-DUP1)			Source: 7K01001-01		Prepared & Analyzed: 11/01/17					
Chloride	90.1	1.06	mg/kg dry		69.8			25.4	20	R3
Duplicate (P7K0104-DUP2)			Source: 7K01001-11		Prepared & Analyzed: 11/01/17					
Chloride	97.7	1.06	mg/kg dry		77.2			23.5	20	R3
Matrix Spike (P7K0104-MS1)			Source: 7K01001-01		Prepared & Analyzed: 11/01/17					
Chloride	1220	1.06	mg/kg dry	1060	69.8	108	80-120			

Batch P7K0207 - * DEFAULT PREP *****

Blank (P7K0207-BLK1)			Prepared & Analyzed: 11/02/17							
% Moisture	ND	0.1	%							
Duplicate (P7K0207-DUP1)			Source: 7K01007-24		Prepared & Analyzed: 11/02/17					
% Moisture	10.0	0.1	%		10.0			0.00	20	

Permian Basin Environmental Lab, L.P.

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K0102 - General Preparation (GC)

Blank (P7K0102-BLK1)

Prepared & Analyzed: 11/01/17

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	111		"	100		111	70-130			
Surrogate: o-Terphenyl	62.4		"	50.0		125	70-130			

LCS (P7K0102-BS1)

Prepared & Analyzed: 11/01/17

C6-C12	843	25.0	mg/kg wet	1000		84.3	75-125			
>C12-C28	888	25.0	"	1000		88.8	75-125			
Surrogate: 1-Chlorooctane	122		"	100		122	70-130			
Surrogate: o-Terphenyl	61.8		"	50.0		124	70-130			

LCS Dup (P7K0102-BSD1)

Prepared & Analyzed: 11/01/17

C6-C12	879	25.0	mg/kg wet	1000		87.9	75-125	4.20	20	
>C12-C28	934	25.0	"	1000		93.4	75-125	5.09	20	
Surrogate: 1-Chlorooctane	129		"	100		129	70-130			
Surrogate: o-Terphenyl	65.0		"	50.0		130	70-130			

Calibration Blank (P7K0102-CCB1)

Prepared & Analyzed: 11/01/17

C6-C12	19.6		mg/kg wet							
>C12-C28	6.12		"							
Surrogate: 1-Chlorooctane	104		"	100		104	70-130			
Surrogate: o-Terphenyl	59.5		"	50.0		119	70-130			

Calibration Blank (P7K0102-CCB2)

Prepared & Analyzed: 11/01/17

C6-C12	21.2		mg/kg wet							
>C12-C28	12.2		"							
Surrogate: 1-Chlorooctane	107		"	100		107	70-130			
Surrogate: o-Terphenyl	61.0		"	50.0		122	70-130			

Permian Basin Environmental Lab, L.P.

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Midland TX, 79710

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K0102 - General Preparation (GC)

Calibration Check (P7K0102-CCV1)

Prepared & Analyzed: 11/01/17

C6-C12	476	25.0	mg/kg wet	500		95.3	85-115			
>C12-C28	497	25.0	"	500		99.4	85-115			
Surrogate: 1-Chlorooctane	113		"	100		113	70-130			
Surrogate: o-Terphenyl	56.2		"	50.0		112	70-130			

Calibration Check (P7K0102-CCV2)

Prepared & Analyzed: 11/01/17

C6-C12	477	25.0	mg/kg wet	500		95.4	85-115			
>C12-C28	503	25.0	"	500		101	85-115			
Surrogate: 1-Chlorooctane	115		"	100		115	70-130			
Surrogate: o-Terphenyl	56.6		"	50.0		113	70-130			

Calibration Check (P7K0102-CCV3)

Prepared: 11/01/17 Analyzed: 11/02/17

C6-C12	458	25.0	mg/kg wet	500		91.5	85-115			
>C12-C28	522	25.0	"	500		104	85-115			
Surrogate: 1-Chlorooctane	111		"	100		111	70-130			
Surrogate: o-Terphenyl	53.7		"	50.0		107	70-130			

Matrix Spike (P7K0102-MS1)

Source: 7J30003-01

Prepared: 11/01/17 Analyzed: 11/02/17

C6-C12	817	25.5	mg/kg dry	1020	15.6	78.5	75-125			
>C12-C28	1300	25.5	"	1020	359	92.5	75-125			
Surrogate: 1-Chlorooctane	121		"	102		119	70-130			
Surrogate: o-Terphenyl	54.1		"	51.0		106	70-130			

Matrix Spike Dup (P7K0102-MSD1)

Source: 7J30003-01

Prepared: 11/01/17 Analyzed: 11/02/17

C6-C12	812	25.5	mg/kg dry	1020	15.6	78.0	75-125	0.574	20	
>C12-C28	1140	25.5	"	1020	359	76.2	75-125	19.3	20	
Surrogate: 1-Chlorooctane	121		"	102		118	70-130			
Surrogate: o-Terphenyl	53.9		"	51.0		106	70-130			

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Notes and Definitions

S-GC1 Surrogate recovery outside of control limits. A second analysis confirmed the original results..

R3 The RPD exceeded the acceptance limit due to sample matrix effects.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:



Date:

11/3/2017

Brent Barron, Laboratory Director/Technical Director

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

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

Permian Basin Environmental Lab, L.P.

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

CHAIN-OF-CUSTOMER

EX ☒ ANALYSES
TRPH ☐ MTR ☐

FIELD NOTES

TOTAL	12
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☐ CARRIER BILL #

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



Analytical Report

Prepared for:

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Location:

Lab Order Number: 7K06003



NELAP/TCEQ # T104704516-16-7

Report Date: 11/07/17

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SP-1S	7K06003-01	Soil	11/03/17 10:10	11-06-2017 09:06
SP-1N	7K06003-02	Soil	11/03/17 10:12	11-06-2017 09:06
SP-2	7K06003-03	Soil	11/03/17 10:21	11-06-2017 09:06
SP-12 2'	7K06003-04	Soil	11/03/17 13:23	11-06-2017 09:06
SP-12 4'	7K06003-05	Soil	11/03/17 13:29	11-06-2017 09:06
SP-12 8'	7K06003-06	Soil	11/03/17 13:31	11-06-2017 09:06
SP-12 12'	7K06003-07	Soil	11/03/17 13:34	11-06-2017 09:06
SP-12 16'	7K06003-08	Soil	11/03/17 13:36	11-06-2017 09:06

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SP-1S
7K06003-01 (Soil)

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

Organics by GC

Benzene	ND	0.00105	mg/kg dry	1	P7K0614	11/06/17	11/07/17	EPA 8021B	
Toluene	ND	0.00211	mg/kg dry	1	P7K0614	11/06/17	11/07/17	EPA 8021B	
Ethylbenzene	ND	0.00105	mg/kg dry	1	P7K0614	11/06/17	11/07/17	EPA 8021B	
Xylene (p/m)	ND	0.00211	mg/kg dry	1	P7K0614	11/06/17	11/07/17	EPA 8021B	
Xylene (o)	ND	0.00105	mg/kg dry	1	P7K0614	11/06/17	11/07/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		97.2 %		75-125	P7K0614	11/06/17	11/07/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		92.1 %		75-125	P7K0614	11/06/17	11/07/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	19.8	1.05	mg/kg dry	1	P7K0617	11/06/17	11/07/17	EPA 300.0	
% Moisture	5.0	0.1	%	1	P7K0703	11/07/17	11/07/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.3	mg/kg dry	1	P7K0611	11/06/17	11/07/17	TPH 8015M	
>C12-C28	185	26.3	mg/kg dry	1	P7K0611	11/06/17	11/07/17	TPH 8015M	
>C28-C35	312	26.3	mg/kg dry	1	P7K0611	11/06/17	11/07/17	TPH 8015M	
Surrogate: 1-Chlorooctane		111 %		70-130	P7K0611	11/06/17	11/07/17	TPH 8015M	
Surrogate: o-Terphenyl		132 %		70-130	P7K0611	11/06/17	11/07/17	TPH 8015M	S-GC
Total Petroleum Hydrocarbon C6-C35	496	26.3	mg/kg dry	1	[CALC]	11/06/17	11/07/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SP-1N
7K06003-02 (Soil)

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

Organics by GC

Benzene	ND	0.00108	mg/kg dry	1	P7K0614	11/06/17	11/07/17	EPA 8021B	
Toluene	ND	0.00215	mg/kg dry	1	P7K0614	11/06/17	11/07/17	EPA 8021B	
Ethylbenzene	ND	0.00108	mg/kg dry	1	P7K0614	11/06/17	11/07/17	EPA 8021B	
Xylene (p/m)	ND	0.00215	mg/kg dry	1	P7K0614	11/06/17	11/07/17	EPA 8021B	
Xylene (o)	ND	0.00108	mg/kg dry	1	P7K0614	11/06/17	11/07/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		102 %	75-125		P7K0614	11/06/17	11/07/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		110 %	75-125		P7K0614	11/06/17	11/07/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	2.35	1.08	mg/kg dry	1	P7K0617	11/06/17	11/07/17	EPA 300.0	
% Moisture	7.0	0.1	%	1	P7K0703	11/07/17	11/07/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.9	mg/kg dry	1	P7K0611	11/06/17	11/07/17	TPH 8015M	
>C12-C28	61.0	26.9	mg/kg dry	1	P7K0611	11/06/17	11/07/17	TPH 8015M	
>C28-C35	126	26.9	mg/kg dry	1	P7K0611	11/06/17	11/07/17	TPH 8015M	
Surrogate: 1-Chlorooctane		116 %	70-130		P7K0611	11/06/17	11/07/17	TPH 8015M	
Surrogate: o-Terphenyl		137 %	70-130		P7K0611	11/06/17	11/07/17	TPH 8015M	S-GC
Total Petroleum Hydrocarbon C6-C35	187	26.9	mg/kg dry	1	[CALC]	11/06/17	11/07/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SP-2
7K06003-03 (Soil)

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

Organics by GC

Benzene	ND	0.00109	mg/kg dry	1	P7K0615	11/06/17	11/07/17	EPA 8021B	
Toluene	ND	0.00217	mg/kg dry	1	P7K0615	11/06/17	11/07/17	EPA 8021B	
Ethylbenzene	ND	0.00109	mg/kg dry	1	P7K0615	11/06/17	11/07/17	EPA 8021B	
Xylene (p/m)	0.0382	0.00217	mg/kg dry	1	P7K0615	11/06/17	11/07/17	EPA 8021B	
Xylene (o)	0.0624	0.00109	mg/kg dry	1	P7K0615	11/06/17	11/07/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		110 %	75-125		P7K0615	11/06/17	11/07/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		88.0 %	75-125		P7K0615	11/06/17	11/07/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	387	1.09	mg/kg dry	1	P7K0618	11/06/17	11/07/17	EPA 300.0	
% Moisture	8.0	0.1	%	1	P7K0703	11/07/17	11/07/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	28.8	27.2	mg/kg dry	1	P7K0612	11/06/17	11/07/17	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P7K0612	11/06/17	11/07/17	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P7K0612	11/06/17	11/07/17	TPH 8015M	
Surrogate: 1-Chlorooctane		115 %	70-130		P7K0612	11/06/17	11/07/17	TPH 8015M	
Surrogate: o-Terphenyl		137 %	70-130		P7K0612	11/06/17	11/07/17	TPH 8015M	S-GC
Total Petroleum Hydrocarbon C6-C35	28.8	27.2	mg/kg dry	1	[CALC]	11/06/17	11/07/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SP-12 2'
7K06003-04 (Soil)

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

Organics by GC

Benzene	ND	0.00103	mg/kg dry	1	P7K0615	11/06/17	11/07/17	EPA 8021B	
Toluene	ND	0.00206	mg/kg dry	1	P7K0615	11/06/17	11/07/17	EPA 8021B	
Ethylbenzene	ND	0.00103	mg/kg dry	1	P7K0615	11/06/17	11/07/17	EPA 8021B	
Xylene (p/m)	ND	0.00206	mg/kg dry	1	P7K0615	11/06/17	11/07/17	EPA 8021B	
Xylene (o)	ND	0.00103	mg/kg dry	1	P7K0615	11/06/17	11/07/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		93.7 %	75-125		P7K0615	11/06/17	11/07/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		97.6 %	75-125		P7K0615	11/06/17	11/07/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	193	1.03	mg/kg dry	1	P7K0618	11/06/17	11/07/17	EPA 300.0	
% Moisture	3.0	0.1	%	1	P7K0703	11/07/17	11/07/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	25.8	mg/kg dry	1	P7K0612	11/06/17	11/07/17	TPH 8015M	
>C12-C28	ND	25.8	mg/kg dry	1	P7K0612	11/06/17	11/07/17	TPH 8015M	
>C28-C35	73.4	25.8	mg/kg dry	1	P7K0612	11/06/17	11/07/17	TPH 8015M	
Surrogate: 1-Chlorooctane		107 %	70-130		P7K0612	11/06/17	11/07/17	TPH 8015M	
Surrogate: o-Terphenyl		125 %	70-130		P7K0612	11/06/17	11/07/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	73.4	25.8	mg/kg dry	1	[CALC]	11/06/17	11/07/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SP-12 4'
7K06003-05 (Soil)

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

Organics by GC

Benzene	ND	0.00103	mg/kg dry	1	P7K0615	11/06/17	11/07/17	EPA 8021B	
Toluene	ND	0.00206	mg/kg dry	1	P7K0615	11/06/17	11/07/17	EPA 8021B	
Ethylbenzene	ND	0.00103	mg/kg dry	1	P7K0615	11/06/17	11/07/17	EPA 8021B	
Xylene (p/m)	ND	0.00206	mg/kg dry	1	P7K0615	11/06/17	11/07/17	EPA 8021B	
Xylene (o)	ND	0.00103	mg/kg dry	1	P7K0615	11/06/17	11/07/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		105 %	75-125		P7K0615	11/06/17	11/07/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		86.2 %	75-125		P7K0615	11/06/17	11/07/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	3560	10.3	mg/kg dry	10	P7K0618	11/06/17	11/07/17	EPA 300.0	
% Moisture	3.0	0.1	%	1	P7K0703	11/07/17	11/07/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	25.8	mg/kg dry	1	P7K0612	11/06/17	11/07/17	TPH 8015M	
>C12-C28	ND	25.8	mg/kg dry	1	P7K0612	11/06/17	11/07/17	TPH 8015M	
>C28-C35	ND	25.8	mg/kg dry	1	P7K0612	11/06/17	11/07/17	TPH 8015M	
Surrogate: 1-Chlorooctane		110 %	70-130		P7K0612	11/06/17	11/07/17	TPH 8015M	
Surrogate: o-Terphenyl		134 %	70-130		P7K0612	11/06/17	11/07/17	TPH 8015M	S-GC
Total Petroleum Hydrocarbon C6-C35	ND	25.8	mg/kg dry	1	[CALC]	11/06/17	11/07/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SP-12 8'
7K06003-06 (Soil)

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

Organics by GC

Benzene	0.00155	0.00102	mg/kg dry	1	P7K0615	11/06/17	11/07/17	EPA 8021B	
Toluene	ND	0.00204	mg/kg dry	1	P7K0615	11/06/17	11/07/17	EPA 8021B	
Ethylbenzene	ND	0.00102	mg/kg dry	1	P7K0615	11/06/17	11/07/17	EPA 8021B	
Xylene (p/m)	ND	0.00204	mg/kg dry	1	P7K0615	11/06/17	11/07/17	EPA 8021B	
Xylene (o)	ND	0.00102	mg/kg dry	1	P7K0615	11/06/17	11/07/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		100 %	75-125		P7K0615	11/06/17	11/07/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		95.1 %	75-125		P7K0615	11/06/17	11/07/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	1140	10.2	mg/kg dry	10	P7K0618	11/06/17	11/07/17	EPA 300.0	
% Moisture	2.0	0.1	%	1	P7K0703	11/07/17	11/07/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	25.5	mg/kg dry	1	P7K0612	11/06/17	11/07/17	TPH 8015M	
>C12-C28	ND	25.5	mg/kg dry	1	P7K0612	11/06/17	11/07/17	TPH 8015M	
>C28-C35	ND	25.5	mg/kg dry	1	P7K0612	11/06/17	11/07/17	TPH 8015M	
Surrogate: 1-Chlorooctane		109 %	70-130		P7K0612	11/06/17	11/07/17	TPH 8015M	
Surrogate: o-Terphenyl		133 %	70-130		P7K0612	11/06/17	11/07/17	TPH 8015M	S-GC
Total Petroleum Hydrocarbon C6-C35	ND	25.5	mg/kg dry	1	[CALC]	11/06/17	11/07/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SP-12 12'
7K06003-07 (Soil)

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

Organics by GC

Benzene	ND	0.00104	mg/kg dry	1	P7K0615	11/06/17	11/07/17	EPA 8021B	
Toluene	ND	0.00208	mg/kg dry	1	P7K0615	11/06/17	11/07/17	EPA 8021B	
Ethylbenzene	ND	0.00104	mg/kg dry	1	P7K0615	11/06/17	11/07/17	EPA 8021B	
Xylene (p/m)	ND	0.00208	mg/kg dry	1	P7K0615	11/06/17	11/07/17	EPA 8021B	
Xylene (o)	ND	0.00104	mg/kg dry	1	P7K0615	11/06/17	11/07/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		111 %	75-125		P7K0615	11/06/17	11/07/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		106 %	75-125		P7K0615	11/06/17	11/07/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	148	10.4	mg/kg dry	10	P7K0618	11/06/17	11/07/17	EPA 300.0	
% Moisture	4.0	0.1	%	1	P7K0703	11/07/17	11/07/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	36.8	26.0	mg/kg dry	1	P7K0612	11/06/17	11/07/17	TPH 8015M	
>C12-C28	ND	26.0	mg/kg dry	1	P7K0612	11/06/17	11/07/17	TPH 8015M	
>C28-C35	ND	26.0	mg/kg dry	1	P7K0612	11/06/17	11/07/17	TPH 8015M	
Surrogate: 1-Chlorooctane		116 %	70-130		P7K0612	11/06/17	11/07/17	TPH 8015M	
Surrogate: o-Terphenyl		141 %	70-130		P7K0612	11/06/17	11/07/17	TPH 8015M	S-GC
Total Petroleum Hydrocarbon C6-C35	36.8	26.0	mg/kg dry	1	[CALC]	11/06/17	11/07/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SP-12 16'
7K06003-08 (Soil)

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

Organics by GC

Benzene	ND	0.00103	mg/kg dry	1	P7K0615	11/06/17	11/07/17	EPA 8021B	
Toluene	ND	0.00206	mg/kg dry	1	P7K0615	11/06/17	11/07/17	EPA 8021B	
Ethylbenzene	ND	0.00103	mg/kg dry	1	P7K0615	11/06/17	11/07/17	EPA 8021B	
Xylene (p/m)	ND	0.00206	mg/kg dry	1	P7K0615	11/06/17	11/07/17	EPA 8021B	
Xylene (o)	ND	0.00103	mg/kg dry	1	P7K0615	11/06/17	11/07/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		85.6 %	75-125		P7K0615	11/06/17	11/07/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		109 %	75-125		P7K0615	11/06/17	11/07/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	3110	10.3	mg/kg dry	10	P7K0618	11/06/17	11/07/17	EPA 300.0	
% Moisture	3.0	0.1	%	1	P7K0703	11/07/17	11/07/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	35.8	25.8	mg/kg dry	1	P7K0612	11/06/17	11/07/17	TPH 8015M	
>C12-C28	ND	25.8	mg/kg dry	1	P7K0612	11/06/17	11/07/17	TPH 8015M	
>C28-C35	26.9	25.8	mg/kg dry	1	P7K0612	11/06/17	11/07/17	TPH 8015M	
Surrogate: 1-Chlorooctane		111 %	70-130		P7K0612	11/06/17	11/07/17	TPH 8015M	
Surrogate: o-Terphenyl		133 %	70-130		P7K0612	11/06/17	11/07/17	TPH 8015M	S-GC
Total Petroleum Hydrocarbon C6-C35	62.7	25.8	mg/kg dry	1	[CALC]	11/06/17	11/07/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K0614 - General Preparation (GC)

Blank (P7K0614-BLK1)

Prepared & Analyzed: 11/06/17

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 4-Bromofluorobenzene	0.0549		"	0.0600		91.5	75-125			
Surrogate: 1,4-Difluorobenzene	0.0467		"	0.0600		77.8	75-125			

LCS (P7K0614-BS1)

Prepared & Analyzed: 11/06/17

Benzene	0.102	0.00100	mg/kg wet	0.100		102	70-130			
Toluene	0.102	0.00200	"	0.100		102	70-130			
Ethylbenzene	0.118	0.00100	"	0.100		118	70-130			
Xylene (p/m)	0.218	0.00200	"				70-130			
Xylene (o)	0.117	0.00100	"				70-130			
Surrogate: 1,4-Difluorobenzene	0.0646		"	0.0600		108	75-125			
Surrogate: 4-Bromofluorobenzene	0.0597		"	0.0600		99.5	75-125			

LCS Dup (P7K0614-BSD1)

Prepared & Analyzed: 11/06/17

Benzene	0.106	0.00100	mg/kg wet	0.100		106	70-130	4.54	20	
Toluene	0.107	0.00200	"	0.100		107	70-130	4.26	20	
Ethylbenzene	0.119	0.00100	"	0.100		119	70-130	0.473	20	
Xylene (p/m)	0.220	0.00200	"				70-130		20	
Xylene (o)	0.117	0.00100	"				70-130		20	
Surrogate: 1,4-Difluorobenzene	0.0648		"	0.0600		108	75-125			
Surrogate: 4-Bromofluorobenzene	0.0682		"	0.0600		114	75-125			

Calibration Blank (P7K0614-CCB1)

Prepared & Analyzed: 11/06/17

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	0.0600		"	0.0600		100	75-125			
Surrogate: 4-Bromofluorobenzene	0.0588		"	0.0600		98.1	75-125			

Permian Basin Environmental Lab, L.P.

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Larson & Associates, Inc.
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Midland TX, 79710

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K0614 - General Preparation (GC)

Calibration Blank (P7K0614-CCB2)

Prepared & Analyzed: 11/06/17

Benzene	0.00		mg/kg wet							
Toluene	0.00		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.00		"							
Xylene (o)	0.00		"							
Surrogate: 4-Bromofluorobenzene	0.0593		"	0.0600		98.8	75-125			
Surrogate: 1,4-Difluorobenzene	0.0509		"	0.0600		84.8	75-125			

Calibration Check (P7K0614-CCV1)

Prepared & Analyzed: 11/06/17

Benzene	0.100	0.00100	mg/kg wet	0.100		100	80-120			
Toluene	0.0943	0.00200	"	0.100		94.3	80-120			
Ethylbenzene	0.0989	0.00100	"	0.100		98.9	80-120			
Xylene (p/m)	0.218	0.00200	"	0.200		109	80-120			
Xylene (o)	0.110	0.00100	"	0.100		110	80-120			
Surrogate: 4-Bromofluorobenzene	0.0515		"	0.0600		85.9	75-125			
Surrogate: 1,4-Difluorobenzene	0.0578		"	0.0600		96.4	75-125			

Calibration Check (P7K0614-CCV2)

Prepared & Analyzed: 11/06/17

Benzene	0.110	0.00100	mg/kg wet	0.100		110	80-120			
Toluene	0.106	0.00200	"	0.100		106	80-120			
Ethylbenzene	0.108	0.00100	"	0.100		108	80-120			
Xylene (p/m)	0.220	0.00200	"	0.200		110	80-120			
Xylene (o)	0.117	0.00100	"	0.100		117	80-120			
Surrogate: 4-Bromofluorobenzene	0.0658		"	0.0600		110	75-125			
Surrogate: 1,4-Difluorobenzene	0.0631		"	0.0600		105	75-125			

Calibration Check (P7K0614-CCV3)

Prepared: 11/06/17 Analyzed: 11/07/17

Benzene	0.103	0.00100	mg/kg wet	0.100		103	80-120			
Toluene	0.0975	0.00200	"	0.100		97.5	80-120			
Ethylbenzene	0.100	0.00100	"	0.100		100	80-120			
Xylene (p/m)	0.215	0.00200	"	0.200		108	80-120			
Xylene (o)	0.113	0.00100	"	0.100		113	80-120			
Surrogate: 1,4-Difluorobenzene	0.0637		"	0.0600		106	75-125			
Surrogate: 4-Bromofluorobenzene	0.0611		"	0.0600		102	75-125			

Permian Basin Environmental Lab, L.P.

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K0614 - General Preparation (GC)

Matrix Spike (P7K0614-MS1)

Source: 7K06003-02

Prepared: 11/06/17 Analyzed: 11/07/17

Benzene	0.0936	0.00108	mg/kg dry	0.108	ND	87.0	80-120			
Toluene	0.0869	0.00215	"	0.108	0.000946	79.9	80-120			QM-07
Ethylbenzene	0.0978	0.00108	"	0.108	ND	90.9	80-120			
Xylene (p/m)	0.200	0.00215	"		ND		80-120			
Xylene (o)	0.0862	0.00108	"		ND		80-120			
Surrogate: 4-Bromofluorobenzene	0.0711		"	0.0645		110	75-125			
Surrogate: 1,4-Difluorobenzene	0.0719		"	0.0645		111	75-125			

Matrix Spike Dup (P7K0614-MSD1)

Source: 7K06003-02

Prepared: 11/06/17 Analyzed: 11/07/17

Benzene	0.0953	0.00108	mg/kg dry	0.108	ND	88.6	80-120	1.83	20	
Toluene	0.0912	0.00215	"	0.108	0.000946	83.9	80-120	4.94	20	
Ethylbenzene	0.104	0.00108	"	0.108	ND	96.3	80-120	5.75	20	
Xylene (p/m)	0.194	0.00215	"		ND		80-120		20	
Xylene (o)	0.0945	0.00108	"		ND		80-120		20	
Surrogate: 1,4-Difluorobenzene	0.0680		"	0.0645		105	75-125			
Surrogate: 4-Bromofluorobenzene	0.0695		"	0.0645		108	75-125			

Batch P7K0615 - General Preparation (GC)

Blank (P7K0615-BLK1)

Prepared: 11/06/17 Analyzed: 11/07/17

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	0.0574		"	0.0600		95.6	75-125			
Surrogate: 4-Bromofluorobenzene	0.0624		"	0.0600		104	75-125			

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K0615 - General Preparation (GC)

LCS (P7K0615-BS1)

Prepared: 11/06/17 Analyzed: 11/07/17

Benzene	0.0996	0.00100	mg/kg wet	0.100		99.6	70-130			
Toluene	0.0967	0.00200	"	0.100		96.7	70-130			
Ethylbenzene	0.115	0.00100	"	0.100		115	70-130			
Xylene (p/m)	0.217	0.00200	"				70-130			
Xylene (o)	0.112	0.00100	"				70-130			
Surrogate: 1,4-Difluorobenzene	0.0623		"	0.0600		104	75-125			
Surrogate: 4-Bromofluorobenzene	0.0654		"	0.0600		109	75-125			

LCS Dup (P7K0615-BS1)

Prepared: 11/06/17 Analyzed: 11/07/17

Benzene	0.114	0.00100	mg/kg wet	0.100		114	70-130	13.3	20	
Toluene	0.111	0.00200	"	0.100		111	70-130	14.1	20	
Ethylbenzene	0.118	0.00100	"	0.100		118	70-130	2.52	20	
Xylene (p/m)	0.218	0.00200	"				70-130		20	
Xylene (o)	0.120	0.00100	"				70-130		20	
Surrogate: 4-Bromofluorobenzene	0.0695		"	0.0600		116	75-125			
Surrogate: 1,4-Difluorobenzene	0.0685		"	0.0600		114	75-125			

Calibration Blank (P7K0615-CCB1)

Prepared: 11/06/17 Analyzed: 11/07/17

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	0.0504		"	0.0600		84.0	75-125			
Surrogate: 4-Bromofluorobenzene	0.0541		"	0.0600		90.2	75-125			

Calibration Blank (P7K0615-CCB2)

Prepared: 11/06/17 Analyzed: 11/07/17

Benzene	0.00		mg/kg wet							
Toluene	0.00		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.00		"							
Xylene (o)	0.00		"							
Surrogate: 4-Bromofluorobenzene	0.0577		"	0.0600		96.1	75-125			
Surrogate: 1,4-Difluorobenzene	0.0520		"	0.0600		86.7	75-125			

Permian Basin Environmental Lab, L.P.

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Larson & Associates, Inc.
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Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K0615 - General Preparation (GC)

Calibration Check (P7K0615-CCV2)

Prepared: 11/06/17 Analyzed: 11/07/17

Benzene	0.111	0.00100	mg/kg wet	0.100		111	80-120			
Toluene	0.105	0.00200	"	0.100		105	80-120			
Ethylbenzene	0.108	0.00100	"	0.100		108	80-120			
Xylene (p/m)	0.219	0.00200	"	0.200		110	80-120			
Xylene (o)	0.118	0.00100	"	0.100		118	80-120			
Surrogate: 1,4-Difluorobenzene	0.0690		"	0.0600		115	75-125			
Surrogate: 4-Bromofluorobenzene	0.0668		"	0.0600		111	75-125			

Matrix Spike (P7K0615-MS1)

Source: 7K06003-08

Prepared: 11/06/17 Analyzed: 11/07/17

Benzene	0.0995	0.00103	mg/kg dry	0.103	ND	96.5	80-120			
Toluene	0.0828	0.00206	"	0.103	ND	80.3	80-120			
Ethylbenzene	0.102	0.00103	"	0.103	0.000845	97.7	80-120			
Xylene (p/m)	0.186	0.00206	"		ND		80-120			
Xylene (o)	0.105	0.00103	"		ND		80-120			
Surrogate: 4-Bromofluorobenzene	0.0720		"	0.0619		116	75-125			
Surrogate: 1,4-Difluorobenzene	0.0712		"	0.0619		115	75-125			

Matrix Spike Dup (P7K0615-MSD1)

Source: 7K06003-08

Prepared: 11/06/17 Analyzed: 11/07/17

Benzene	0.0901	0.00103	mg/kg dry	0.103	ND	87.4	80-120	9.90	20	
Toluene	0.0856	0.00206	"	0.103	ND	83.0	80-120	3.33	20	
Ethylbenzene	0.106	0.00103	"	0.103	0.000845	102	80-120	4.13	20	
Xylene (p/m)	0.189	0.00206	"		ND		80-120		20	
Xylene (o)	0.0849	0.00103	"		ND		80-120		20	
Surrogate: 1,4-Difluorobenzene	0.0703		"	0.0619		114	75-125			
Surrogate: 4-Bromofluorobenzene	0.0649		"	0.0619		105	75-125			

Permian Basin Environmental Lab, L.P.

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Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K0617 - * DEFAULT PREP *****

Blank (P7K0617-BLK1)

Prepared & Analyzed: 11/06/17

Chloride	ND	1.00	mg/kg wet
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LCS (P7K0617-BS1)

Prepared & Analyzed: 11/06/17

Chloride	421	1.00	mg/kg wet	400	105	80-120
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LCS Dup (P7K0617-BSD1)

Prepared & Analyzed: 11/06/17

Chloride	421	1.00	mg/kg wet	400	105	80-120	0.0665	20
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Duplicate (P7K0617-DUP1)

Source: 7K06001-01

Prepared & Analyzed: 11/06/17

Chloride	7.85	1.12	mg/kg dry	7.55	3.94	20
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Duplicate (P7K0617-DUP2)

Source: 7K06001-11

Prepared & Analyzed: 11/06/17

Chloride	6.71	1.02	mg/kg dry	6.41	4.67	20
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Matrix Spike (P7K0617-MS1)

Source: 7K06001-01

Prepared & Analyzed: 11/06/17

Chloride	1190	1.12	mg/kg dry	1120	7.55	106	80-120
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Batch P7K0618 - * DEFAULT PREP *****

Blank (P7K0618-BLK1)

Prepared: 11/06/17 Analyzed: 11/07/17

Chloride	ND	1.00	mg/kg wet
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LCS (P7K0618-BS1)

Prepared: 11/06/17 Analyzed: 11/07/17

Chloride	426	1.00	mg/kg wet	400	107	80-120
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LCS Dup (P7K0618-BSD1)

Prepared: 11/06/17 Analyzed: 11/07/17

Chloride	428	1.00	mg/kg wet	400	107	80-120	0.302	20
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Permian Basin Environmental Lab, L.P.

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Project Number: 16-0120-01
Project Manager: Mark Larson

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K0618 - * DEFAULT PREP *****

Duplicate (P7K0618-DUP1)		Source: 7K06003-03		Prepared: 11/06/17 Analyzed: 11/07/17						
Chloride	389	1.09	mg/kg dry		387			0.558	20	
Duplicate (P7K0618-DUP2)		Source: 7K03001-09		Prepared: 11/06/17 Analyzed: 11/07/17						
Chloride	934	5.88	mg/kg dry		878			6.14	20	
Matrix Spike (P7K0618-MS1)		Source: 7K06003-03		Prepared: 11/06/17 Analyzed: 11/07/17						
Chloride	1530	1.09	mg/kg dry	1090	387	106	80-120			

Batch P7K0703 - * DEFAULT PREP *****

Blank (P7K0703-BLK1)		Prepared & Analyzed: 11/07/17								
% Moisture	ND	0.1	%							
Duplicate (P7K0703-DUP1)		Source: 7K06003-08		Prepared & Analyzed: 11/07/17						
% Moisture	2.0	0.1	%		3.0			40.0	20	

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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
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Batch P7K0611 - General Preparation (GC)

Blank (P7K0611-BLK1)

Prepared & Analyzed: 11/06/17

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	90.9		"	100		90.9	70-130			
Surrogate: o-Terphenyl	57.2		"	50.0		114	70-130			

LCS (P7K0611-BS1)

Prepared & Analyzed: 11/06/17

C6-C12	907	25.0	mg/kg wet	1000		90.7	75-125			
>C12-C28	971	25.0	"	1000		97.1	75-125			
Surrogate: 1-Chlorooctane	117		"	100		117	70-130			
Surrogate: o-Terphenyl	53.9		"	50.0		108	70-130			

LCS Dup (P7K0611-BSD1)

Prepared & Analyzed: 11/06/17

C6-C12	870	25.0	mg/kg wet	1000		87.0	75-125	4.19	20	
>C12-C28	923	25.0	"	1000		92.3	75-125	5.00	20	
Surrogate: 1-Chlorooctane	112		"	100		112	70-130			
Surrogate: o-Terphenyl	51.8		"	50.0		104	70-130			

Calibration Blank (P7K0611-CCB1)

Prepared & Analyzed: 11/06/17

C6-C12	24.9		mg/kg wet							
>C12-C28	6.33		"							
Surrogate: 1-Chlorooctane	93.8		"	100		93.8	70-130			
Surrogate: o-Terphenyl	58.4		"	50.0		117	70-130			

Calibration Blank (P7K0611-CCB2)

Prepared & Analyzed: 11/06/17

C6-C12	21.9		mg/kg wet							
>C12-C28	17.6		"							
Surrogate: 1-Chlorooctane	103		"	100		103	70-130			
Surrogate: o-Terphenyl	61.7		"	50.0		123	70-130			

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Midland TX, 79710

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K0611 - General Preparation (GC)

Calibration Check (P7K0611-CCV1)

Prepared & Analyzed: 11/06/17

C6-C12	493	25.0	mg/kg wet	500		98.6	85-115			
>C12-C28	516	25.0	"	500		103	85-115			
Surrogate: 1-Chlorooctane	110		"	100		110	70-130			
Surrogate: o-Terphenyl	59.1		"	50.0		118	70-130			

Calibration Check (P7K0611-CCV2)

Prepared & Analyzed: 11/06/17

C6-C12	524	25.0	mg/kg wet	500		105	85-115			
>C12-C28	542	25.0	"	500		108	85-115			
Surrogate: 1-Chlorooctane	120		"	100		120	70-130			
Surrogate: o-Terphenyl	62.0		"	50.0		124	70-130			

Calibration Check (P7K0611-CCV3)

Prepared: 11/06/17 Analyzed: 11/07/17

C6-C12	507	25.0	mg/kg wet	500		101	85-115			
>C12-C28	520	25.0	"	500		104	85-115			
Surrogate: 1-Chlorooctane	118		"	100		118	70-130			
Surrogate: o-Terphenyl	60.2		"	50.0		120	70-130			

Matrix Spike (P7K0611-MS1)

Source: 7K06003-02

Prepared: 11/06/17 Analyzed: 11/07/17

C6-C12	988	26.9	mg/kg dry	1080	25.2	89.6	75-125			
>C12-C28	1150	26.9	"	1080	61.0	101	75-125			
Surrogate: 1-Chlorooctane	136		"	108		127	70-130			
Surrogate: o-Terphenyl	76.3		"	53.8		142	70-130			S-GC

Matrix Spike Dup (P7K0611-MSD1)

Source: 7K06003-02

Prepared: 11/06/17 Analyzed: 11/07/17

C6-C12	999	26.9	mg/kg dry	1080	25.2	90.6	75-125	1.12	20	
>C12-C28	1170	26.9	"	1080	61.0	103	75-125	1.61	20	
Surrogate: 1-Chlorooctane	137		"	108		128	70-130			
Surrogate: o-Terphenyl	76.2		"	53.8		142	70-130			S-GC

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K0612 - General Preparation (GC)

Blank (P7K0612-BLK1)

Prepared: 11/06/17 Analyzed: 11/07/17

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	98.4		"	100		98.4	70-130			
Surrogate: o-Terphenyl	58.0		"	50.0		116	70-130			

LCS (P7K0612-BS1)

Prepared: 11/06/17 Analyzed: 11/07/17

C6-C12	965	25.0	mg/kg wet	1000		96.5	75-125			
>C12-C28	1040	25.0	"	1000		104	75-125			
Surrogate: 1-Chlorooctane	127		"	100		127	70-130			
Surrogate: o-Terphenyl	57.6		"	50.0		115	70-130			

LCS Dup (P7K0612-BSD1)

Prepared: 11/06/17 Analyzed: 11/07/17

C6-C12	1110	25.0	mg/kg wet	1000		111	75-125	13.9	20	
>C12-C28	1190	25.0	"	1000		119	75-125	13.7	20	
Surrogate: 1-Chlorooctane	119		"	100		119	70-130			
Surrogate: o-Terphenyl	67.4		"	50.0		135	70-130			S-GC

Calibration Blank (P7K0612-CCB1)

Prepared: 11/06/17 Analyzed: 11/07/17

C6-C12	22.4		mg/kg wet							
>C12-C28	14.1		"							
Surrogate: 1-Chlorooctane	101		"	100		101	70-130			
Surrogate: o-Terphenyl	60.4		"	50.0		121	70-130			

Calibration Blank (P7K0612-CCB2)

Prepared: 11/06/17 Analyzed: 11/07/17

C6-C12	20.2		mg/kg wet							
>C12-C28	23.4		"							
Surrogate: 1-Chlorooctane	105		"	100		105	70-130			
Surrogate: o-Terphenyl	62.1		"	50.0		124	70-130			

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K0612 - General Preparation (GC)

Calibration Check (P7K0612-CCV1)

Prepared: 11/06/17 Analyzed: 11/07/17

C6-C12	507	25.0	mg/kg wet	500		101	85-115			
>C12-C28	520	25.0	"	500		104	85-115			
Surrogate: 1-Chlorooctane	118		"	100		118	70-130			
Surrogate: o-Terphenyl	60.2		"	50.0		120	70-130			

Calibration Check (P7K0612-CCV2)

Prepared: 11/06/17 Analyzed: 11/07/17

C6-C12	536	25.0	mg/kg wet	500		107	85-115			
>C12-C28	534	25.0	"	500		107	85-115			
Surrogate: 1-Chlorooctane	125		"	100		125	70-130			
Surrogate: o-Terphenyl	63.8		"	50.0		128	70-130			

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Notes and Definitions

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

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

BULK Samples received in Bulk soil containers

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:



Date:

11/7/2017

Brent Barron, Laboratory Director/Technical Director

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

Permian Basin Environmental Lab, L.P.

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

Frozen

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



Analytical Report

Prepared for:

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

Project: Epperson Site 1
Project Number: 16-0120-01
Location:

Lab Order Number: 7K13001



NELAP/TCEQ # T104704516-16-7

Report Date: 11/15/17

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
NW (2) Ramp	7K13001-01	Soil	11/10/17 13:37	11-13-2017 10:00
NW (4) Ramp	7K13001-02	Soil	11/10/17 13:33	11-13-2017 10:00
NW (8) Ramp	7K13001-03	Soil	11/10/17 13:31	11-13-2017 10:00
NW (12) Ramp	7K13001-04	Soil	11/10/17 13:27	11-13-2017 10:00
NW (16) Ramp	7K13001-05	Soil	11/10/17 13:24	11-13-2017 10:00
NW (20) Ramp	7K13001-06	Soil	11/10/17 13:18	11-13-2017 10:00
NE (2) Ramp	7K13001-07	Soil	11/10/17 13:10	11-13-2017 10:00
NE (4) Ramp	7K13001-08	Soil	11/10/17 13:07	11-13-2017 10:00
NE (8) Ramp	7K13001-09	Soil	11/10/17 13:04	11-13-2017 10:00
NE (12) Ramp	7K13001-10	Soil	11/10/17 13:01	11-13-2017 10:00
NE (16) Ramp	7K13001-11	Soil	11/10/17 12:58	11-13-2017 10:00
NE (20) Ramp	7K13001-12	Soil	11/10/17 12:52	11-13-2017 10:00
SP-3 (Dirty)	7K13001-13	Soil	11/10/17 12:20	11-13-2017 10:00
SP-4 (Clean) South	7K13001-14	Soil	11/10/17 12:30	11-13-2017 10:00
SP-4 (Clean) North	7K13001-15	Soil	11/10/17 12:26	11-13-2017 10:00
SP-5 (Clean)	7K13001-16	Soil	11/10/17 12:40	11-13-2017 10:00
SP-6 (Dirty)	7K13001-17	Soil	11/10/17 12:42	11-13-2017 10:00

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

NW (2) Ramp
7K13001-01 (Soil)

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

Organics by GC

Benzene	ND	0.00108	mg/kg dry	1	P7K1305	11/13/17	11/14/17	EPA 8021B	
Toluene	ND	0.00215	mg/kg dry	1	P7K1305	11/13/17	11/14/17	EPA 8021B	
Ethylbenzene	ND	0.00108	mg/kg dry	1	P7K1305	11/13/17	11/14/17	EPA 8021B	
Xylene (p/m)	ND	0.00215	mg/kg dry	1	P7K1305	11/13/17	11/14/17	EPA 8021B	
Xylene (o)	ND	0.00108	mg/kg dry	1	P7K1305	11/13/17	11/14/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		128 %	75-125		P7K1305	11/13/17	11/14/17	EPA 8021B	S-GC
Surrogate: 1,4-Difluorobenzene		109 %	75-125		P7K1305	11/13/17	11/14/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	23.6	1.08	mg/kg dry	1	P7K1308	11/13/17	11/14/17	EPA 300.0	
% Moisture	7.0	0.1	%	1	P7K1402	11/14/17	11/14/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.9	mg/kg dry	1	P7K1309	11/13/17	11/13/17	TPH 8015M	
>C12-C28	ND	26.9	mg/kg dry	1	P7K1309	11/13/17	11/13/17	TPH 8015M	
>C28-C35	ND	26.9	mg/kg dry	1	P7K1309	11/13/17	11/13/17	TPH 8015M	
Surrogate: 1-Chlorooctane		127 %	70-130		P7K1309	11/13/17	11/13/17	TPH 8015M	
Surrogate: o-Terphenyl		142 %	70-130		P7K1309	11/13/17	11/13/17	TPH 8015M	S-GC
Total Petroleum Hydrocarbon C6-C35	ND	26.9	mg/kg dry	1	[CALC]	11/13/17	11/13/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

NW (4) Ramp
7K13001-02 (Soil)

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

Organics by GC

Benzene	ND	0.00109	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Toluene	ND	0.00217	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Ethylbenzene	ND	0.00109	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (p/m)	ND	0.00217	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (o)	ND	0.00109	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		105 %	75-125		P7K1312	11/13/17	11/14/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		88.2 %	75-125		P7K1312	11/13/17	11/14/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	46.8	1.09	mg/kg dry	1	P7K1308	11/13/17	11/14/17	EPA 300.0	
% Moisture	8.0	0.1	%	1	P7K1402	11/14/17	11/14/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.2	mg/kg dry	1	P7K1309	11/13/17	11/13/17	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P7K1309	11/13/17	11/13/17	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P7K1309	11/13/17	11/13/17	TPH 8015M	
Surrogate: 1-Chlorooctane		120 %	70-130		P7K1309	11/13/17	11/13/17	TPH 8015M	
Surrogate: o-Terphenyl		130 %	70-130		P7K1309	11/13/17	11/13/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	11/13/17	11/13/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

NW (8) Ramp
7K13001-03 (Soil)

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

Organics by GC

Benzene	ND	0.00108	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Toluene	ND	0.00215	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Ethylbenzene	ND	0.00108	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (p/m)	ND	0.00215	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (o)	ND	0.00108	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		87.8 %	75-125		P7K1312	11/13/17	11/14/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		98.2 %	75-125		P7K1312	11/13/17	11/14/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	19.2	1.08	mg/kg dry	1	P7K1308	11/13/17	11/14/17	EPA 300.0	
% Moisture	7.0	0.1	%	1	P7K1402	11/14/17	11/14/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.9	mg/kg dry	1	P7K1309	11/13/17	11/13/17	TPH 8015M	
>C12-C28	ND	26.9	mg/kg dry	1	P7K1309	11/13/17	11/13/17	TPH 8015M	
>C28-C35	ND	26.9	mg/kg dry	1	P7K1309	11/13/17	11/13/17	TPH 8015M	
Surrogate: 1-Chlorooctane		122 %	70-130		P7K1309	11/13/17	11/13/17	TPH 8015M	
Surrogate: o-Terphenyl		133 %	70-130		P7K1309	11/13/17	11/13/17	TPH 8015M	S-GC
Total Petroleum Hydrocarbon C6-C35	ND	26.9	mg/kg dry	1	[CALC]	11/13/17	11/13/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

NW (12) Ramp
7K13001-04 (Soil)

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

Organics by GC

Benzene	ND	0.00114	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Toluene	ND	0.00227	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Ethylbenzene	ND	0.00114	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (p/m)	ND	0.00227	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (o)	ND	0.00114	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		110 %	75-125		P7K1312	11/13/17	11/14/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		101 %	75-125		P7K1312	11/13/17	11/14/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	75.7	1.14	mg/kg dry	1	P7K1308	11/13/17	11/14/17	EPA 300.0	
% Moisture	12.0	0.1	%	1	P7K1402	11/14/17	11/14/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	28.4	mg/kg dry	1	P7K1309	11/13/17	11/13/17	TPH 8015M	
>C12-C28	ND	28.4	mg/kg dry	1	P7K1309	11/13/17	11/13/17	TPH 8015M	
>C28-C35	ND	28.4	mg/kg dry	1	P7K1309	11/13/17	11/13/17	TPH 8015M	
Surrogate: 1-Chlorooctane		130 %	70-130		P7K1309	11/13/17	11/13/17	TPH 8015M	
Surrogate: o-Terphenyl		146 %	70-130		P7K1309	11/13/17	11/13/17	TPH 8015M	S-GC
Total Petroleum Hydrocarbon C6-C35	ND	28.4	mg/kg dry	1	[CALC]	11/13/17	11/13/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

NW (16) Ramp
7K13001-05 (Soil)

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

Organics by GC

Benzene	ND	0.00106	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Toluene	ND	0.00213	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Ethylbenzene	ND	0.00106	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (p/m)	ND	0.00213	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (o)	ND	0.00106	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		105 %	75-125		P7K1312	11/13/17	11/14/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		91.1 %	75-125		P7K1312	11/13/17	11/14/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	124	1.06	mg/kg dry	1	P7K1308	11/13/17	11/14/17	EPA 300.0	
% Moisture	6.0	0.1	%	1	P7K1402	11/14/17	11/14/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.6	mg/kg dry	1	P7K1309	11/13/17	11/13/17	TPH 8015M	
>C12-C28	ND	26.6	mg/kg dry	1	P7K1309	11/13/17	11/13/17	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P7K1309	11/13/17	11/13/17	TPH 8015M	
Surrogate: 1-Chlorooctane		123 %	70-130		P7K1309	11/13/17	11/13/17	TPH 8015M	
Surrogate: o-Terphenyl		136 %	70-130		P7K1309	11/13/17	11/13/17	TPH 8015M	S-GC
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	11/13/17	11/13/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

NW (20) Ramp
7K13001-06 (Soil)

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

Organics by GC

Benzene	ND	0.0211	mg/kg dry	20	P7K1312	11/13/17	11/14/17	EPA 8021B	
Toluene	ND	0.0421	mg/kg dry	20	P7K1312	11/13/17	11/14/17	EPA 8021B	
Ethylbenzene	ND	0.0211	mg/kg dry	20	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (p/m)	ND	0.0421	mg/kg dry	20	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (o)	ND	0.0211	mg/kg dry	20	P7K1312	11/13/17	11/14/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		85.7 %	75-125		P7K1312	11/13/17	11/14/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		102 %	75-125		P7K1312	11/13/17	11/14/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	117	1.05	mg/kg dry	1	P7K1308	11/13/17	11/14/17	EPA 300.0	
% Moisture	5.0	0.1	%	1	P7K1402	11/14/17	11/14/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.3	mg/kg dry	1	P7K1309	11/13/17	11/13/17	TPH 8015M	
>C12-C28	ND	26.3	mg/kg dry	1	P7K1309	11/13/17	11/13/17	TPH 8015M	
>C28-C35	ND	26.3	mg/kg dry	1	P7K1309	11/13/17	11/13/17	TPH 8015M	
Surrogate: 1-Chlorooctane		122 %	70-130		P7K1309	11/13/17	11/13/17	TPH 8015M	
Surrogate: o-Terphenyl		135 %	70-130		P7K1309	11/13/17	11/13/17	TPH 8015M	S-GC
Total Petroleum Hydrocarbon C6-C35	ND	26.3	mg/kg dry	1	[CALC]	11/13/17	11/13/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

NE (2) Ramp
7K13001-07 (Soil)

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

Organics by GC

Benzene	ND	0.00104	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Toluene	ND	0.00208	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Ethylbenzene	ND	0.00104	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (p/m)	ND	0.00208	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (o)	ND	0.00104	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		84.2 %	75-125		P7K1312	11/13/17	11/14/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		101 %	75-125		P7K1312	11/13/17	11/14/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	24.6	1.04	mg/kg dry	1	P7K1308	11/13/17	11/14/17	EPA 300.0	
% Moisture	4.0	0.1	%	1	P7K1402	11/14/17	11/14/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.0	mg/kg dry	1	P7K1309	11/13/17	11/13/17	TPH 8015M	
>C12-C28	ND	26.0	mg/kg dry	1	P7K1309	11/13/17	11/13/17	TPH 8015M	
>C28-C35	ND	26.0	mg/kg dry	1	P7K1309	11/13/17	11/13/17	TPH 8015M	
Surrogate: 1-Chlorooctane		126 %	70-130		P7K1309	11/13/17	11/13/17	TPH 8015M	
Surrogate: o-Terphenyl		139 %	70-130		P7K1309	11/13/17	11/13/17	TPH 8015M	S-GC
Total Petroleum Hydrocarbon C6-C35	ND	26.0	mg/kg dry	1	[CALC]	11/13/17	11/13/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

NE (4) Ramp
7K13001-08 (Soil)

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

Organics by GC

Benzene	ND	0.00105	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Toluene	ND	0.00211	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Ethylbenzene	ND	0.00105	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (p/m)	ND	0.00211	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (o)	ND	0.00105	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		113 %	75-125		P7K1312	11/13/17	11/14/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		92.3 %	75-125		P7K1312	11/13/17	11/14/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	28.9	1.05	mg/kg dry	1	P7K1308	11/13/17	11/14/17	EPA 300.0	
% Moisture	5.0	0.1	%	1	P7K1402	11/14/17	11/14/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.3	mg/kg dry	1	P7K1309	11/13/17	11/13/17	TPH 8015M	
>C12-C28	ND	26.3	mg/kg dry	1	P7K1309	11/13/17	11/13/17	TPH 8015M	
>C28-C35	ND	26.3	mg/kg dry	1	P7K1309	11/13/17	11/13/17	TPH 8015M	
Surrogate: 1-Chlorooctane		124 %	70-130		P7K1309	11/13/17	11/13/17	TPH 8015M	
Surrogate: o-Terphenyl		136 %	70-130		P7K1309	11/13/17	11/13/17	TPH 8015M	S-GC
Total Petroleum Hydrocarbon C6-C35	ND	26.3	mg/kg dry	1	[CALC]	11/13/17	11/13/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

NE (8) Ramp
7K13001-09 (Soil)

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

Organics by GC

Benzene	ND	0.00106	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Toluene	ND	0.00213	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Ethylbenzene	ND	0.00106	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (p/m)	ND	0.00213	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (o)	ND	0.00106	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		127 %	75-125		P7K1312	11/13/17	11/14/17	EPA 8021B	S-GC
Surrogate: 1,4-Difluorobenzene		95.4 %	75-125		P7K1312	11/13/17	11/14/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	12.6	1.06	mg/kg dry	1	P7K1308	11/13/17	11/14/17	EPA 300.0	
% Moisture	6.0	0.1	%	1	P7K1402	11/14/17	11/14/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.6	mg/kg dry	1	P7K1309	11/13/17	11/14/17	TPH 8015M	
>C12-C28	ND	26.6	mg/kg dry	1	P7K1309	11/13/17	11/14/17	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P7K1309	11/13/17	11/14/17	TPH 8015M	
Surrogate: 1-Chlorooctane		125 %	70-130		P7K1309	11/13/17	11/14/17	TPH 8015M	
Surrogate: o-Terphenyl		138 %	70-130		P7K1309	11/13/17	11/14/17	TPH 8015M	S-GC
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	11/13/17	11/14/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

NE (12) Ramp
7K13001-10 (Soil)

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

Organics by GC

Benzene	ND	0.00106	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Toluene	ND	0.00213	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Ethylbenzene	ND	0.00106	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (p/m)	ND	0.00213	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (o)	ND	0.00106	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		111 %	75-125		P7K1312	11/13/17	11/14/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		127 %	75-125		P7K1312	11/13/17	11/14/17	EPA 8021B	S-GC

General Chemistry Parameters by EPA / Standard Methods

Chloride	ND	1.06	mg/kg dry	1	P7K1313	11/13/17	11/15/17	EPA 300.0	
% Moisture	6.0	0.1	%	1	P7K1402	11/14/17	11/14/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.6	mg/kg dry	1	P7K1309	11/13/17	11/14/17	TPH 8015M	
>C12-C28	ND	26.6	mg/kg dry	1	P7K1309	11/13/17	11/14/17	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P7K1309	11/13/17	11/14/17	TPH 8015M	
Surrogate: 1-Chlorooctane		127 %	70-130		P7K1309	11/13/17	11/14/17	TPH 8015M	
Surrogate: o-Terphenyl		139 %	70-130		P7K1309	11/13/17	11/14/17	TPH 8015M	S-GC
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	11/13/17	11/14/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

NE (16) Ramp
7K13001-11 (Soil)

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

Organics by GC

Benzene	ND	0.00110	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Toluene	ND	0.00220	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Ethylbenzene	ND	0.00110	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (p/m)	ND	0.00220	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (o)	ND	0.00110	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		116 %	75-125		P7K1312	11/13/17	11/14/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		84.7 %	75-125		P7K1312	11/13/17	11/14/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	ND	1.10	mg/kg dry	1	P7K1313	11/13/17	11/15/17	EPA 300.0	
% Moisture	9.0	0.1	%	1	P7K1402	11/14/17	11/14/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.5	mg/kg dry	1	P7K1309	11/13/17	11/14/17	TPH 8015M	
>C12-C28	ND	27.5	mg/kg dry	1	P7K1309	11/13/17	11/14/17	TPH 8015M	
>C28-C35	ND	27.5	mg/kg dry	1	P7K1309	11/13/17	11/14/17	TPH 8015M	
Surrogate: 1-Chlorooctane		125 %	70-130		P7K1309	11/13/17	11/14/17	TPH 8015M	
Surrogate: o-Terphenyl		137 %	70-130		P7K1309	11/13/17	11/14/17	TPH 8015M	S-GC
Total Petroleum Hydrocarbon C6-C35	ND	27.5	mg/kg dry	1	[CALC]	11/13/17	11/14/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

NE (20) Ramp
7K13001-12 (Soil)

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

Organics by GC

Benzene	ND	0.0217	mg/kg dry	20	P7K1312	11/13/17	11/14/17	EPA 8021B	
Toluene	ND	0.0435	mg/kg dry	20	P7K1312	11/13/17	11/14/17	EPA 8021B	
Ethylbenzene	ND	0.0217	mg/kg dry	20	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (p/m)	ND	0.0435	mg/kg dry	20	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (o)	ND	0.0217	mg/kg dry	20	P7K1312	11/13/17	11/14/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		106 %	75-125		P7K1312	11/13/17	11/14/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		84.5 %	75-125		P7K1312	11/13/17	11/14/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	116	1.09	mg/kg dry	1	P7K1313	11/13/17	11/15/17	EPA 300.0	
% Moisture	8.0	0.1	%	1	P7K1402	11/14/17	11/14/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.2	mg/kg dry	1	P7K1309	11/13/17	11/14/17	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P7K1309	11/13/17	11/14/17	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P7K1309	11/13/17	11/14/17	TPH 8015M	
Surrogate: 1-Chlorooctane		124 %	70-130		P7K1309	11/13/17	11/14/17	TPH 8015M	
Surrogate: o-Terphenyl		137 %	70-130		P7K1309	11/13/17	11/14/17	TPH 8015M	S-GC
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	11/13/17	11/14/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SP-3 (Dirty)
7K13001-13 (Soil)

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

Organics by GC

Benzene	ND	0.0215	mg/kg dry	20	P7K1312	11/13/17	11/14/17	EPA 8021B	
Toluene	ND	0.0430	mg/kg dry	20	P7K1312	11/13/17	11/14/17	EPA 8021B	
Ethylbenzene	ND	0.0215	mg/kg dry	20	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (p/m)	ND	0.0430	mg/kg dry	20	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (o)	ND	0.0215	mg/kg dry	20	P7K1312	11/13/17	11/14/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		103 %	75-125		P7K1312	11/13/17	11/14/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		126 %	75-125		P7K1312	11/13/17	11/14/17	EPA 8021B	S-GC

General Chemistry Parameters by EPA / Standard Methods

Chloride	188	1.08	mg/kg dry	1	P7K1313	11/13/17	11/15/17	EPA 300.0	
% Moisture	7.0	0.1	%	1	P7K1402	11/14/17	11/14/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.9	mg/kg dry	1	P7K1309	11/13/17	11/14/17	TPH 8015M	
>C12-C28	ND	26.9	mg/kg dry	1	P7K1309	11/13/17	11/14/17	TPH 8015M	
>C28-C35	ND	26.9	mg/kg dry	1	P7K1309	11/13/17	11/14/17	TPH 8015M	
Surrogate: 1-Chlorooctane		127 %	70-130		P7K1309	11/13/17	11/14/17	TPH 8015M	
Surrogate: o-Terphenyl		141 %	70-130		P7K1309	11/13/17	11/14/17	TPH 8015M	S-GC
Total Petroleum Hydrocarbon C6-C35	ND	26.9	mg/kg dry	1	[CALC]	11/13/17	11/14/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SP-4 (Clean) South
7K13001-14 (Soil)

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

Organics by GC

Benzene	ND	0.00105	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Toluene	ND	0.00211	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Ethylbenzene	ND	0.00105	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (p/m)	ND	0.00211	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (o)	ND	0.00105	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		77.5 %	75-125		P7K1312	11/13/17	11/14/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		97.3 %	75-125		P7K1312	11/13/17	11/14/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	21.8	1.05	mg/kg dry	1	P7K1313	11/13/17	11/15/17	EPA 300.0	
% Moisture	5.0	0.1	%	1	P7K1402	11/14/17	11/14/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.3	mg/kg dry	1	P7K1309	11/13/17	11/14/17	TPH 8015M	
>C12-C28	ND	26.3	mg/kg dry	1	P7K1309	11/13/17	11/14/17	TPH 8015M	
>C28-C35	ND	26.3	mg/kg dry	1	P7K1309	11/13/17	11/14/17	TPH 8015M	
Surrogate: 1-Chlorooctane		124 %	70-130		P7K1309	11/13/17	11/14/17	TPH 8015M	
Surrogate: o-Terphenyl		136 %	70-130		P7K1309	11/13/17	11/14/17	TPH 8015M	S-GC
Total Petroleum Hydrocarbon C6-C35	ND	26.3	mg/kg dry	1	[CALC]	11/13/17	11/14/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SP-4 (Clean) North
7K13001-15 (Soil)

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

Organics by GC

Benzene	ND	0.00106	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Toluene	ND	0.00213	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Ethylbenzene	ND	0.00106	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (p/m)	ND	0.00213	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (o)	ND	0.00106	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		103 %	75-125		P7K1312	11/13/17	11/14/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		127 %	75-125		P7K1312	11/13/17	11/14/17	EPA 8021B	S-GC

General Chemistry Parameters by EPA / Standard Methods

Chloride	34.7	1.06	mg/kg dry	1	P7K1313	11/13/17	11/15/17	EPA 300.0	
% Moisture	6.0	0.1	%	1	P7K1402	11/14/17	11/14/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.6	mg/kg dry	1	P7K1309	11/13/17	11/14/17	TPH 8015M	
>C12-C28	ND	26.6	mg/kg dry	1	P7K1309	11/13/17	11/14/17	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P7K1309	11/13/17	11/14/17	TPH 8015M	
Surrogate: 1-Chlorooctane		120 %	70-130		P7K1309	11/13/17	11/14/17	TPH 8015M	
Surrogate: o-Terphenyl		135 %	70-130		P7K1309	11/13/17	11/14/17	TPH 8015M	S-GC
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	11/13/17	11/14/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SP-5 (Clean)
7K13001-16 (Soil)

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

Organics by GC

Benzene	ND	0.00109	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Toluene	ND	0.00217	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Ethylbenzene	ND	0.00109	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (p/m)	ND	0.00217	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (o)	ND	0.00109	mg/kg dry	1	P7K1312	11/13/17	11/14/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		104 %	75-125		P7K1312	11/13/17	11/14/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		78.9 %	75-125		P7K1312	11/13/17	11/14/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	56.7	1.09	mg/kg dry	1	P7K1313	11/13/17	11/15/17	EPA 300.0	
% Moisture	8.0	0.1	%	1	P7K1402	11/14/17	11/14/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.2	mg/kg dry	1	P7K1309	11/13/17	11/14/17	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P7K1309	11/13/17	11/14/17	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P7K1309	11/13/17	11/14/17	TPH 8015M	
Surrogate: 1-Chlorooctane		124 %	70-130		P7K1309	11/13/17	11/14/17	TPH 8015M	
Surrogate: o-Terphenyl		138 %	70-130		P7K1309	11/13/17	11/14/17	TPH 8015M	S-GC
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	11/13/17	11/14/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SP-6 (Dirty)
7K13001-17 (Soil)

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

Organics by GC

Benzene	ND	0.0220	mg/kg dry	20	P7K1312	11/13/17	11/14/17	EPA 8021B	
Toluene	0.275	0.0440	mg/kg dry	20	P7K1312	11/13/17	11/14/17	EPA 8021B	
Ethylbenzene	1.76	0.0220	mg/kg dry	20	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (p/m)	3.60	0.0440	mg/kg dry	20	P7K1312	11/13/17	11/14/17	EPA 8021B	
Xylene (o)	1.69	0.0220	mg/kg dry	20	P7K1312	11/13/17	11/14/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		95.2 %		75-125	P7K1312	11/13/17	11/14/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		93.0 %		75-125	P7K1312	11/13/17	11/14/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	442	5.49	mg/kg dry	5	P7K1313	11/13/17	11/15/17	EPA 300.0	
% Moisture	9.0	0.1	%	1	P7K1402	11/14/17	11/14/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	144	27.5	mg/kg dry	1	P7K1309	11/13/17	11/14/17	TPH 8015M	
>C12-C28	72.9	27.5	mg/kg dry	1	P7K1309	11/13/17	11/14/17	TPH 8015M	
>C28-C35	ND	27.5	mg/kg dry	1	P7K1309	11/13/17	11/14/17	TPH 8015M	
Surrogate: 1-Chlorooctane		128 %		70-130	P7K1309	11/13/17	11/14/17	TPH 8015M	
Surrogate: o-Terphenyl		156 %		70-130	P7K1309	11/13/17	11/14/17	TPH 8015M	S-GC
Total Petroleum Hydrocarbon C6-C35	217	27.5	mg/kg dry	1	[CALC]	11/13/17	11/14/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K1305 - General Preparation (GC)

Blank (P7K1305-BLK1)

Prepared & Analyzed: 11/13/17

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	0.0623		"	0.0600		104	75-125			
Surrogate: 4-Bromofluorobenzene	0.0676		"	0.0600		113	75-125			

LCS (P7K1305-BS1)

Prepared & Analyzed: 11/13/17

Benzene	0.116	0.00100	mg/kg wet	0.100		116	70-130			
Toluene	0.114	0.00200	"	0.100		114	70-130			
Ethylbenzene	0.117	0.00100	"	0.100		117	70-130			
Xylene (p/m)	0.220	0.00200	"				70-130			
Xylene (o)	0.117	0.00100	"				70-130			
Surrogate: 4-Bromofluorobenzene	0.0671		"	0.0600		112	75-125			
Surrogate: 1,4-Difluorobenzene	0.0673		"	0.0600		112	75-125			

LCS Dup (P7K1305-BSD1)

Prepared & Analyzed: 11/13/17

Benzene	0.113	0.00100	mg/kg wet	0.100		113	70-130	2.43	20	
Toluene	0.110	0.00200	"	0.100		110	70-130	3.55	20	
Ethylbenzene	0.113	0.00100	"	0.100		113	70-130	2.76	20	
Xylene (p/m)	0.214	0.00200	"				70-130		20	
Xylene (o)	0.120	0.00100	"				70-130		20	
Surrogate: 1,4-Difluorobenzene	0.0614		"	0.0600		102	75-125			
Surrogate: 4-Bromofluorobenzene	0.0696		"	0.0600		116	75-125			

Calibration Blank (P7K1305-CCB1)

Prepared & Analyzed: 11/13/17

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	0.0538		"	0.0600		89.6	75-125			
Surrogate: 4-Bromofluorobenzene	0.0595		"	0.0600		99.1	75-125			

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K1305 - General Preparation (GC)

Calibration Blank (P7K1305-CCB2)

Prepared & Analyzed: 11/13/17

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	0.0557		"	0.0600		92.8	75-125			
Surrogate: 4-Bromofluorobenzene	0.0650		"	0.0600		108	75-125			

Calibration Check (P7K1305-CCV1)

Prepared & Analyzed: 11/13/17

Benzene	0.119	0.00100	mg/kg wet	0.100		119	80-120			
Toluene	0.118	0.00200	"	0.100		118	80-120			
Ethylbenzene	0.115	0.00100	"	0.100		115	80-120			
Xylene (p/m)	0.216	0.00200	"	0.200		108	80-120			
Xylene (o)	0.119	0.00100	"	0.100		119	80-120			
Surrogate: 4-Bromofluorobenzene	0.0693		"	0.0600		115	75-125			
Surrogate: 1,4-Difluorobenzene	0.0672		"	0.0600		112	75-125			

Calibration Check (P7K1305-CCV2)

Prepared & Analyzed: 11/13/17

Benzene	0.106	0.00100	mg/kg wet	0.100		106	80-120			
Toluene	0.100	0.00200	"	0.100		100	80-120			
Ethylbenzene	0.105	0.00100	"	0.100		105	80-120			
Xylene (p/m)	0.211	0.00200	"	0.200		105	80-120			
Xylene (o)	0.117	0.00100	"	0.100		117	80-120			
Surrogate: 1,4-Difluorobenzene	0.0593		"	0.0600		98.8	75-125			
Surrogate: 4-Bromofluorobenzene	0.0633		"	0.0600		105	75-125			

Calibration Check (P7K1305-CCV3)

Prepared: 11/13/17 Analyzed: 11/14/17

Benzene	0.106	0.00100	mg/kg wet	0.100		106	80-120			
Toluene	0.106	0.00200	"	0.100		106	80-120			
Ethylbenzene	0.110	0.00100	"	0.100		110	80-120			
Xylene (p/m)	0.214	0.00200	"	0.200		107	80-120			
Xylene (o)	0.114	0.00100	"	0.100		114	80-120			
Surrogate: 4-Bromofluorobenzene	0.0845		"	0.0600		141	75-125			S-GC
Surrogate: 1,4-Difluorobenzene	0.0653		"	0.0600		109	75-125			

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K1305 - General Preparation (GC)

Matrix Spike (P7K1305-MS1)		Source: 7K13003-02		Prepared: 11/13/17		Analyzed: 11/14/17				
Benzene	0.0926	0.00112	mg/kg dry	0.112	ND	82.4	80-120			
Toluene	0.0934	0.00225	"	0.112	ND	83.1	80-120			
Ethylbenzene	0.108	0.00112	"	0.112	ND	96.0	80-120			
Xylene (p/m)	0.207	0.00225	"		ND		80-120			
Xylene (o)	0.0956	0.00112	"		ND		80-120			
Surrogate: 1,4-Difluorobenzene	0.0725		"	0.0674		108	75-125			
Surrogate: 4-Bromofluorobenzene	0.0820		"	0.0674		122	75-125			

Matrix Spike Dup (P7K1305-MSD1)		Source: 7K13003-02		Prepared: 11/13/17		Analyzed: 11/14/17				
Benzene	0.120	0.00112	mg/kg dry	0.112	ND	106	80-120	25.4	20	QM-05
Toluene	0.119	0.00225	"	0.112	ND	106	80-120	24.0	20	QM-05
Ethylbenzene	0.124	0.00112	"	0.112	ND	110	80-120	13.8	20	
Xylene (p/m)	0.240	0.00225	"		ND		80-120		20	
Xylene (o)	0.128	0.00112	"		ND		80-120		20	
Surrogate: 4-Bromofluorobenzene	0.0949		"	0.0674		141	75-125			S-GC
Surrogate: 1,4-Difluorobenzene	0.0734		"	0.0674		109	75-125			

Batch P7K1312 - General Preparation (GC)

Blank (P7K1312-BLK1)				Prepared: 11/13/17		Analyzed: 11/14/17				
Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 4-Bromofluorobenzene	0.0560		"	0.0600		93.4	75-125			
Surrogate: 1,4-Difluorobenzene	0.0502		"	0.0600		83.6	75-125			

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K1312 - General Preparation (GC)

LCS (P7K1312-BS1)

Prepared: 11/13/17 Analyzed: 11/14/17

Benzene	0.100	0.00100	mg/kg wet	0.100		100	70-130			
Toluene	0.102	0.00200	"	0.100		102	70-130			
Ethylbenzene	0.112	0.00100	"	0.100		112	70-130			
Xylene (p/m)	0.215	0.00200	"				70-130			
Xylene (o)	0.108	0.00100	"				70-130			
Surrogate: 4-Bromofluorobenzene	0.0638		"	0.0600		106	75-125			
Surrogate: 1,4-Difluorobenzene	0.0608		"	0.0600		101	75-125			

LCS Dup (P7K1312-BSD1)

Prepared: 11/13/17 Analyzed: 11/14/17

Benzene	0.0890	0.00100	mg/kg wet	0.100		89.0	70-130	11.8	20	
Toluene	0.0864	0.00200	"	0.100		86.4	70-130	16.5	20	
Ethylbenzene	0.109	0.00100	"	0.100		109	70-130	3.23	20	
Xylene (p/m)	0.195	0.00200	"				70-130		20	
Xylene (o)	0.101	0.00100	"				70-130		20	
Surrogate: 1,4-Difluorobenzene	0.0614		"	0.0600		102	75-125			
Surrogate: 4-Bromofluorobenzene	0.0530		"	0.0600		88.3	75-125			

Calibration Blank (P7K1312-CCB1)

Prepared: 11/13/17 Analyzed: 11/14/17

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	0.0617		"	0.0600		103	75-125			
Surrogate: 4-Bromofluorobenzene	0.0695		"	0.0600		116	75-125			

Calibration Blank (P7K1312-CCB2)

Prepared: 11/13/17 Analyzed: 11/14/17

Benzene	0.00		mg/kg wet							
Toluene	0.00		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.00		"							
Xylene (o)	0.00		"							
Surrogate: 4-Bromofluorobenzene	0.0673		"	0.0600		112	75-125			
Surrogate: 1,4-Difluorobenzene	0.0572		"	0.0600		95.2	75-125			

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K1312 - General Preparation (GC)

Calibration Check (P7K1312-CCV1)

Prepared: 11/13/17 Analyzed: 11/14/17

Benzene	0.117	0.00100	mg/kg wet	0.100		117	80-120			
Toluene	0.110	0.00200	"	0.100		110	80-120			
Ethylbenzene	0.113	0.00100	"	0.100		113	80-120			
Xylene (p/m)	0.218	0.00200	"	0.200		109	80-120			
Xylene (o)	0.119	0.00100	"	0.100		119	80-120			
Surrogate: 1,4-Difluorobenzene	0.0682		"	0.0600		114	75-125			
Surrogate: 4-Bromofluorobenzene	0.0710		"	0.0600		118	75-125			

Calibration Check (P7K1312-CCV2)

Prepared: 11/13/17 Analyzed: 11/14/17

Benzene	0.0918	0.00100	mg/kg wet	0.100		91.8	80-120			
Toluene	0.0903	0.00200	"	0.100		90.3	80-120			
Ethylbenzene	0.0927	0.00100	"	0.100		92.7	80-120			
Xylene (p/m)	0.199	0.00200	"	0.200		99.7	80-120			
Xylene (o)	0.105	0.00100	"	0.100		105	80-120			
Surrogate: 4-Bromofluorobenzene	0.0593		"	0.0600		98.9	75-125			
Surrogate: 1,4-Difluorobenzene	0.0572		"	0.0600		95.3	75-125			

Calibration Check (P7K1312-CCV3)

Prepared: 11/13/17 Analyzed: 11/14/17

Benzene	0.107	0.00100	mg/kg wet	0.100		107	80-120			
Toluene	0.102	0.00200	"	0.100		102	80-120			
Ethylbenzene	0.108	0.00100	"	0.100		108	80-120			
Xylene (p/m)	0.212	0.00200	"	0.200		106	80-120			
Xylene (o)	0.116	0.00100	"	0.100		116	80-120			
Surrogate: 4-Bromofluorobenzene	0.0695		"	0.0600		116	75-125			
Surrogate: 1,4-Difluorobenzene	0.0638		"	0.0600		106	75-125			

Matrix Spike (P7K1312-MS1)

Source: 7K13001-02

Prepared: 11/13/17 Analyzed: 11/14/17

Benzene	0.0981	0.00109	mg/kg dry	0.109	ND	90.3	80-120			
Toluene	0.0954	0.00217	"	0.109	ND	87.8	80-120			
Ethylbenzene	0.120	0.00109	"	0.109	ND	111	80-120			
Xylene (p/m)	0.215	0.00217	"		ND		80-120			
Xylene (o)	0.108	0.00109	"		ND		80-120			
Surrogate: 1,4-Difluorobenzene	0.0689		"	0.0652		106	75-125			
Surrogate: 4-Bromofluorobenzene	0.0701		"	0.0652		107	75-125			

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K1312 - General Preparation (GC)

Matrix Spike Dup (P7K1312-MSD1)

Source: 7K13001-02

Prepared: 11/13/17 Analyzed: 11/14/17

Benzene	0.0923	0.00109	mg/kg dry	0.109	ND	84.9	80-120	6.09	20	
Toluene	0.0970	0.00217	"	0.109	ND	89.2	80-120	1.62	20	
Ethylbenzene	0.130	0.00109	"	0.109	ND	120	80-120	8.19	20	
Xylene (p/m)	0.226	0.00217	"		ND		80-120		20	
Xylene (o)	0.119	0.00109	"		ND		80-120		20	
Surrogate: 4-Bromofluorobenzene	0.0768		"	0.0652		118	75-125			
Surrogate: 1,4-Difluorobenzene	0.0684		"	0.0652		105	75-125			

Permian Basin Environmental Lab, L.P.

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K1308 - * DEFAULT PREP *****

Blank (P7K1308-BLK1)				Prepared: 11/13/17 Analyzed: 11/14/17						
Chloride	ND	1.00	mg/kg wet							
LCS (P7K1308-BS1)				Prepared: 11/13/17 Analyzed: 11/14/17						
Chloride	422	1.00	mg/kg wet	400		106	80-120			
LCS Dup (P7K1308-BSD1)				Prepared: 11/13/17 Analyzed: 11/14/17						
Chloride	421	1.00	mg/kg wet	400		105	80-120	0.332	20	
Duplicate (P7K1308-DUP1)				Source: 7K13003-08		Prepared: 11/13/17 Analyzed: 11/14/17				
Chloride	166	1.12	mg/kg dry		164			1.31	20	
Duplicate (P7K1308-DUP2)				Source: 7K13003-18		Prepared: 11/13/17 Analyzed: 11/14/17				
Chloride	122	1.16	mg/kg dry		120			1.47	20	
Matrix Spike (P7K1308-MS1)				Source: 7K13003-08		Prepared: 11/13/17 Analyzed: 11/14/17				
Chloride	1290	1.12	mg/kg dry	1120	164	100	80-120			

Batch P7K1313 - * DEFAULT PREP *****

Blank (P7K1313-BLK1)				Prepared: 11/13/17 Analyzed: 11/15/17						
Chloride	ND	1.00	mg/kg wet							
LCS (P7K1313-BS1)				Prepared: 11/13/17 Analyzed: 11/15/17						
Chloride	347	1.00	mg/kg wet	400		86.8	80-120			
LCS Dup (P7K1313-BSD1)				Prepared: 11/13/17 Analyzed: 11/15/17						
Chloride	364	1.00	mg/kg wet	400		90.9	80-120	4.60	20	

Permian Basin Environmental Lab, L.P.

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K1313 - * DEFAULT PREP *****

Duplicate (P7K1313-DUP1)	Source: 7K13001-10		Prepared: 11/13/17 Analyzed: 11/15/17							
Chloride	ND	1.06	mg/kg dry		ND				20	
Duplicate (P7K1313-DUP2)	Source: 7K13002-03		Prepared: 11/13/17 Analyzed: 11/15/17							
Chloride	ND	1.09	mg/kg dry		ND				20	
Matrix Spike (P7K1313-MS1)	Source: 7K13001-10		Prepared: 11/13/17 Analyzed: 11/15/17							
Chloride	1150	1.06	mg/kg dry	1060	ND	108	80-120			

Batch P7K1402 - * DEFAULT PREP *****

Blank (P7K1402-BLK1)	Prepared & Analyzed: 11/14/17									
% Moisture	ND	0.1	%							
Duplicate (P7K1402-DUP1)	Source: 7K10007-26		Prepared & Analyzed: 11/14/17							
% Moisture	9.0	0.1	%		9.0			0.00	20	
Duplicate (P7K1402-DUP2)	Source: 7K13003-05		Prepared & Analyzed: 11/14/17							
% Moisture	9.0	0.1	%		11.0			20.0	20	
Duplicate (P7K1402-DUP3)	Source: 7K13005-01		Prepared & Analyzed: 11/14/17							
% Moisture	3.0	0.1	%		3.0			0.00	20	

Permian Basin Environmental Lab, L.P.

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K1309 - General Preparation (GC)

Blank (P7K1309-BLK1)

Prepared & Analyzed: 11/13/17

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	128		"	100		128	70-130			
Surrogate: o-Terphenyl	73.7		"	50.0		147	70-130			S-GC

LCS (P7K1309-BS1)

Prepared & Analyzed: 11/13/17

C6-C12	1250	25.0	mg/kg wet	1000		125	75-125			
>C12-C28	1190	25.0	"	1000		119	75-125			
Surrogate: 1-Chlorooctane	127		"	100		127	70-130			
Surrogate: o-Terphenyl	68.8		"	50.0		138	70-130			S-GC

LCS Dup (P7K1309-BSD1)

Prepared & Analyzed: 11/13/17

C6-C12	1210	25.0	mg/kg wet	1000		121	75-125	3.35	20	
>C12-C28	1180	25.0	"	1000		118	75-125	0.785	20	
Surrogate: 1-Chlorooctane	125		"	100		125	70-130			
Surrogate: o-Terphenyl	68.4		"	50.0		137	70-130			S-GC

Calibration Blank (P7K1309-CCB1)

Prepared & Analyzed: 11/13/17

C6-C12	12.7		mg/kg wet							
>C12-C28	11.7		"							
Surrogate: 1-Chlorooctane	130		"	100		130	70-130			
Surrogate: o-Terphenyl	72.6		"	50.0		145	70-130			S-GC

Calibration Blank (P7K1309-CCB2)

Prepared: 11/13/17 Analyzed: 11/14/17

C6-C12	14.2		mg/kg wet							
>C12-C28	6.90		"							
Surrogate: 1-Chlorooctane	129		"	100		129	70-130			
Surrogate: o-Terphenyl	70.6		"	50.0		141	70-130			S-GC

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K1309 - General Preparation (GC)

Calibration Check (P7K1309-CCV1)

Prepared & Analyzed: 11/13/17

C6-C12	519	25.0	mg/kg wet	500		104	85-115			
>C12-C28	526	25.0	"	500		105	85-115			
Surrogate: 1-Chlorooctane	120		"	100		120	70-130			
Surrogate: o-Terphenyl	67.8		"	50.0		136	70-130			S-GC

Calibration Check (P7K1309-CCV2)

Prepared: 11/13/17 Analyzed: 11/14/17

C6-C12	1670	25.0	mg/kg wet	500		335	85-115			
>C12-C28	1190	25.0	"	500		239	85-115			
Surrogate: 1-Chlorooctane	11.0		"	100		11.0	70-130			
Surrogate: o-Terphenyl	13.1		"	50.0		26.3	70-130			

Calibration Check (P7K1309-CCV3)

Prepared: 11/13/17 Analyzed: 11/14/17

C6-C12	ND	25.0	mg/kg wet	500			85-115			
>C12-C28	ND	25.0	"	500			85-115			
Surrogate: 1-Chlorooctane	0.00		"	100			70-130			
Surrogate: o-Terphenyl	0.00		"	50.0			70-130			

Matrix Spike (P7K1309-MS1)

Source: 7K13001-01

Prepared: 11/13/17 Analyzed: 11/14/17

C6-C12	1260	26.9	mg/kg dry	1080	11.1	116	75-125			
>C12-C28	1210	26.9	"	1080	11.4	112	75-125			
Surrogate: 1-Chlorooctane	135		"	108		125	70-130			
Surrogate: o-Terphenyl	76.3		"	53.8		142	70-130			S-GC

Matrix Spike Dup (P7K1309-MSD1)

Source: 7K13001-01

Prepared: 11/13/17 Analyzed: 11/14/17

C6-C12	1320	26.9	mg/kg dry	1080	11.1	122	75-125	5.01	20	
>C12-C28	1260	26.9	"	1080	11.4	116	75-125	3.83	20	
Surrogate: 1-Chlorooctane	139		"	108		129	70-130			
Surrogate: o-Terphenyl	78.8		"	53.8		146	70-130			S-GC

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Notes and Definitions

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

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

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:



Date: 11/15/2017

Brent Barron, Laboratory Director/Technical Director

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

Permian Basin Environmental Lab, L.P.

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PAGE 1 OF 2

FIELD NOTES☐ CARRIER BILL # _____
☐ HAND DELIVERED _____

Page 32 of 32

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



Analytical Report

Prepared for:

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

Project: Epperson Site 1
Project Number: 16-0120-01
Location:

Lab Order Number: 7K14002



NELAP/TCEQ # T104704516-16-7

Report Date: 11/16/17

Larson & Associates, Inc.	Project: Epperson Site 1	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 16-0120-01	
Midland TX, 79710	Project Manager: Mark Larson	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SP-7 (Dirty)	7K14002-01	Soil	11/13/17 12:12	11-14-2017 08:37
SP-8 (Clean)	7K14002-02	Soil	11/13/17 12:30	11-14-2017 08:37
SP2-(Dirty)	7K14002-03	Soil	11/13/17 12:33	11-14-2017 08:37
SP-1 (North)	7K14002-04	Soil	11/13/17 12:35	11-14-2017 08:37
SP-2 (South)	7K14002-05	Soil	11/13/17 12:37	11-14-2017 08:37

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SP-7 (Dirty)
7K14002-01 (Soil)

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

Organics by GC

Benzene	ND	0.00108	mg/kg dry	1	P7K1405	11/14/17	11/15/17	EPA 8021B	
Toluene	ND	0.00215	mg/kg dry	1	P7K1405	11/14/17	11/15/17	EPA 8021B	
Ethylbenzene	ND	0.00108	mg/kg dry	1	P7K1405	11/14/17	11/15/17	EPA 8021B	
Xylene (p/m)	ND	0.00215	mg/kg dry	1	P7K1405	11/14/17	11/15/17	EPA 8021B	
Xylene (o)	ND	0.00108	mg/kg dry	1	P7K1405	11/14/17	11/15/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		89.4 %	75-125		P7K1405	11/14/17	11/15/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		107 %	75-125		P7K1405	11/14/17	11/15/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	45.1	1.08	mg/kg dry	1	P7K1409	11/14/17	11/15/17	EPA 300.0	
% Moisture	7.0	0.1	%	1	P7K1505	11/15/17	11/15/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.9	mg/kg dry	1	P7K1401	11/14/17	11/14/17	TPH 8015M	
>C12-C28	ND	26.9	mg/kg dry	1	P7K1401	11/14/17	11/14/17	TPH 8015M	
>C28-C35	ND	26.9	mg/kg dry	1	P7K1401	11/14/17	11/14/17	TPH 8015M	
Surrogate: 1-Chlorooctane		106 %	70-130		P7K1401	11/14/17	11/14/17	TPH 8015M	
Surrogate: o-Terphenyl		122 %	70-130		P7K1401	11/14/17	11/14/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.9	mg/kg dry	1	[CALC]	11/14/17	11/14/17	calc	

Permian Basin Environmental Lab, L.P.

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Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SP-8 (Clean)
7K14002-02 (Soil)

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

Organics by GC

Benzene	ND	0.00108	mg/kg dry	1	P7K1405	11/14/17	11/15/17	EPA 8021B	
Toluene	ND	0.00215	mg/kg dry	1	P7K1405	11/14/17	11/15/17	EPA 8021B	
Ethylbenzene	ND	0.00108	mg/kg dry	1	P7K1405	11/14/17	11/15/17	EPA 8021B	
Xylene (p/m)	ND	0.00215	mg/kg dry	1	P7K1405	11/14/17	11/15/17	EPA 8021B	
Xylene (o)	ND	0.00108	mg/kg dry	1	P7K1405	11/14/17	11/15/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		91.9 %	75-125		P7K1405	11/14/17	11/15/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		94.1 %	75-125		P7K1405	11/14/17	11/15/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	122	1.08	mg/kg dry	1	P7K1409	11/14/17	11/15/17	EPA 300.0	
% Moisture	7.0	0.1	%	1	P7K1505	11/15/17	11/15/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.9	mg/kg dry	1	P7K1401	11/14/17	11/14/17	TPH 8015M	
>C12-C28	ND	26.9	mg/kg dry	1	P7K1401	11/14/17	11/14/17	TPH 8015M	
>C28-C35	ND	26.9	mg/kg dry	1	P7K1401	11/14/17	11/14/17	TPH 8015M	
Surrogate: 1-Chlorooctane		113 %	70-130		P7K1401	11/14/17	11/14/17	TPH 8015M	
Surrogate: o-Terphenyl		128 %	70-130		P7K1401	11/14/17	11/14/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.9	mg/kg dry	1	[CALC]	11/14/17	11/14/17	calc	

Permian Basin Environmental Lab, L.P.

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P.O. Box 50685
Midland TX, 79710

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SP2-(Dirty)
7K14002-03 (Soil)

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

Organics by GC

Benzene	ND	0.00109	mg/kg dry	1	P7K1405	11/14/17	11/15/17	EPA 8021B	
Toluene	ND	0.00217	mg/kg dry	1	P7K1405	11/14/17	11/15/17	EPA 8021B	
Ethylbenzene	ND	0.00109	mg/kg dry	1	P7K1405	11/14/17	11/15/17	EPA 8021B	
Xylene (p/m)	ND	0.00217	mg/kg dry	1	P7K1405	11/14/17	11/15/17	EPA 8021B	
Xylene (o)	ND	0.00109	mg/kg dry	1	P7K1405	11/14/17	11/15/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		102 %	75-125		P7K1405	11/14/17	11/15/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		100 %	75-125		P7K1405	11/14/17	11/15/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	473	1.09	mg/kg dry	1	P7K1409	11/14/17	11/15/17	EPA 300.0	
% Moisture	8.0	0.1	%	1	P7K1505	11/15/17	11/15/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.2	mg/kg dry	1	P7K1401	11/14/17	11/14/17	TPH 8015M	
>C12-C28	38.1	27.2	mg/kg dry	1	P7K1401	11/14/17	11/14/17	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P7K1401	11/14/17	11/14/17	TPH 8015M	
Surrogate: 1-Chlorooctane		95.5 %	70-130		P7K1401	11/14/17	11/14/17	TPH 8015M	
Surrogate: o-Terphenyl		108 %	70-130		P7K1401	11/14/17	11/14/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	38.1	27.2	mg/kg dry	1	[CALC]	11/14/17	11/14/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SP-1 (North)
7K14002-04 (Soil)

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

Organics by GC

Benzene	ND	0.00110	mg/kg dry	1	P7K1405	11/14/17	11/15/17	EPA 8021B	
Toluene	ND	0.00220	mg/kg dry	1	P7K1405	11/14/17	11/15/17	EPA 8021B	
Ethylbenzene	ND	0.00110	mg/kg dry	1	P7K1405	11/14/17	11/15/17	EPA 8021B	
Xylene (p/m)	ND	0.00220	mg/kg dry	1	P7K1405	11/14/17	11/15/17	EPA 8021B	
Xylene (o)	ND	0.00110	mg/kg dry	1	P7K1405	11/14/17	11/15/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		94.9 %	75-125		P7K1405	11/14/17	11/15/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		110 %	75-125		P7K1405	11/14/17	11/15/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	2.04	1.10	mg/kg dry	1	P7K1409	11/14/17	11/15/17	EPA 300.0	
% Moisture	9.0	0.1	%	1	P7K1505	11/15/17	11/15/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.5	mg/kg dry	1	P7K1401	11/14/17	11/14/17	TPH 8015M	
>C12-C28	ND	27.5	mg/kg dry	1	P7K1401	11/14/17	11/14/17	TPH 8015M	
>C28-C35	ND	27.5	mg/kg dry	1	P7K1401	11/14/17	11/14/17	TPH 8015M	
Surrogate: 1-Chlorooctane		106 %	70-130		P7K1401	11/14/17	11/14/17	TPH 8015M	
Surrogate: o-Terphenyl		121 %	70-130		P7K1401	11/14/17	11/14/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.5	mg/kg dry	1	[CALC]	11/14/17	11/14/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SP-2 (South)
7K14002-05 (Soil)

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

Organics by GC

Benzene	ND	0.00106	mg/kg dry	1	P7K1405	11/14/17	11/15/17	EPA 8021B	
Toluene	ND	0.00213	mg/kg dry	1	P7K1405	11/14/17	11/15/17	EPA 8021B	
Ethylbenzene	ND	0.00106	mg/kg dry	1	P7K1405	11/14/17	11/15/17	EPA 8021B	
Xylene (p/m)	ND	0.00213	mg/kg dry	1	P7K1405	11/14/17	11/15/17	EPA 8021B	
Xylene (o)	ND	0.00106	mg/kg dry	1	P7K1405	11/14/17	11/15/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		110 %	75-125		P7K1405	11/14/17	11/15/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		88.9 %	75-125		P7K1405	11/14/17	11/15/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	21.6	1.06	mg/kg dry	1	P7K1409	11/14/17	11/15/17	EPA 300.0	
% Moisture	6.0	0.1	%	1	P7K1505	11/15/17	11/15/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.6	mg/kg dry	1	P7K1401	11/14/17	11/14/17	TPH 8015M	
>C12-C28	ND	26.6	mg/kg dry	1	P7K1401	11/14/17	11/14/17	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P7K1401	11/14/17	11/14/17	TPH 8015M	
Surrogate: 1-Chlorooctane		98.2 %	70-130		P7K1401	11/14/17	11/14/17	TPH 8015M	
Surrogate: o-Terphenyl		112 %	70-130		P7K1401	11/14/17	11/14/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	11/14/17	11/14/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K1405 - General Preparation (GC)

Blank (P7K1405-BLK1)

Prepared & Analyzed: 11/14/17

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	0.0495		"	0.0600		82.4	75-125			
Surrogate: 4-Bromofluorobenzene	0.0609		"	0.0600		102	75-125			

LCS (P7K1405-BS1)

Prepared & Analyzed: 11/14/17

Benzene	0.102	0.00100	mg/kg wet	0.100		102	70-130			
Toluene	0.0988	0.00200	"	0.100		98.8	70-130			
Ethylbenzene	0.105	0.00100	"	0.100		105	70-130			
Xylene (p/m)	0.201	0.00200	"				70-130			
Xylene (o)	0.113	0.00100	"				70-130			
Surrogate: 1,4-Difluorobenzene	0.0601		"	0.0600		100	75-125			
Surrogate: 4-Bromofluorobenzene	0.0620		"	0.0600		103	75-125			

LCS Dup (P7K1405-BSD1)

Prepared & Analyzed: 11/14/17

Benzene	0.0998	0.00100	mg/kg wet	0.100		99.8	70-130	1.85	20	
Toluene	0.0990	0.00200	"	0.100		99.0	70-130	0.172	20	
Ethylbenzene	0.116	0.00100	"	0.100		116	70-130	9.56	20	
Xylene (p/m)	0.204	0.00200	"				70-130		20	
Xylene (o)	0.108	0.00100	"				70-130		20	
Surrogate: 4-Bromofluorobenzene	0.0591		"	0.0600		98.4	75-125			
Surrogate: 1,4-Difluorobenzene	0.0556		"	0.0600		92.7	75-125			

Calibration Blank (P7K1405-CCB1)

Prepared & Analyzed: 11/14/17

Benzene	0.00		mg/kg wet							
Toluene	0.00		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.00		"							
Xylene (o)	0.00		"							
Surrogate: 4-Bromofluorobenzene	0.0570		"	0.0600		95.1	75-125			
Surrogate: 1,4-Difluorobenzene	0.0517		"	0.0600		86.2	75-125			

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K1405 - General Preparation (GC)

Calibration Check (P7K1405-CCV1)

Prepared & Analyzed: 11/14/17

Benzene	0.114	0.00100	mg/kg wet	0.100		114	80-120			
Toluene	0.116	0.00200	"	0.100		116	80-120			
Ethylbenzene	0.120	0.00100	"	0.100		120	80-120			
Xylene (p/m)	0.218	0.00200	"	0.200		109	80-120			
Xylene (o)	0.120	0.00100	"	0.100		120	80-120			
Surrogate: 1,4-Difluorobenzene	0.0665		"	0.0600		111	75-125			
Surrogate: 4-Bromofluorobenzene	0.0695		"	0.0600		116	75-125			

Calibration Check (P7K1405-CCV2)

Prepared: 11/14/17 Analyzed: 11/15/17

Benzene	0.104	0.00100	mg/kg wet	0.100		104	80-120			
Toluene	0.104	0.00200	"	0.100		104	80-120			
Ethylbenzene	0.106	0.00100	"	0.100		106	80-120			
Xylene (p/m)	0.217	0.00200	"	0.200		109	80-120			
Xylene (o)	0.120	0.00100	"	0.100		120	80-120			
Surrogate: 4-Bromofluorobenzene	0.0751		"	0.0600		125	75-125			
Surrogate: 1,4-Difluorobenzene	0.0597		"	0.0600		99.4	75-125			

Matrix Spike (P7K1405-MS1)

Source: 7K14003-01

Prepared: 11/14/17 Analyzed: 11/15/17

Benzene	0.0883	0.00108	mg/kg dry	0.108	ND	82.1	80-120			
Toluene	0.0903	0.00215	"	0.108	ND	84.0	80-120			
Ethylbenzene	0.116	0.00108	"	0.108	ND	108	80-120			
Xylene (p/m)	0.207	0.00215	"		ND		80-120			
Xylene (o)	0.101	0.00108	"		ND		80-120			
Surrogate: 1,4-Difluorobenzene	0.0744		"	0.0645		115	75-125			
Surrogate: 4-Bromofluorobenzene	0.0816		"	0.0645		126	75-125			S-GC

Matrix Spike Dup (P7K1405-MSD1)

Source: 7K14003-01

Prepared: 11/14/17 Analyzed: 11/15/17

Benzene	0.100	0.00108	mg/kg dry	0.108	ND	93.2	80-120	12.6	20	
Toluene	0.0996	0.00215	"	0.108	ND	92.6	80-120	9.82	20	
Ethylbenzene	0.128	0.00108	"	0.108	ND	119	80-120	9.74	20	
Xylene (p/m)	0.227	0.00215	"		ND		80-120		20	
Xylene (o)	0.107	0.00108	"		ND		80-120		20	
Surrogate: 1,4-Difluorobenzene	0.0655		"	0.0645		102	75-125			
Surrogate: 4-Bromofluorobenzene	0.0858		"	0.0645		133	75-125			S-GC

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P7K1409 - *** DEFAULT PREP ***										
Blank (P7K1409-BLK1)	Prepared: 11/14/17 Analyzed: 11/15/17									
Chloride	ND	1.00	mg/kg wet							
LCS (P7K1409-BS1)	Prepared: 11/14/17 Analyzed: 11/15/17									
Chloride	383	1.00	mg/kg wet	400		95.9	80-120			
LCS Dup (P7K1409-BSD1)	Prepared: 11/14/17 Analyzed: 11/15/17									
Chloride	392	1.00	mg/kg wet	400		98.0	80-120	2.23	20	
Duplicate (P7K1409-DUP1)	Source: 7K14002-01		Prepared: 11/14/17 Analyzed: 11/15/17							
Chloride	44.6	1.08	mg/kg dry		45.1			1.13	20	
Duplicate (P7K1409-DUP2)	Source: 7K14010-06		Prepared: 11/14/17 Analyzed: 11/15/17							
Chloride	48.6	1.11	mg/kg dry		52.5			7.61	20	
Matrix Spike (P7K1409-MS1)	Source: 7K14002-01		Prepared: 11/14/17 Analyzed: 11/15/17							
Chloride	1050	1.08	mg/kg dry	1080	45.1	93.7	80-120			
Batch P7K1505 - *** DEFAULT PREP ***										
Blank (P7K1505-BLK1)	Prepared & Analyzed: 11/15/17									
% Moisture	ND	0.1	%							
Duplicate (P7K1505-DUP1)	Source: 7K14002-05		Prepared & Analyzed: 11/15/17							
% Moisture	6.0	0.1	%		6.0			0.00	20	

Permian Basin Environmental Lab, L.P.

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K1401 - General Preparation (GC)

Blank (P7K1401-BLK1)

Prepared & Analyzed: 11/14/17

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	123		"	100		123	70-130			
Surrogate: o-Terphenyl	69.4		"	50.0		139	70-130			S-GC

LCS (P7K1401-BS1)

Prepared & Analyzed: 11/14/17

C6-C12	1090	25.0	mg/kg wet	1000		109	75-125			
>C12-C28	1060	25.0	"	1000		106	75-125			
Surrogate: 1-Chlorooctane	110		"	100		110	70-130			
Surrogate: o-Terphenyl	63.9		"	50.0		128	70-130			

LCS Dup (P7K1401-BSD1)

Prepared & Analyzed: 11/14/17

C6-C12	1120	25.0	mg/kg wet	1000		112	75-125	3.18	20	
>C12-C28	1110	25.0	"	1000		111	75-125	4.14	20	
Surrogate: 1-Chlorooctane	123		"	100		123	70-130			
Surrogate: o-Terphenyl	63.3		"	50.0		127	70-130			

Calibration Blank (P7K1401-CCB1)

Prepared & Analyzed: 11/14/17

C6-C12	11.5		mg/kg wet							
>C12-C28	7.09		"							
Surrogate: 1-Chlorooctane	123		"	100		123	70-130			
Surrogate: o-Terphenyl	67.7		"	50.0		135	70-130			S-GC

Calibration Blank (P7K1401-CCB2)

Prepared & Analyzed: 11/14/17

C6-C12	10.8		mg/kg wet							
>C12-C28	20.5		"							
Surrogate: 1-Chlorooctane	132		"	100		132	70-130			
Surrogate: o-Terphenyl	71.4		"	50.0		143	70-130			

Permian Basin Environmental Lab, L.P.

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P7K1401 - General Preparation (GC)										
Calibration Check (P7K1401-CCV1)				Prepared & Analyzed: 11/14/17						
C6-C12	587	25.0	mg/kg wet				85-115			
>C12-C28	536	25.0	"				85-115			
Surrogate: 1-Chlorooctane	118		"	100		118	70-130			
Surrogate: o-Terphenyl	64.9		"	50.0		130	70-130			
Calibration Check (P7K1401-CCV2)				Prepared & Analyzed: 11/14/17						
C6-C12	531	25.0	mg/kg wet				85-115			
>C12-C28	560	25.0	"				85-115			
Surrogate: 1-Chlorooctane	125		"	100		125	70-130			
Surrogate: o-Terphenyl	65.5		"	50.0		131	70-130			S-GC
Calibration Check (P7K1401-CCV3)				Prepared & Analyzed: 11/14/17						
C6-C12	563	25.0	mg/kg wet	500		113	85-115			
>C12-C28	497	25.0	"	500		99.3	85-115			
Surrogate: 1-Chlorooctane	126		"	100		126	70-130			
Surrogate: o-Terphenyl	63.4		"	50.0		127	70-130			
Matrix Spike (P7K1401-MS1)				Source: 7K14005-02	Prepared & Analyzed: 11/14/17					
C6-C12	1170	26.3	mg/kg dry	1050	26.9	109	75-125			
>C12-C28	4180	26.3	"	1050	3610	54.2	75-125			QM-05
Surrogate: 1-Chlorooctane	118		"	105		113	70-130			
Surrogate: o-Terphenyl	55.2		"	52.6		105	70-130			
Matrix Spike Dup (P7K1401-MSD1)				Source: 7K14005-02	Prepared & Analyzed: 11/14/17					
C6-C12	1150	26.3	mg/kg dry	1050	26.9	106	75-125	2.04	20	
>C12-C28	4240	26.3	"	1050	3610	59.8	75-125	9.78	20	QM-05
Surrogate: 1-Chlorooctane	116		"	105		110	70-130			
Surrogate: o-Terphenyl	54.7		"	52.6		104	70-130			

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Notes and Definitions

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

QM-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:



Date: 11/16/2017

Brent Barron, Laboratory Director/Technical Director

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

Permian Basin Environmental Lab, L.P.

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

Varson & Associates, Inc.
Environmental Consultants

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

Data Reported to:

DATE: 11/14/17
PO #: LAB WORK ORDER # 5114002
PROJECT LOCATION OR NAME: EPERSON 1
LAI PROJECT #: 16-0120-01 COLLECTOR: AT

CHAIN-OF-CUSTODY

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	PRESERVATION				ANALYSES	FIELD NOTES	
						HCl	HNO ₃	H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/>	ICE			UNPRESERVED
SP-7 (DIRTY)		11/13	12:12	S	1				X			
SP-8 (CLEAN)			12:30						X			
SP-2 (DIRTY)			12:33						X			
SP-1 (NORTH)			12:35						X			
SP-1 (SOUTH)			12:37						X			
TOTAL												

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME	TURN AROUND TIME	LABORATORY USE ONLY:
RELINQUISHED BY: (Signature)	11/14/17	RECEIVED BY: (Signature)		NORMAL <input type="checkbox"/>	RECEIVING TEMP: <u>48</u> THERM #: <u>48</u>
RELINQUISHED BY: (Signature)		RECEIVED BY: (Signature)		1 DAY <input type="checkbox"/>	CUSTODY SEALS - <input type="checkbox"/> BROKEN <input checked="" type="checkbox"/> CONTACT <input type="checkbox"/> NOT USED
RELINQUISHED BY: (Signature)		RECEIVED BY: (Signature)		2 DAY <input checked="" type="checkbox"/>	<input type="checkbox"/> CARRIER BILL # <u>837</u>
RELINQUISHED BY: (Signature)		RECEIVED BY: (Signature)		OTHER <input type="checkbox"/>	<input checked="" type="checkbox"/> HAND DELIVERED

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



Analytical Report

Prepared for:

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

Project: Epperson Site 1
Project Number: 16-0120-01
Location:

Lab Order Number: 7K16001



NELAP/TCEQ # T104704516-16-7

Report Date: 11/20/17

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N (4ft)	7K16001-01	Soil	11/15/17 13:24	11-16-2017 08:00
N (8ft)	7K16001-02	Soil	11/15/17 12:18	11-16-2017 08:00
N (12ft)	7K16001-03	Soil	11/15/17 12:16	11-16-2017 08:00
N (16ft)	7K16001-04	Soil	11/15/17 12:13	11-16-2017 08:00
N (20ft)	7K16001-05	Soil	11/15/17 12:35	11-16-2017 08:00
S (4ft)	7K16001-06	Soil	11/15/17 11:36	11-16-2017 08:00
S (8ft)	7K16001-07	Soil	11/15/17 11:41	11-16-2017 08:00
S (12ft)	7K16001-08	Soil	11/15/17 11:31	11-16-2017 08:00
S (16ft)	7K16001-09	Soil	11/15/17 11:25	11-16-2017 08:00
S (20ft)	7K16001-10	Soil	11/15/17 12:32	11-16-2017 08:00
SW (2ft)	7K16001-11	Soil	11/15/17 12:03	11-16-2017 08:00
SW (4ft)	7K16001-12	Soil	11/15/17 12:02	11-16-2017 08:00
SW (8ft)	7K16001-13	Soil	11/15/17 11:59	11-16-2017 08:00
SW (12ft)	7K16001-14	Soil	11/15/17 11:57	11-16-2017 08:00
SW (16ft)	7K16001-15	Soil	11/15/17 11:55	11-16-2017 08:00
SW (20ft)	7K16001-16	Soil	11/15/17 11:46	11-16-2017 08:00
W (Bottom)	7K16001-17	Soil	11/15/17 11:50	11-16-2017 08:00

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

N (4ft)
7K16001-01 (Soil)

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

Organics by GC

Benzene	ND	0.0217	mg/kg dry	20	P7K1704	11/17/17	11/17/17	EPA 8021B	
Toluene	ND	0.0435	mg/kg dry	20	P7K1704	11/17/17	11/17/17	EPA 8021B	
Ethylbenzene	ND	0.0217	mg/kg dry	20	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (p/m)	ND	0.0435	mg/kg dry	20	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (o)	ND	0.0217	mg/kg dry	20	P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		116 %		75-125	P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		97.6 %		75-125	P7K1704	11/17/17	11/17/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	632	1.09	mg/kg dry	1	P7K1602	11/16/17	11/17/17	EPA 300.0	
% Moisture	8.0	0.1	%	1	P7K1603	11/16/17	11/16/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	89.6	27.2	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C12-C28	464	27.2	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C28-C35	94.6	27.2	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		96.5 %		70-130	P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: o-Terphenyl		104 %		70-130	P7K1701	11/17/17	11/17/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	648	27.2	mg/kg dry	1	[CALC]	11/17/17	11/17/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

N (8ft)
7K16001-02 (Soil)

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

Organics by GC

Benzene	ND	0.00111	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Toluene	ND	0.00222	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Ethylbenzene	ND	0.00111	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (p/m)	ND	0.00222	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (o)	ND	0.00111	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		119 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		105 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	297	1.11	mg/kg dry	1	P7K1602	11/16/17	11/17/17	EPA 300.0	
% Moisture	10.0	0.1	%	1	P7K1603	11/16/17	11/16/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.8	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C12-C28	ND	27.8	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C28-C35	ND	27.8	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		95.5 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: o-Terphenyl		102 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.8	mg/kg dry	1	[CALC]	11/17/17	11/17/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

N (12ft)
7K16001-03 (Soil)

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

Organics by GC

Benzene	ND	0.00110	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Toluene	ND	0.00220	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Ethylbenzene	ND	0.00110	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (p/m)	ND	0.00220	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (o)	ND	0.00110	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		97.2 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		115 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	196	1.10	mg/kg dry	1	P7K1602	11/16/17	11/17/17	EPA 300.0	
% Moisture	8.0	0.1	%	1	P7K1603	11/16/17	11/16/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.5	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C12-C28	ND	27.5	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C28-C35	ND	27.5	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		93.2 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: o-Terphenyl		99.0 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.5	mg/kg dry	1	[CALC]	11/17/17	11/17/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

N (16ft)
7K16001-04 (Soil)

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

Organics by GC

Benzene	ND	0.00106	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Toluene	ND	0.00213	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Ethylbenzene	ND	0.00106	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (p/m)	ND	0.00213	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (o)	ND	0.00106	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		114 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		94.8 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	931	1.06	mg/kg dry	1	P7K1602	11/16/17	11/17/17	EPA 300.0	
% Moisture	6.0	0.1	%	1	P7K1603	11/16/17	11/16/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.6	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C12-C28	ND	26.6	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		92.4 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: o-Terphenyl		99.1 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	11/17/17	11/17/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

N (20ft)
7K16001-05 (Soil)

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

Organics by GC

Benzene	ND	0.00101	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Toluene	ND	0.00202	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Ethylbenzene	ND	0.00101	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (p/m)	ND	0.00202	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (o)	ND	0.00101	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		112 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		128 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	S-GC

General Chemistry Parameters by EPA / Standard Methods

Chloride	204	1.01	mg/kg dry	1	P7K1602	11/16/17	11/17/17	EPA 300.0	
% Moisture	1.0	0.1	%	1	P7K1603	11/16/17	11/16/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	25.3	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C12-C28	ND	25.3	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C28-C35	ND	25.3	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		96.1 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: o-Terphenyl		104 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.3	mg/kg dry	1	[CALC]	11/17/17	11/17/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

S (4ft)
7K16001-06 (Soil)

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

Organics by GC

Benzene	ND	0.00108	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Toluene	ND	0.00215	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Ethylbenzene	ND	0.00108	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (p/m)	ND	0.00215	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (o)	ND	0.00108	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		125 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		104 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	11.5	1.08	mg/kg dry	1	P7K1602	11/16/17	11/17/17	EPA 300.0	
% Moisture	7.0	0.1	%	1	P7K1603	11/16/17	11/16/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.9	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C12-C28	ND	26.9	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C28-C35	ND	26.9	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		91.1 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: o-Terphenyl		95.7 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.9	mg/kg dry	1	[CALC]	11/17/17	11/17/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

S (8ft)
7K16001-07 (Soil)

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

Organics by GC

Benzene	ND	0.00109	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Toluene	ND	0.00217	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Ethylbenzene	ND	0.00109	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (p/m)	ND	0.00217	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (o)	ND	0.00109	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		117 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		149 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	S-GC

General Chemistry Parameters by EPA / Standard Methods

Chloride	3.67	1.09	mg/kg dry	1	P7K1602	11/16/17	11/17/17	EPA 300.0	
% Moisture	8.0	0.1	%	1	P7K1603	11/16/17	11/16/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.2	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		91.8 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: o-Terphenyl		99.2 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	11/17/17	11/17/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

S (12ft)
7K16001-08 (Soil)

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

Organics by GC

Benzene	ND	0.00110	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Toluene	ND	0.00220	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Ethylbenzene	ND	0.00110	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (p/m)	ND	0.00220	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (o)	ND	0.00110	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		112 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		128 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	S-GC

General Chemistry Parameters by EPA / Standard Methods

Chloride	3.57	1.10	mg/kg dry	1	P7K1602	11/16/17	11/17/17	EPA 300.0	
% Moisture	9.0	0.1	%	1	P7K1603	11/16/17	11/16/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.5	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C12-C28	ND	27.5	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C28-C35	ND	27.5	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		79.6 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: o-Terphenyl		86.3 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.5	mg/kg dry	1	[CALC]	11/17/17	11/17/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

S (16ft)
7K16001-09 (Soil)

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

Organics by GC

Benzene	ND	0.00109	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Toluene	ND	0.00217	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Ethylbenzene	ND	0.00109	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (p/m)	ND	0.00217	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (o)	ND	0.00109	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		109 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		91.6 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	14.3	1.09	mg/kg dry	1	P7K1602	11/16/17	11/17/17	EPA 300.0	
% Moisture	8.0	0.1	%	1	P7K1603	11/16/17	11/16/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.2	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		86.4 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: o-Terphenyl		92.6 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	11/17/17	11/17/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

S (20ft)
7K16001-10 (Soil)

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

Organics by GC

Benzene	ND	0.00109	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Toluene	ND	0.00217	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Ethylbenzene	ND	0.00109	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (p/m)	ND	0.00217	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (o)	ND	0.00109	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		119 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		104 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	27.0	1.09	mg/kg dry	1	P7K1602	11/16/17	11/17/17	EPA 300.0	
% Moisture	8.0	0.1	%	1	P7K1603	11/16/17	11/16/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.2	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		94.2 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: o-Terphenyl		101 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	11/17/17	11/17/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SW (2ft)
7K16001-11 (Soil)

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

Organics by GC

Benzene	ND	0.00106	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Toluene	ND	0.00213	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Ethylbenzene	ND	0.00106	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (p/m)	ND	0.00213	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (o)	ND	0.00106	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		84.2 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		97.2 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	ND	1.06	mg/kg dry	1	P7K1602	11/16/17	11/17/17	EPA 300.0	
% Moisture	6.0	0.1	%	1	P7K1603	11/16/17	11/16/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.6	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C12-C28	ND	26.6	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		86.1 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: o-Terphenyl		91.6 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	11/17/17	11/17/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SW (4ft)
7K16001-12 (Soil)

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

Organics by GC

Benzene	ND	0.00111	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Toluene	ND	0.00222	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Ethylbenzene	ND	0.00111	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (p/m)	ND	0.00222	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (o)	ND	0.00111	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		122 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		96.9 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	2.13	1.11	mg/kg dry	1	P7K1602	11/16/17	11/17/17	EPA 300.0	
% Moisture	10.0	0.1	%	1	P7K1603	11/16/17	11/16/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.8	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C12-C28	ND	27.8	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C28-C35	ND	27.8	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		94.1 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: o-Terphenyl		101 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.8	mg/kg dry	1	[CALC]	11/17/17	11/17/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SW (8ft)
7K16001-13 (Soil)

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

Organics by GC

Benzene	ND	0.0220	mg/kg dry	20	P7K1704	11/17/17	11/17/17	EPA 8021B	
Toluene	ND	0.0440	mg/kg dry	20	P7K1704	11/17/17	11/17/17	EPA 8021B	
Ethylbenzene	ND	0.0220	mg/kg dry	20	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (p/m)	ND	0.0440	mg/kg dry	20	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (o)	ND	0.0220	mg/kg dry	20	P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		112 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		115 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	ND	1.10	mg/kg dry	1	P7K1602	11/16/17	11/17/17	EPA 300.0	
% Moisture	9.0	0.1	%	1	P7K1603	11/16/17	11/16/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.5	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C12-C28	ND	27.5	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C28-C35	ND	27.5	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		86.3 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: o-Terphenyl		92.2 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.5	mg/kg dry	1	[CALC]	11/17/17	11/17/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SW (12ft)
7K16001-14 (Soil)

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

Organics by GC

Benzene	ND	0.00108	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Toluene	ND	0.00215	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Ethylbenzene	ND	0.00108	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (p/m)	ND	0.00215	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (o)	ND	0.00108	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		93.3 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		110 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	ND	1.08	mg/kg dry	1	P7K1602	11/16/17	11/17/17	EPA 300.0	
% Moisture	7.0	0.1	%	1	P7K1603	11/16/17	11/16/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.9	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C12-C28	ND	26.9	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C28-C35	ND	26.9	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		90.0 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: o-Terphenyl		96.3 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.9	mg/kg dry	1	[CALC]	11/17/17	11/17/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SW (16ft)
7K16001-15 (Soil)

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

Organics by GC

Benzene	ND	0.00106	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Toluene	ND	0.00213	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Ethylbenzene	ND	0.00106	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (p/m)	ND	0.00213	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (o)	ND	0.00106	mg/kg dry	1	P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		108 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		87.4 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	ND	1.06	mg/kg dry	1	P7K1602	11/16/17	11/17/17	EPA 300.0	
% Moisture	6.0	0.1	%	1	P7K1603	11/16/17	11/16/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.6	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C12-C28	ND	26.6	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		106 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: o-Terphenyl		112 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	11/17/17	11/17/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SW (20ft)
7K16001-16 (Soil)

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

Organics by GC

Benzene	ND	0.0217	mg/kg dry	20	P7K1704	11/17/17	11/17/17	EPA 8021B	
Toluene	ND	0.0435	mg/kg dry	20	P7K1704	11/17/17	11/17/17	EPA 8021B	
Ethylbenzene	ND	0.0217	mg/kg dry	20	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (p/m)	ND	0.0435	mg/kg dry	20	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (o)	ND	0.0217	mg/kg dry	20	P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		83.3 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		97.4 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	28.9	1.09	mg/kg dry	1	P7K1602	11/16/17	11/17/17	EPA 300.0	
% Moisture	8.0	0.1	%	1	P7K1603	11/16/17	11/16/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.2	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		91.6 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: o-Terphenyl		97.9 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	11/17/17	11/17/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

W (Bottom)
7K16001-17 (Soil)

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

Organics by GC

Benzene	ND	0.0213	mg/kg dry	20	P7K1704	11/17/17	11/17/17	EPA 8021B	
Toluene	0.0655	0.0426	mg/kg dry	20	P7K1704	11/17/17	11/17/17	EPA 8021B	
Ethylbenzene	ND	0.0213	mg/kg dry	20	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (p/m)	0.155	0.0426	mg/kg dry	20	P7K1704	11/17/17	11/17/17	EPA 8021B	
Xylene (o)	0.0560	0.0213	mg/kg dry	20	P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		117 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		111 %	75-125		P7K1704	11/17/17	11/17/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	62.8	1.06	mg/kg dry	1	P7K1602	11/16/17	11/17/17	EPA 300.0	
% Moisture	6.0	0.1	%	1	P7K1603	11/16/17	11/16/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.6	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C12-C28	ND	26.6	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		85.5 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Surrogate: o-Terphenyl		90.5 %	70-130		P7K1701	11/17/17	11/17/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	11/17/17	11/17/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K1704 - General Preparation (GC)

Blank (P7K1704-BLK1)

Prepared & Analyzed: 11/17/17

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 4-Bromofluorobenzene	0.0666		"	0.0600		111	75-125			
Surrogate: 1,4-Difluorobenzene	0.0557		"	0.0600		92.8	75-125			

LCS (P7K1704-BS1)

Prepared & Analyzed: 11/17/17

Benzene	0.104	0.00100	mg/kg wet	0.100		104	70-130			
Toluene	0.101	0.00200	"	0.100		101	70-130			
Ethylbenzene	0.108	0.00100	"	0.100		108	70-130			
Xylene (p/m)	0.217	0.00200	"				70-130			
Xylene (o)	0.115	0.00100	"				70-130			
Surrogate: 4-Bromofluorobenzene	0.0606		"	0.0600		101	75-125			
Surrogate: 1,4-Difluorobenzene	0.0639		"	0.0600		106	75-125			

Matrix Spike (P7K1704-MS1)

Source: 7K16001-17

Prepared & Analyzed: 11/17/17

Benzene	0.0788	0.00106	mg/kg dry	0.106	ND	74.1	80-120			QM-05
Toluene	0.0622	0.00213	"	0.106	0.0655	NR	80-120			QM-05
Ethylbenzene	0.0718	0.00106	"	0.106	ND	67.5	80-120			QM-05
Xylene (p/m)	0.128	0.00213	"		0.155		80-120			
Xylene (o)	0.0636	0.00106	"		0.0560		80-120			
Surrogate: 1,4-Difluorobenzene	0.0714		"	0.0638		112	75-125			
Surrogate: 4-Bromofluorobenzene	0.0745		"	0.0638		117	75-125			

Matrix Spike Dup (P7K1704-MSD1)

Source: 7K16001-17

Prepared & Analyzed: 11/17/17

Benzene	0.0657	0.00106	mg/kg dry	0.106	ND	61.8	80-120	18.1	20	QM-05
Toluene	0.0467	0.00213	"	0.106	0.0655	NR	80-120	NR	20	QM-05
Ethylbenzene	0.0401	0.00106	"	0.106	ND	37.7	80-120	56.7	20	QM-05
Xylene (p/m)	0.0730	0.00213	"		0.155		80-120		20	
Xylene (o)	0.0331	0.00106	"		0.0560		80-120		20	
Surrogate: 1,4-Difluorobenzene	0.0638		"	0.0638		99.9	75-125			
Surrogate: 4-Bromofluorobenzene	0.0720		"	0.0638		113	75-125			

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K1602 - * DEFAULT PREP *****

Blank (P7K1602-BLK1)				Prepared: 11/16/17 Analyzed: 11/17/17						
Chloride	ND	1.00	mg/kg wet							
LCS (P7K1602-BS1)				Prepared: 11/16/17 Analyzed: 11/17/17						
Chloride	433	1.00	mg/kg wet	400		108	80-120			
LCS Dup (P7K1602-BSD1)				Prepared: 11/16/17 Analyzed: 11/17/17						
Chloride	433	1.00	mg/kg wet	400		108	80-120	0.0300	20	
Duplicate (P7K1602-DUP1)				Source: 7K16001-01		Prepared: 11/16/17 Analyzed: 11/17/17				
Chloride	718	1.09	mg/kg dry		632			12.6	20	
Duplicate (P7K1602-DUP2)				Source: 7K16001-11		Prepared: 11/16/17 Analyzed: 11/17/17				
Chloride	ND	1.06	mg/kg dry		ND				20	
Matrix Spike (P7K1602-MS1)				Source: 7K16001-01		Prepared: 11/16/17 Analyzed: 11/17/17				
Chloride	1880	1.09	mg/kg dry	1090	632	115	80-120			

Batch P7K1603 - * DEFAULT PREP *****

Blank (P7K1603-BLK1)				Prepared & Analyzed: 11/16/17						
% Moisture	ND	0.1	%							
Duplicate (P7K1603-DUP1)				Source: 7K16001-16		Prepared & Analyzed: 11/16/17				
% Moisture	9.0	0.1	%		8.0			11.8	20	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K1701 - General Preparation (GC)

Blank (P7K1701-BLK1)

Prepared & Analyzed: 11/17/17

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	98.3		"	100		98.3	70-130			
Surrogate: o-Terphenyl	53.4		"	50.0		107	70-130			

LCS (P7K1701-BS1)

Prepared & Analyzed: 11/17/17

C6-C12	1010	25.0	mg/kg wet	1000		101	75-125			
>C12-C28	982	25.0	"	1000		98.2	75-125			
Surrogate: 1-Chlorooctane	124		"	100		124	70-130			
Surrogate: o-Terphenyl	52.2		"	50.0		104	70-130			

LCS Dup (P7K1701-BSD1)

Prepared & Analyzed: 11/17/17

C6-C12	940	25.0	mg/kg wet	1000		94.0	75-125	6.67	20	
>C12-C28	918	25.0	"	1000		91.8	75-125	6.80	20	
Surrogate: 1-Chlorooctane	117		"	100		117	70-130			
Surrogate: o-Terphenyl	53.4		"	50.0		107	70-130			

Calibration Blank (P7K1701-CCB1)

Prepared & Analyzed: 11/17/17

C6-C12	11.7		mg/kg wet							
>C12-C28	7.86		"							
Surrogate: 1-Chlorooctane	101		"	100		101	70-130			
Surrogate: o-Terphenyl	54.5		"	50.0		109	70-130			

Calibration Blank (P7K1701-CCB2)

Prepared & Analyzed: 11/17/17

C6-C12	11.8		mg/kg wet							
>C12-C28	5.78		"							
Surrogate: 1-Chlorooctane	97.6		"	100		97.6	70-130			
Surrogate: o-Terphenyl	52.6		"	50.0		105	70-130			

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7K1701 - General Preparation (GC)

Calibration Check (P7K1701-CCV1)				Prepared & Analyzed: 11/17/17						
C6-C12	561	25.0	mg/kg wet	500		112	85-115			
>C12-C28	556	25.0	"	500		111	85-115			
Surrogate: 1-Chlorooctane	121		"	100		121	70-130			
Surrogate: o-Terphenyl	68.7		"	50.0		137	70-130			S-GC

Calibration Check (P7K1701-CCV2)				Prepared & Analyzed: 11/17/17						
C6-C12	503	25.0	mg/kg wet	500		101	85-115			
>C12-C28	456	25.0	"	500		91.1	85-115			
Surrogate: 1-Chlorooctane	118		"	100		118	70-130			
Surrogate: o-Terphenyl	57.5		"	50.0		115	70-130			

Calibration Check (P7K1701-CCV3)				Prepared & Analyzed: 11/17/17						
C6-C12	569	25.0	mg/kg wet	500		114	85-115			
>C12-C28	511	25.0	"	500		102	85-115			
Surrogate: 1-Chlorooctane	126		"	100		126	70-130			
Surrogate: o-Terphenyl	59.3		"	50.0		119	70-130			

Matrix Spike (P7K1701-MS1)				Source: 7K17001-01		Prepared & Analyzed: 11/17/17				
C6-C12	1510	26.0	mg/kg dry	1040	706	77.4	75-125			
>C12-C28	3090	26.0	"	1040	3520	NR	75-125			QM-05
Surrogate: 1-Chlorooctane	111		"	104		107	70-130			
Surrogate: o-Terphenyl	57.2		"	52.1		110	70-130			

Matrix Spike Dup (P7K1701-MSD1)				Source: 7K17001-01		Prepared & Analyzed: 11/17/17				
C6-C12	1560	26.0	mg/kg dry	1040	706	82.1	75-125	5.91	20	
>C12-C28	3320	26.0	"	1040	3520	NR	75-125	NR	20	QM-05
Surrogate: 1-Chlorooctane	111		"	104		106	70-130			
Surrogate: o-Terphenyl	60.0		"	52.1		115	70-130			

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Notes and Definitions

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

QM-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:



Date: 11/20/2017

Brent Barron, Laboratory Director/Technical Director

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

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

Permian Basin Environmental Lab, L.P.

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

CHAIN-OF-CUSTODY

Arson & Associates, Inc.
Environmental Consultants

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

Data Reported to:

DATE: 11/15/17
PO #: _____
PROJECT LOCATION OR NAME: Emerson
LAI PROJECT #: 16-0120-01
COLLECTOR: AT

PAGE 2 OF 2

Page 26 of 26

CHAIN-OF-CUSTODY

TRRP report? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		S=SOIL W=WATER A=AIR		P=PAINT SL=SLUDGE OT=OTHER		TIME ZONE: Time zone/State:		PRESERVATION HCl HNO ₃ H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> ICE UNPRESERVED		ANALYSES BTEX <input checked="" type="checkbox"/> MTBE <input type="checkbox"/> TPH 418.1 <input type="checkbox"/> TPH 1005 <input type="checkbox"/> TPH 1006 <input type="checkbox"/> GASOLINE MOD 8015 <input checked="" type="checkbox"/> DIESEL - MOD 8015 <input checked="" type="checkbox"/> VOC 8260 <input type="checkbox"/> SVOC 8270 <input type="checkbox"/> PAH 8270 <input type="checkbox"/> HOLDPAH <input type="checkbox"/> 8081 PESTICIDES <input type="checkbox"/> 8151 HERBICIDES <input type="checkbox"/> 8082 PCBs <input type="checkbox"/> TCDF - METALS (RCRA) <input type="checkbox"/> TCDF VOC <input type="checkbox"/> TCDF - PEST <input type="checkbox"/> HERB <input type="checkbox"/> Semi-VOC <input type="checkbox"/> TOTAL METALS (RCRA) <input type="checkbox"/> D.W. 200.8 <input type="checkbox"/> TCDF <input type="checkbox"/> LEAD - TOTAL <input type="checkbox"/> FLASHPOINT <input type="checkbox"/> RCI <input type="checkbox"/> TOX <input type="checkbox"/> % MOISTURE <input type="checkbox"/> CYANIDE <input type="checkbox"/> TDS <input type="checkbox"/> TSS <input type="checkbox"/> pH <input type="checkbox"/> HEXAVALENT CHROMIUM <input type="checkbox"/> EXPLOSIVES <input type="checkbox"/> PENTACHLORATE <input type="checkbox"/> CHLORIDES <input type="checkbox"/> ANIONS <input type="checkbox"/> ALKALINITY <input type="checkbox"/>	
Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers						
SW (2046)	16	11/15/17	11:46	S	1	X	X	X	X	X	
W (Bottom)	17	↓	11:50	↓	1	X	X	X	X	X	
TOTAL											
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)							
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)							
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)							
TURN AROUND TIME		LABORATORY USE ONLY:									
NORMAL <input type="checkbox"/>		RECEIVING TEMP: -3.8 THERM #: _____									
1 DAY <input type="checkbox"/>		CUSTODY SEALS - <input type="checkbox"/> BROKEN <input checked="" type="checkbox"/> INTACT <input type="checkbox"/> NOT USED									
2 DAY <input checked="" type="checkbox"/>		CARRIER BILL # _____									
OTHER <input type="checkbox"/>		HAND DELIVERED <input checked="" type="checkbox"/>									
FIELD NOTES											

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



Analytical Report

Prepared for:

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

Project: Epperson Site 1
Project Number: 16-0120-01
Location:

Lab Order Number: 7L01012



NELAP/TCEQ # T104704516-16-7

Report Date: 12/07/17

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N (4') Below Pipe	7L01012-01	Soil	12/01/17 10:00	12-01-2017 16:15

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

N (4') Below Pipe

7L01012-01 (Soil)

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

Organics by GC

Benzene	ND	0.00109	mg/kg dry	1	P7L0702	12/06/17	12/06/17	EPA 8021B	
Toluene	ND	0.00217	mg/kg dry	1	P7L0702	12/06/17	12/06/17	EPA 8021B	
Ethylbenzene	ND	0.00109	mg/kg dry	1	P7L0702	12/06/17	12/06/17	EPA 8021B	
Xylene (p/m)	ND	0.00217	mg/kg dry	1	P7L0702	12/06/17	12/06/17	EPA 8021B	
Xylene (o)	ND	0.00109	mg/kg dry	1	P7L0702	12/06/17	12/06/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		108 %	75-125		P7L0702	12/06/17	12/06/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		100 %	75-125		P7L0702	12/06/17	12/06/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	60.7	1.09	mg/kg dry	1	P7L0404	12/04/17	12/05/17	EPA 300.0	
% Moisture	8.0	0.1	%	1	P7L0502	12/05/17	12/05/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.2	mg/kg dry	1	P7L0504	12/04/17	12/04/17	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P7L0504	12/04/17	12/04/17	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P7L0504	12/04/17	12/04/17	TPH 8015M	
Surrogate: 1-Chlorooctane		106 %	70-130		P7L0504	12/04/17	12/04/17	TPH 8015M	
Surrogate: o-Terphenyl		118 %	70-130		P7L0504	12/04/17	12/04/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	12/04/17	12/04/17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7L0702 - General Preparation (GC)

Blank (P7L0702-BLK1)

Prepared & Analyzed: 12/06/17

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 4-Bromofluorobenzene	0.0548		"	0.0600		91.3	75-125			
Surrogate: 1,4-Difluorobenzene	0.0507		"	0.0600		84.4	75-125			

LCS (P7L0702-BS1)

Prepared & Analyzed: 12/06/17

Benzene	0.0889	0.00100	mg/kg wet	0.100		88.9	70-130			
Toluene	0.0946	0.00200	"	0.100		94.6	70-130			
Ethylbenzene	0.114	0.00100	"	0.100		114	70-130			
Xylene (p/m)	0.199	0.00200	"	0.200		99.5	70-130			
Xylene (o)	0.101	0.00100	"	0.100		101	70-130			
Surrogate: 4-Bromofluorobenzene	0.0500		"	0.0600		83.3	75-125			
Surrogate: 1,4-Difluorobenzene	0.0421		"	0.0600		70.2	75-125			S-GC

LCS Dup (P7L0702-BSD1)

Prepared & Analyzed: 12/06/17

Benzene	0.0842	0.00100	mg/kg wet	0.100		84.2	70-130	5.50	20	
Toluene	0.0895	0.00200	"	0.100		89.5	70-130	5.51	20	
Ethylbenzene	0.109	0.00100	"	0.100		109	70-130	3.65	20	
Xylene (p/m)	0.191	0.00200	"	0.200		95.4	70-130	4.24	20	
Xylene (o)	0.0969	0.00100	"	0.100		96.9	70-130	4.53	20	
Surrogate: 1,4-Difluorobenzene	0.0467		"	0.0600		77.8	75-125			
Surrogate: 4-Bromofluorobenzene	0.0502		"	0.0600		83.6	75-125			

Duplicate (P7L0702-DUP1)

Source: 7L04004-03

Prepared & Analyzed: 12/06/17

Benzene	ND	0.00111	mg/kg dry		ND				20	
Toluene	ND	0.00222	"		ND				20	
Ethylbenzene	ND	0.00111	"		ND				20	
Xylene (p/m)	ND	0.00222	"		ND				20	
Xylene (o)	ND	0.00111	"		ND				20	
Surrogate: 4-Bromofluorobenzene	0.0566		"	0.0667		85.0	75-125			
Surrogate: 1,4-Difluorobenzene	0.0527		"	0.0667		79.0	75-125			

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7L0404 - * DEFAULT PREP *****

Blank (P7L0404-BLK1)				Prepared: 12/04/17 Analyzed: 12/05/17						
Chloride	ND	1.00	mg/kg wet							
LCS (P7L0404-BS1)				Prepared: 12/04/17 Analyzed: 12/05/17						
Chloride	430	1.00	mg/kg wet	400		108	80-120			
LCS Dup (P7L0404-BSD1)				Prepared: 12/04/17 Analyzed: 12/05/17						
Chloride	429	1.00	mg/kg wet	400		107	80-120	0.342	20	
Duplicate (P7L0404-DUP1)				Source: 7L01006-01		Prepared: 12/04/17 Analyzed: 12/05/17				
Chloride	61.7	1.01	mg/kg dry		61.4			0.492	20	
Matrix Spike (P7L0404-MS1)				Source: 7L01006-01		Prepared: 12/04/17 Analyzed: 12/05/17				
Chloride	2150	25.3	mg/kg dry	2020	61.4	104	80-120			

Batch P7L0502 - * DEFAULT PREP *****

Blank (P7L0502-BLK1)				Prepared & Analyzed: 12/05/17						
% Moisture	ND	0.1	%							
Duplicate (P7L0502-DUP1)				Source: 7K30001-01		Prepared & Analyzed: 12/05/17				
% Moisture	4.0	0.1	%		5.0			22.2	20	
Duplicate (P7L0502-DUP2)				Source: 7L01009-01		Prepared & Analyzed: 12/05/17				
% Moisture	8.0	0.1	%		8.0			0.00	20	

Permian Basin Environmental Lab, L.P.

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Midland TX, 79710

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P7L0504 - TX 1005										
Blank (P7L0504-BLK1)				Prepared & Analyzed: 12/04/17						
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	95.1		"	100		95.1	70-130			
Surrogate: o-Terphenyl	47.9		"	50.0		95.9	70-130			
LCS (P7L0504-BS1)				Prepared & Analyzed: 12/04/17						
C6-C12	1020	25.0	mg/kg wet	1000		102	75-125			
>C12-C28	1060	25.0	"	1000		106	75-125			
Surrogate: 1-Chlorooctane	108		"	100		108	70-130			
Surrogate: o-Terphenyl	55.4		"	50.0		111	70-130			
LCS Dup (P7L0504-BSD1)				Prepared & Analyzed: 12/04/17						
C6-C12	1110	25.0	mg/kg wet	1000		111	75-125	8.48	20	
>C12-C28	1160	25.0	"	1000		116	75-125	9.12	20	
Surrogate: 1-Chlorooctane	108		"	100		108	70-130			
Surrogate: o-Terphenyl	60.5		"	50.0		121	70-130			
Duplicate (P7L0504-DUP1)				Source: 7L04004-06	Prepared: 12/04/17 Analyzed: 12/05/17					
C6-C12	296	28.1	mg/kg dry		284			4.15	20	
>C12-C28	3090	28.1	"		2940			4.94	20	
Surrogate: 1-Chlorooctane	144		"	112		128	70-130			
Surrogate: o-Terphenyl	79.0		"	56.2		141	70-130			S-GC

Permian Basin Environmental Lab, L.P.

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Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Notes and Definitions

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

BULK Samples received in Bulk soil containers

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:



Date:

12/7/2017

Brent Barron, Laboratory Director/Technical Director

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Permian Basin Environmental Lab, L.P.

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

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

DATE: 12/1/17 PAGE 1 OF 1
PO #: _____ LAB WORK ORDER # 261012
PROJECT LOCATION OR NAME: Epperson #1
LAI PROJECT #: 16-120-01 COLLECTOR: Ashton

Page 8 of 8

CHAIN-OF-CUSTODY

Released to Imaging: 3/9/2023 9:39:30 AM

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



Analytical Report

Prepared for:

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

Project: Epperson Site 1
Project Number: 16-0120-01
Location: New Mexico
Lab Order Number: 8A15009



NELAP/TCEQ # T104704516-16-7

Report Date: 01/19/18

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DP-11 (24ft)	8A15009-01	Soil	01/15/18 09:50	01-15-2018 15:53
DP-11 (26ft)	8A15009-02	Soil	01/15/18 10:30	01-15-2018 15:53
DP-11 (28ft)	8A15009-03	Soil	01/15/18 10:45	01-15-2018 15:53

Larson & Associates, Inc.
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Midland TX, 79710

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP-11 (24ft)
8A15009-01 (Soil)

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

Organics by GC

Benzene	56.7	1.08	mg/kg dry	1000	P8A1601	01/16/18	01/19/18	EPA 8021B	
Toluene	331	2.15	mg/kg dry	1000	P8A1601	01/16/18	01/19/18	EPA 8021B	
Ethylbenzene	88.3	1.08	mg/kg dry	1000	P8A1601	01/16/18	01/19/18	EPA 8021B	
Xylene (p/m)	153	2.15	mg/kg dry	1000	P8A1601	01/16/18	01/19/18	EPA 8021B	
Xylene (o)	46.6	1.08	mg/kg dry	1000	P8A1601	01/16/18	01/19/18	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		135 %	75-125		P8A1601	01/16/18	01/19/18	EPA 8021B	S-GC
<i>Surrogate: 1,4-Difluorobenzene</i>		106 %	75-125		P8A1601	01/16/18	01/19/18	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	17.1	1.08	mg/kg dry	1	P8A1512	01/15/18	01/15/18	EPA 300.0	
% Moisture	7.0	0.1	%	1	P8A1710	01/17/18	01/17/18	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	6760	134	mg/kg dry	5	P8A1511	01/15/18	01/15/18	TPH 8015M	
>C12-C28	868	134	mg/kg dry	5	P8A1511	01/15/18	01/15/18	TPH 8015M	
>C28-C35	ND	134	mg/kg dry	5	P8A1511	01/15/18	01/15/18	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		123 %	70-130		P8A1511	01/15/18	01/15/18	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		130 %	70-130		P8A1511	01/15/18	01/15/18	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	7620	134	mg/kg dry	5	[CALC]	01/15/18	01/15/18	calc	

Permian Basin Environmental Lab, L.P.

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP-11 (26ft)
8A15009-02 (Soil)

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

Organics by GC

Benzene	27.4	1.10	mg/kg dry	1000	P8A1601	01/16/18	01/19/18	EPA 8021B	
Toluene	188	2.20	mg/kg dry	1000	P8A1601	01/16/18	01/19/18	EPA 8021B	
Ethylbenzene	54.6	1.10	mg/kg dry	1000	P8A1601	01/16/18	01/19/18	EPA 8021B	
Xylene (p/m)	94.0	2.20	mg/kg dry	1000	P8A1601	01/16/18	01/19/18	EPA 8021B	
Xylene (o)	27.8	1.10	mg/kg dry	1000	P8A1601	01/16/18	01/19/18	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		94.0 %	75-125		P8A1601	01/16/18	01/19/18	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		109 %	75-125		P8A1601	01/16/18	01/19/18	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	45.8	1.10	mg/kg dry	1	P8A1512	01/15/18	01/15/18	EPA 300.0	
% Moisture	9.0	0.1	%	1	P8A1710	01/17/18	01/17/18	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	3300	137	mg/kg dry	5	P8A1511	01/15/18	01/15/18	TPH 8015M	
>C12-C28	346	137	mg/kg dry	5	P8A1511	01/15/18	01/15/18	TPH 8015M	
>C28-C35	ND	137	mg/kg dry	5	P8A1511	01/15/18	01/15/18	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		109 %	70-130		P8A1511	01/15/18	01/15/18	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		111 %	70-130		P8A1511	01/15/18	01/15/18	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	3650	137	mg/kg dry	5	[CALC]	01/15/18	01/15/18	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP-11 (28ft)
8A15009-03 (Soil)

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

Organics by GC

Benzene	11.0	1.16	mg/kg dry	1000	P8A1601	01/16/18	01/19/18	EPA 8021B	
Toluene	71.7	2.33	mg/kg dry	1000	P8A1601	01/16/18	01/19/18	EPA 8021B	
Ethylbenzene	22.6	1.16	mg/kg dry	1000	P8A1601	01/16/18	01/19/18	EPA 8021B	
Xylene (p/m)	40.8	2.33	mg/kg dry	1000	P8A1601	01/16/18	01/19/18	EPA 8021B	
Xylene (o)	10.7	1.16	mg/kg dry	1000	P8A1601	01/16/18	01/19/18	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>110 %</i>	<i>75-125</i>		<i>P8A1601</i>	<i>01/16/18</i>	<i>01/19/18</i>	<i>EPA 8021B</i>	
<i>Surrogate: 1,4-Difluorobenzene</i>		<i>91.6 %</i>	<i>75-125</i>		<i>P8A1601</i>	<i>01/16/18</i>	<i>01/19/18</i>	<i>EPA 8021B</i>	

General Chemistry Parameters by EPA / Standard Methods

Chloride	36.2	1.16	mg/kg dry	1	P8A1512	01/15/18	01/15/18	EPA 300.0	
% Moisture	14.0	0.1	%	1	P8A1710	01/17/18	01/17/18	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	1490	145	mg/kg dry	5	P8A1511	01/15/18	01/15/18	TPH 8015M	
>C12-C28	238	145	mg/kg dry	5	P8A1511	01/15/18	01/15/18	TPH 8015M	
>C28-C35	ND	145	mg/kg dry	5	P8A1511	01/15/18	01/15/18	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		<i>124 %</i>	<i>70-130</i>		<i>P8A1511</i>	<i>01/15/18</i>	<i>01/15/18</i>	<i>TPH 8015M</i>	
<i>Surrogate: o-Terphenyl</i>		<i>118 %</i>	<i>70-130</i>		<i>P8A1511</i>	<i>01/15/18</i>	<i>01/15/18</i>	<i>TPH 8015M</i>	
Total Petroleum Hydrocarbon C6-C35	1720	145	mg/kg dry	5	[CALC]	01/15/18	01/15/18	calc	

Permian Basin Environmental Lab, L.P.

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Midland TX, 79710

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P8A1601 - * DEFAULT PREP *****

Blank (P8A1601-BLK1)

Prepared: 01/16/18 Analyzed: 01/19/18

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	0.0559		"	0.0600		93.2	75-125			
Surrogate: 4-Bromofluorobenzene	0.0717		"	0.0600		119	75-125			

LCS (P8A1601-BS1)

Prepared: 01/16/18 Analyzed: 01/19/18

Benzene	0.115	0.00100	mg/kg wet	0.100		115	70-130			
Toluene	0.119	0.00200	"	0.100		119	70-130			
Ethylbenzene	0.116	0.00100	"	0.100		116	70-130			
Xylene (p/m)	0.223	0.00200	"				70-130			
Xylene (o)	0.120	0.00100	"				70-130			
Surrogate: 4-Bromofluorobenzene	0.0683		"	0.0600		114	75-125			
Surrogate: 1,4-Difluorobenzene	0.0667		"	0.0600		111	75-125			

LCS Dup (P8A1601-BSD1)

Prepared: 01/16/18 Analyzed: 01/19/18

Benzene	0.102	0.00100	mg/kg wet	0.100		102	70-130	12.0	20	
Toluene	0.110	0.00200	"	0.100		110	70-130	8.02	20	
Ethylbenzene	0.110	0.00100	"	0.100		110	70-130	5.56	20	
Xylene (p/m)	0.217	0.00200	"				70-130		20	
Xylene (o)	0.119	0.00100	"				70-130		20	
Surrogate: 4-Bromofluorobenzene	0.0609		"	0.0600		101	75-125			
Surrogate: 1,4-Difluorobenzene	0.0536		"	0.0600		89.4	75-125			

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P8A1512 - * DEFAULT PREP *****

Blank (P8A1512-BLK1)				Prepared & Analyzed: 01/15/18						
Chloride	ND	1.00	mg/kg wet							
LCS (P8A1512-BS1)				Prepared & Analyzed: 01/15/18						
Chloride	414	1.00	mg/kg wet	400		103	80-120			
LCS Dup (P8A1512-BSD1)				Prepared & Analyzed: 01/15/18						
Chloride	411	1.00	mg/kg wet	400		103	80-120	0.616	20	
Duplicate (P8A1512-DUP1)				Source: 8A15009-01		Prepared & Analyzed: 01/15/18				
Chloride	9.98	1.08	mg/kg dry		17.1			52.3	20	
Duplicate (P8A1512-DUP2)				Source: 8A11001-04		Prepared & Analyzed: 01/15/18				
Chloride	504	1.10	mg/kg dry		498			1.16	20	
Matrix Spike (P8A1512-MS1)				Source: 8A15009-01		Prepared & Analyzed: 01/15/18				
Chloride	1160	1.08	mg/kg dry	1080	17.1	106	80-120			

Batch P8A1710 - * DEFAULT PREP *****

Blank (P8A1710-BLK1)				Prepared & Analyzed: 01/17/18						
% Moisture	ND	0.1	%							
Duplicate (P8A1710-DUP1)				Source: 8A13003-02		Prepared & Analyzed: 01/17/18				
% Moisture	14.0	0.1	%		15.0			6.90	20	
Duplicate (P8A1710-DUP2)				Source: 8A13004-05		Prepared & Analyzed: 01/17/18				
% Moisture	5.0	0.1	%		4.0			22.2	20	

Permian Basin Environmental Lab, L.P.

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Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P8A1710 - * DEFAULT PREP *****

Duplicate (P8A1710-DUP3)	Source: 8A13005-08		Prepared & Analyzed: 01/17/18							
% Moisture	6.0	0.1	%		7.0			15.4	20	
Duplicate (P8A1710-DUP4)	Source: 8A15010-12		Prepared & Analyzed: 01/17/18							
% Moisture	6.0	0.1	%		6.0			0.00	20	
Duplicate (P8A1710-DUP5)	Source: 8A15010-34		Prepared & Analyzed: 01/17/18							
% Moisture	2.0	0.1	%		3.0			40.0	20	
Duplicate (P8A1710-DUP6)	Source: 8A17002-11		Prepared & Analyzed: 01/17/18							
% Moisture	4.0	0.1	%		4.0			0.00	20	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P8A1511 - TX 1005										
Blank (P8A1511-BLK1)				Prepared & Analyzed: 01/15/18						
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	94.8		"	100		94.8	70-130			
Surrogate: o-Terphenyl	49.5		"	50.0		99.0	70-130			
LCS (P8A1511-BS1)				Prepared & Analyzed: 01/15/18						
C6-C12	936	25.0	mg/kg wet	1000		93.6	75-125			
>C12-C28	1060	25.0	"	1000		106	75-125			
Surrogate: 1-Chlorooctane	128		"	100		128	70-130			
Surrogate: o-Terphenyl	55.3		"	50.0		111	70-130			
LCS Dup (P8A1511-BSD1)				Prepared & Analyzed: 01/15/18						
C6-C12	920	25.0	mg/kg wet	1000		92.0	75-125	1.71	20	
>C12-C28	1050	25.0	"	1000		105	75-125	0.692	20	
Surrogate: 1-Chlorooctane	124		"	100		124	70-130			
Surrogate: o-Terphenyl	55.6		"	50.0		111	70-130			
Duplicate (P8A1511-DUP1)				Source: 8A13004-17	Prepared & Analyzed: 01/15/18					
C6-C12	12.8	25.3	mg/kg dry		12.8			0.237	20	
>C12-C28	ND	25.3	"		ND				20	
Surrogate: 1-Chlorooctane	106		"	101		105	70-130			
Surrogate: o-Terphenyl	59.6		"	50.5		118	70-130			

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson Site 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Notes and Definitions

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

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:



Date:

1/19/2018

Brent Barron, Laboratory Director/Technical Director

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

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

Permian Basin Environmental Lab, L.P.

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

La arson &
associates, Inc.
Environmental Consultants

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

Data Reported to:

DATE: 1/15/18
PO #:
PROJECT LOCATION OR NAME:
LAB PROJECT #: 16-0120-01
COLLECTOR: Ashton
LAB WORK ORDER #: 8415009

Page 11 of 11

CHAIN-OF-CUSTODY

TRRP report? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No TIME ZONE: Time zone/State: M5t		S=SOIL W=WATER A=AIR		P=PAINT SL=SLUDGE OT=OTHER		PRESERVATION HCl HNO ₃ H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> ICE UNPRESERVED		ANALYSES BTEX <input checked="" type="checkbox"/> MTBE <input type="checkbox"/> TPH 418.1 <input type="checkbox"/> TPH 1005 <input type="checkbox"/> TPH 1006 <input type="checkbox"/> GASOLINE MOD 8015 <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> DIESEL - MOD 8015 <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> VOC 8260 <input type="checkbox"/> SVOC 8270 <input type="checkbox"/> PAH 8270 <input type="checkbox"/> HOLDPAH <input type="checkbox"/> 8081 PESTICIDES <input type="checkbox"/> 8151 HERBICIDES <input type="checkbox"/> 8082 PCBs <input type="checkbox"/> TCLP - METALS (RCRA) <input type="checkbox"/> TCLP VOC <input type="checkbox"/> TCLP - PEST <input type="checkbox"/> HERB <input type="checkbox"/> Sem-VOC <input type="checkbox"/> TOTAL METALS (RCRA) <input type="checkbox"/> OTHER LIST <input type="checkbox"/> LEAD - TOTAL <input type="checkbox"/> D.W. 200.8 <input type="checkbox"/> TCLP <input type="checkbox"/> RCI <input type="checkbox"/> TOX <input type="checkbox"/> FLASHPOINT <input type="checkbox"/> TDS <input type="checkbox"/> TSS <input type="checkbox"/> % MOISTURE <input type="checkbox"/> CYANIDE <input type="checkbox"/> PH <input type="checkbox"/> HEXAVALENT CHROMIUM <input type="checkbox"/> EXPLOSIVES <input type="checkbox"/> PENTACHLORATE <input type="checkbox"/> CHLORIDE <input type="checkbox"/> ANIONS <input type="checkbox"/> ALKALINITY <input type="checkbox"/>		FIELD NOTES	
Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers						
DE-H (24ft)		1/15/18	4:50	S	1						
(26ft)			10:30	S							
(28ft)			10:45	S	1						
TOTAL											
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME		TURN AROUND TIME			
RELINQUISHED BY: (Signature)		1/15/18 3:53		RECEIVED BY: (Signature)				NORMAL <input type="checkbox"/> 1 DAY <input checked="" type="checkbox"/> Rush			
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME		LABORATORY USE ONLY: 250.4 (4.2)			
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME		RECEIVING TEMP: 3.8 THERM #: 21			
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME		CUSTODY SEALS - <input type="checkbox"/> BROKEN <input type="checkbox"/> INTACT <input type="checkbox"/> NOT USED			
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME		CARRIER BILL #			
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME		HAND DELIVERED			

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



Analytical Report

Prepared for:

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Location: NM

Lab Order Number: 0B25002



NELAP/TCEQ # T104704516-17-8

Report Date: 03/02/20

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SW-1 (2')	0B25002-01	Soil	02/20/20 13:20	02-25-2020 09:06
SW-2 (2')	0B25002-02	Soil	02/21/20 08:37	02-25-2020 09:06
SW-3 (2')	0B25002-03	Soil	02/21/20 09:10	02-25-2020 09:06
SW-4 (2')	0B25002-04	Soil	02/21/20 09:20	02-25-2020 09:06
SW-5 (2')	0B25002-05	Soil	02/21/20 09:38	02-25-2020 09:06
SW-6 (2')	0B25002-06	Soil	02/21/20 09:47	02-25-2020 09:06
SW-7 (2')	0B25002-07	Soil	02/21/20 11:16	02-25-2020 09:06
SW-8 (2')	0B25002-08	Soil	02/21/20 11:27	02-25-2020 09:06
BH-5 (6')	0B25002-09	Soil	02/24/20 13:00	02-25-2020 09:06
BH-5 (8')	0B25002-10	Soil	02/24/20 13:15	02-25-2020 09:06

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SW-1 (2')
0B25002-01 (Soil)

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

Organics by GC

Benzene	ND	0.00105	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Toluene	ND	0.00105	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Ethylbenzene	ND	0.00105	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Xylene (p/m)	ND	0.00211	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Xylene (o)	ND	0.00105	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		98.3 %		75-125	P0B2505	02/25/20	02/25/20	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		95.8 %		75-125	P0B2505	02/25/20	02/25/20	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	79.2	1.05	mg/kg dry	1	P0B2510	02/25/20	02/25/20	EPA 300.0	
% Moisture	5.0	0.1	%	1	P0B2603	02/26/20	02/26/20	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.3	mg/kg dry	1	P0B2508	02/25/20	02/25/20	TPH 8015M	
>C12-C28	ND	26.3	mg/kg dry	1	P0B2508	02/25/20	02/25/20	TPH 8015M	
>C28-C35	ND	26.3	mg/kg dry	1	P0B2508	02/25/20	02/25/20	TPH 8015M	
Surrogate: 1-Chlorooctane		93.8 %		70-130	P0B2508	02/25/20	02/25/20	TPH 8015M	
Surrogate: o-Terphenyl		104 %		70-130	P0B2508	02/25/20	02/25/20	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.3	mg/kg dry	1	[CALC]	02/25/20	02/25/20	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SW-2 (2')
0B25002-02 (Soil)

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

Organics by GC

Benzene	ND	0.00104	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Toluene	ND	0.00104	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Ethylbenzene	ND	0.00104	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Xylene (p/m)	ND	0.00208	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Xylene (o)	ND	0.00104	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		101 %	75-125		P0B2505	02/25/20	02/25/20	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		95.8 %	75-125		P0B2505	02/25/20	02/25/20	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	28.8	1.04	mg/kg dry	1	P0B2510	02/25/20	02/25/20	EPA 300.0	
% Moisture	4.0	0.1	%	1	P0B2603	02/26/20	02/26/20	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.0	mg/kg dry	1	P0B2508	02/25/20	02/25/20	TPH 8015M	
>C12-C28	ND	26.0	mg/kg dry	1	P0B2508	02/25/20	02/25/20	TPH 8015M	
>C28-C35	ND	26.0	mg/kg dry	1	P0B2508	02/25/20	02/25/20	TPH 8015M	
Surrogate: 1-Chlorooctane		97.6 %	70-130		P0B2508	02/25/20	02/25/20	TPH 8015M	
Surrogate: o-Terphenyl		107 %	70-130		P0B2508	02/25/20	02/25/20	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.0	mg/kg dry	1	[CALC]	02/25/20	02/25/20	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SW-3 (2')
0B25002-03 (Soil)

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

Organics by GC

Benzene	ND	0.00108	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Toluene	ND	0.00108	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Ethylbenzene	ND	0.00108	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Xylene (p/m)	ND	0.00215	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Xylene (o)	ND	0.00108	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		96.3 %	75-125		P0B2505	02/25/20	02/25/20	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		97.5 %	75-125		P0B2505	02/25/20	02/25/20	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	18.9	1.08	mg/kg dry	1	P0B2510	02/25/20	02/25/20	EPA 300.0	
% Moisture	7.0	0.1	%	1	P0B2603	02/26/20	02/26/20	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.9	mg/kg dry	1	P0B2508	02/25/20	02/25/20	TPH 8015M	
>C12-C28	ND	26.9	mg/kg dry	1	P0B2508	02/25/20	02/25/20	TPH 8015M	
>C28-C35	ND	26.9	mg/kg dry	1	P0B2508	02/25/20	02/25/20	TPH 8015M	
Surrogate: 1-Chlorooctane		98.9 %	70-130		P0B2508	02/25/20	02/25/20	TPH 8015M	
Surrogate: o-Terphenyl		110 %	70-130		P0B2508	02/25/20	02/25/20	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.9	mg/kg dry	1	[CALC]	02/25/20	02/25/20	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SW-4 (2')
0B25002-04 (Soil)

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

Organics by GC

Benzene	ND	0.00114	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Toluene	ND	0.00114	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Ethylbenzene	ND	0.00114	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Xylene (p/m)	ND	0.00227	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Xylene (o)	ND	0.00114	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		96.3 %	75-125		P0B2505	02/25/20	02/25/20	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		97.7 %	75-125		P0B2505	02/25/20	02/25/20	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	18.3	1.14	mg/kg dry	1	P0B2510	02/25/20	02/25/20	EPA 300.0	
% Moisture	12.0	0.1	%	1	P0B2603	02/26/20	02/26/20	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	28.4	mg/kg dry	1	P0B2508	02/25/20	02/25/20	TPH 8015M	
>C12-C28	ND	28.4	mg/kg dry	1	P0B2508	02/25/20	02/25/20	TPH 8015M	
>C28-C35	ND	28.4	mg/kg dry	1	P0B2508	02/25/20	02/25/20	TPH 8015M	
Surrogate: 1-Chlorooctane		100 %	70-130		P0B2508	02/25/20	02/25/20	TPH 8015M	
Surrogate: o-Terphenyl		111 %	70-130		P0B2508	02/25/20	02/25/20	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	28.4	mg/kg dry	1	[CALC]	02/25/20	02/25/20	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SW-5 (2')
0B25002-05 (Soil)

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

Organics by GC

Benzene	ND	0.00111	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Toluene	ND	0.00111	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Ethylbenzene	ND	0.00111	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Xylene (p/m)	ND	0.00222	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Xylene (o)	ND	0.00111	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		96.9 %	75-125		P0B2505	02/25/20	02/25/20	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		94.3 %	75-125		P0B2505	02/25/20	02/25/20	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	19.7	1.11	mg/kg dry	1	P0B2510	02/25/20	02/25/20	EPA 300.0	
% Moisture	10.0	0.1	%	1	P0B2603	02/26/20	02/26/20	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.8	mg/kg dry	1	P0B2508	02/25/20	02/25/20	TPH 8015M	
>C12-C28	ND	27.8	mg/kg dry	1	P0B2508	02/25/20	02/25/20	TPH 8015M	
>C28-C35	ND	27.8	mg/kg dry	1	P0B2508	02/25/20	02/25/20	TPH 8015M	
Surrogate: 1-Chlorooctane		97.9 %	70-130		P0B2508	02/25/20	02/25/20	TPH 8015M	
Surrogate: o-Terphenyl		107 %	70-130		P0B2508	02/25/20	02/25/20	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.8	mg/kg dry	1	[CALC]	02/25/20	02/25/20	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SW-6 (2')
0B25002-06 (Soil)

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

Organics by GC

Benzene	ND	0.00110	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Toluene	ND	0.00110	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Ethylbenzene	ND	0.00110	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Xylene (p/m)	ND	0.00220	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Xylene (o)	ND	0.00110	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		97.6 %	75-125		P0B2505	02/25/20	02/25/20	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		95.7 %	75-125		P0B2505	02/25/20	02/25/20	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	93.6	1.10	mg/kg dry	1	P0B2510	02/25/20	02/25/20	EPA 300.0	
% Moisture	9.0	0.1	%	1	P0B2603	02/26/20	02/26/20	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.5	mg/kg dry	1	P0B2508	02/25/20	02/25/20	TPH 8015M	
>C12-C28	ND	27.5	mg/kg dry	1	P0B2508	02/25/20	02/25/20	TPH 8015M	
>C28-C35	ND	27.5	mg/kg dry	1	P0B2508	02/25/20	02/25/20	TPH 8015M	
Surrogate: 1-Chlorooctane		98.7 %	70-130		P0B2508	02/25/20	02/25/20	TPH 8015M	
Surrogate: o-Terphenyl		107 %	70-130		P0B2508	02/25/20	02/25/20	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.5	mg/kg dry	1	[CALC]	02/25/20	02/25/20	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SW-7 (2')
0B25002-07 (Soil)

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

Organics by GC

Benzene	ND	0.00110	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Toluene	ND	0.00110	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Ethylbenzene	ND	0.00110	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Xylene (p/m)	ND	0.00220	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Xylene (o)	ND	0.00110	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		96.9 %	75-125		P0B2505	02/25/20	02/25/20	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		95.6 %	75-125		P0B2505	02/25/20	02/25/20	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	21.0	1.10	mg/kg dry	1	P0B2510	02/25/20	02/25/20	EPA 300.0	
% Moisture	9.0	0.1	%	1	P0B2603	02/26/20	02/26/20	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.5	mg/kg dry	1	P0B2508	02/25/20	02/25/20	TPH 8015M	
>C12-C28	ND	27.5	mg/kg dry	1	P0B2508	02/25/20	02/25/20	TPH 8015M	
>C28-C35	ND	27.5	mg/kg dry	1	P0B2508	02/25/20	02/25/20	TPH 8015M	
Surrogate: 1-Chlorooctane		101 %	70-130		P0B2508	02/25/20	02/25/20	TPH 8015M	
Surrogate: o-Terphenyl		111 %	70-130		P0B2508	02/25/20	02/25/20	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.5	mg/kg dry	1	[CALC]	02/25/20	02/25/20	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SW-8 (2')
0B25002-08 (Soil)

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

Organics by GC

Benzene	ND	0.00110	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Toluene	ND	0.00110	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Ethylbenzene	ND	0.00110	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Xylene (p/m)	ND	0.00220	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Xylene (o)	ND	0.00110	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		94.9 %	75-125		P0B2505	02/25/20	02/25/20	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		98.0 %	75-125		P0B2505	02/25/20	02/25/20	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	42.1	1.10	mg/kg dry	1	P0B2510	02/25/20	02/25/20	EPA 300.0	
% Moisture	9.0	0.1	%	1	P0B2603	02/26/20	02/26/20	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.5	mg/kg dry	1	P0B2508	02/25/20	02/26/20	TPH 8015M	
>C12-C28	ND	27.5	mg/kg dry	1	P0B2508	02/25/20	02/26/20	TPH 8015M	
>C28-C35	ND	27.5	mg/kg dry	1	P0B2508	02/25/20	02/26/20	TPH 8015M	
Surrogate: 1-Chlorooctane		99.4 %	70-130		P0B2508	02/25/20	02/26/20	TPH 8015M	
Surrogate: o-Terphenyl		108 %	70-130		P0B2508	02/25/20	02/26/20	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.5	mg/kg dry	1	[CALC]	02/25/20	02/26/20	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

BH-5 (6')
0B25002-09 (Soil)

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

Organics by GC

Benzene	ND	0.00109	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Toluene	0.00211	0.00109	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Ethylbenzene	ND	0.00109	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Xylene (p/m)	ND	0.00217	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Xylene (o)	ND	0.00109	mg/kg dry	1	P0B2505	02/25/20	02/25/20	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		91.1 %	75-125		P0B2505	02/25/20	02/25/20	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		95.1 %	75-125		P0B2505	02/25/20	02/25/20	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	12.5	1.09	mg/kg dry	1	P0B2510	02/25/20	02/25/20	EPA 300.0	
% Moisture	8.0	0.1	%	1	P0B2603	02/26/20	02/26/20	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.2	mg/kg dry	1	P0B2607	02/26/20	02/26/20	TPH 8015M	
>C12-C28	36.6	27.2	mg/kg dry	1	P0B2607	02/26/20	02/26/20	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P0B2607	02/26/20	02/26/20	TPH 8015M	
Surrogate: 1-Chlorooctane		96.9 %	70-130		P0B2607	02/26/20	02/26/20	TPH 8015M	
Surrogate: o-Terphenyl		105 %	70-130		P0B2607	02/26/20	02/26/20	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	36.6	27.2	mg/kg dry	1	[CALC]	02/26/20	02/26/20	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

BH-5 (8')
0B25002-10 (Soil)

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

Organics by GC

Benzene	ND	0.0215	mg/kg dry	20	P0B2803	02/28/20	02/28/20	EPA 8021B	
Toluene	0.0348	0.0215	mg/kg dry	20	P0B2803	02/28/20	02/28/20	EPA 8021B	
Ethylbenzene	ND	0.0215	mg/kg dry	20	P0B2803	02/28/20	02/28/20	EPA 8021B	
Xylene (p/m)	0.0845	0.0430	mg/kg dry	20	P0B2803	02/28/20	02/28/20	EPA 8021B	
Xylene (o)	ND	0.0215	mg/kg dry	20	P0B2803	02/28/20	02/28/20	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		90.3 %	75-125		P0B2803	02/28/20	02/28/20	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		90.9 %	75-125		P0B2803	02/28/20	02/28/20	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	12.5	1.08	mg/kg dry	1	P0B2601	02/26/20	02/26/20	EPA 300.0	
% Moisture	7.0	0.1	%	1	P0B2603	02/26/20	02/26/20	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	95.8	26.9	mg/kg dry	1	P0B2607	02/26/20	02/26/20	TPH 8015M	
>C12-C28	33.9	26.9	mg/kg dry	1	P0B2607	02/26/20	02/26/20	TPH 8015M	
>C28-C35	ND	26.9	mg/kg dry	1	P0B2607	02/26/20	02/26/20	TPH 8015M	
Surrogate: 1-Chlorooctane		90.3 %	70-130		P0B2607	02/26/20	02/26/20	TPH 8015M	
Surrogate: o-Terphenyl		93.2 %	70-130		P0B2607	02/26/20	02/26/20	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	130	26.9	mg/kg dry	1	[CALC]	02/26/20	02/26/20	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P0B2505 - General Preparation (GC)

Blank (P0B2505-BLK1)

Prepared & Analyzed: 02/25/20

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	0.111		"	0.120		92.5	75-125			
Surrogate: 4-Bromofluorobenzene	0.116		"	0.120		96.4	75-125			

LCS (P0B2505-BS1)

Prepared & Analyzed: 02/25/20

Benzene	0.112	0.00100	mg/kg wet	0.100		112	70-130			
Toluene	0.111	0.00100	"	0.100		111	70-130			
Ethylbenzene	0.113	0.00100	"	0.100		113	70-130			
Xylene (p/m)	0.229	0.00200	"	0.200		115	70-130			
Xylene (o)	0.118	0.00100	"	0.100		118	70-130			
Surrogate: 4-Bromofluorobenzene	0.121		"	0.120		101	75-125			
Surrogate: 1,4-Difluorobenzene	0.118		"	0.120		98.7	75-125			

LCS Dup (P0B2505-BSD1)

Prepared & Analyzed: 02/25/20

Benzene	0.113	0.00100	mg/kg wet	0.100		113	70-130	0.747	20	
Toluene	0.110	0.00100	"	0.100		110	70-130	1.04	20	
Ethylbenzene	0.114	0.00100	"	0.100		114	70-130	0.748	20	
Xylene (p/m)	0.225	0.00200	"	0.200		113	70-130	1.67	20	
Xylene (o)	0.117	0.00100	"	0.100		117	70-130	0.307	20	
Surrogate: 4-Bromofluorobenzene	0.118		"	0.120		98.1	75-125			
Surrogate: 1,4-Difluorobenzene	0.116		"	0.120		97.1	75-125			

Calibration Blank (P0B2505-CCB1)

Prepared & Analyzed: 02/25/20

Benzene	0.00		mg/kg wet							
Toluene	0.00		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.00		"							
Xylene (o)	0.00		"							
Surrogate: 4-Bromofluorobenzene	0.117		"	0.120		97.6	75-125			
Surrogate: 1,4-Difluorobenzene	0.111		"	0.120		92.7	75-125			

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P0B2505 - General Preparation (GC)

Calibration Blank (P0B2505-CCB2)

Prepared & Analyzed: 02/25/20

Benzene	0.00		mg/kg wet							
Toluene	0.00		"							
Ethylbenzene	0.900		"							
Xylene (p/m)	1.99		"							
Xylene (o)	0.00		"							
Surrogate: 4-Bromofluorobenzene	0.117		"	0.120		97.7	75-125			
Surrogate: 1,4-Difluorobenzene	0.109		"	0.120		91.0	75-125			

Calibration Blank (P0B2505-CCB3)

Prepared: 02/25/20 Analyzed: 02/26/20

Benzene	0.00		mg/kg wet							
Toluene	0.00		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.00		"							
Xylene (o)	0.00		"							
Surrogate: 4-Bromofluorobenzene	0.00		"	0.120			75-125			
Surrogate: 1,4-Difluorobenzene	0.00		"	0.120			75-125			

Calibration Check (P0B2505-CCV1)

Prepared & Analyzed: 02/25/20

Benzene	0.102	0.00100	mg/kg wet	0.100		102	80-120			
Toluene	0.0995	0.00100	"	0.100		99.5	80-120			
Ethylbenzene	0.104	0.00100	"	0.100		104	80-120			
Xylene (p/m)	0.202	0.00200	"	0.200		101	80-120			
Xylene (o)	0.104	0.00100	"	0.100		104	80-120			
Surrogate: 4-Bromofluorobenzene	0.120		"	0.120		99.9	75-125			
Surrogate: 1,4-Difluorobenzene	0.118		"	0.120		98.6	75-125			

Calibration Check (P0B2505-CCV2)

Prepared & Analyzed: 02/25/20

Benzene	0.0988	0.00100	mg/kg wet	0.100		98.8	80-120			
Toluene	0.102	0.00100	"	0.100		102	80-120			
Ethylbenzene	0.102	0.00100	"	0.100		102	80-120			
Xylene (p/m)	0.200	0.00200	"	0.200		99.8	80-120			
Xylene (o)	0.0921	0.00100	"	0.100		92.1	80-120			
Surrogate: 1,4-Difluorobenzene	0.115		"	0.120		96.1	75-125			
Surrogate: 4-Bromofluorobenzene	0.113		"	0.120		94.6	75-125			

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P0B2505 - General Preparation (GC)

Calibration Check (P0B2505-CCV3)

Prepared & Analyzed: 02/25/20

Benzene	0.0981	0.00100	mg/kg wet	0.100		98.1	80-120			
Toluene	0.0983	0.00100	"	0.100		98.3	80-120			
Ethylbenzene	0.103	0.00100	"	0.100		103	80-120			
Xylene (p/m)	0.194	0.00200	"	0.200		96.8	80-120			
Xylene (o)	0.111	0.00100	"	0.100		111	80-120			
Surrogate: 4-Bromofluorobenzene	0.123		"	0.120		103	75-125			
Surrogate: 1,4-Difluorobenzene	0.117		"	0.120		97.8	75-125			

Matrix Spike (P0B2505-MS1)

Source: 0B25002-01

Prepared & Analyzed: 02/25/20

Benzene	0.0824	0.00105	mg/kg dry	0.105	ND	78.3	80-120			QM-07
Toluene	0.0804	0.00105	"	0.105	ND	76.4	80-120			QM-07
Ethylbenzene	0.0967	0.00105	"	0.105	ND	91.8	80-120			
Xylene (p/m)	0.158	0.00211	"	0.211	ND	74.9	80-120			QM-07
Xylene (o)	0.0847	0.00105	"	0.105	ND	80.5	80-120			
Surrogate: 4-Bromofluorobenzene	0.130		"	0.126		103	75-125			
Surrogate: 1,4-Difluorobenzene	0.125		"	0.126		99.3	75-125			

Matrix Spike Dup (P0B2505-MSD1)

Source: 0B25002-01

Prepared & Analyzed: 02/25/20

Benzene	0.0797	0.00105	mg/kg dry	0.105	ND	75.7	80-120	3.31	20	QM-07
Toluene	0.0784	0.00105	"	0.105	ND	74.5	80-120	2.49	20	QM-07
Ethylbenzene	0.0943	0.00105	"	0.105	ND	89.6	80-120	2.49	20	
Xylene (p/m)	0.153	0.00211	"	0.211	ND	72.8	80-120	2.77	20	QM-07
Xylene (o)	0.0791	0.00105	"	0.105	ND	75.1	80-120	6.88	20	QM-07
Surrogate: 4-Bromofluorobenzene	0.127		"	0.126		101	75-125			
Surrogate: 1,4-Difluorobenzene	0.124		"	0.126		98.0	75-125			

Batch P0B2803 - General Preparation (GC)

Blank (P0B2803-BLK1)

Prepared & Analyzed: 02/28/20

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	0.114		"	0.120		95.0	75-125			
Surrogate: 1,4-Difluorobenzene	0.112		"	0.120		93.5	75-125			

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P0B2803 - General Preparation (GC)

LCS (P0B2803-BS1)

Prepared & Analyzed: 02/28/20

Benzene	0.100	0.00100	mg/kg wet	0.100		100	70-130			
Toluene	0.0966	0.00100	"	0.100		96.6	70-130			
Ethylbenzene	0.104	0.00100	"	0.100		104	70-130			
Xylene (p/m)	0.200	0.00200	"	0.200		100	70-130			
Xylene (o)	0.102	0.00100	"	0.100		102	70-130			
Surrogate: 4-Bromofluorobenzene	0.117		"	0.120		97.3	75-125			
Surrogate: 1,4-Difluorobenzene	0.116		"	0.120		97.0	75-125			

LCS Dup (P0B2803-BSD1)

Prepared & Analyzed: 02/28/20

Benzene	0.115	0.00100	mg/kg wet	0.100		115	70-130	13.7	20	
Toluene	0.111	0.00100	"	0.100		111	70-130	13.5	20	
Ethylbenzene	0.112	0.00100	"	0.100		112	70-130	7.25	20	
Xylene (p/m)	0.226	0.00200	"	0.200		113	70-130	12.0	20	
Xylene (o)	0.117	0.00100	"	0.100		117	70-130	13.4	20	
Surrogate: 1,4-Difluorobenzene	0.118		"	0.120		97.9	75-125			
Surrogate: 4-Bromofluorobenzene	0.118		"	0.120		98.0	75-125			

Calibration Blank (P0B2803-CCB1)

Prepared & Analyzed: 02/28/20

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	0.112		"	0.120		93.3	75-125			
Surrogate: 4-Bromofluorobenzene	0.116		"	0.120		96.3	75-125			

Calibration Blank (P0B2803-CCB2)

Prepared & Analyzed: 02/28/20

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	0.113		"	0.120		94.3	75-125			
Surrogate: 4-Bromofluorobenzene	0.117		"	0.120		97.6	75-125			

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P0B2803 - General Preparation (GC)

Calibration Blank (P0B2803-CCB3)

Prepared & Analyzed: 02/28/20

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	0.112		"	0.120		93.7	75-125			
Surrogate: 4-Bromofluorobenzene	0.116		"	0.120		97.1	75-125			

Calibration Check (P0B2803-CCV1)

Prepared & Analyzed: 02/28/20

Benzene	0.104	0.00100	mg/kg wet	0.100		104	80-120			
Toluene	0.0998	0.00100	"	0.100		99.8	80-120			
Ethylbenzene	0.103	0.00100	"	0.100		103	80-120			
Xylene (p/m)	0.204	0.00200	"	0.200		102	80-120			
Xylene (o)	0.103	0.00100	"	0.100		103	80-120			
Surrogate: 1,4-Difluorobenzene	0.115		"	0.120		96.0	75-125			
Surrogate: 4-Bromofluorobenzene	0.113		"	0.120		94.3	75-125			

Calibration Check (P0B2803-CCV2)

Prepared & Analyzed: 02/28/20

Benzene	0.101	0.00100	mg/kg wet	0.100		101	80-120			
Toluene	0.101	0.00100	"	0.100		101	80-120			
Ethylbenzene	0.103	0.00100	"	0.100		103	80-120			
Xylene (p/m)	0.198	0.00200	"	0.200		99.2	80-120			
Xylene (o)	0.105	0.00100	"	0.100		105	80-120			
Surrogate: 1,4-Difluorobenzene	0.116		"	0.120		96.9	75-125			
Surrogate: 4-Bromofluorobenzene	0.118		"	0.120		98.0	75-125			

Calibration Check (P0B2803-CCV3)

Prepared & Analyzed: 02/28/20

Benzene	0.0968	0.00100	mg/kg wet	0.100		96.8	80-120			
Toluene	0.0966	0.00100	"	0.100		96.6	80-120			
Ethylbenzene	0.0987	0.00100	"	0.100		98.7	80-120			
Xylene (p/m)	0.189	0.00200	"	0.200		94.3	80-120			
Xylene (o)	0.102	0.00100	"	0.100		102	80-120			
Surrogate: 4-Bromofluorobenzene	0.120		"	0.120		100	75-125			
Surrogate: 1,4-Difluorobenzene	0.117		"	0.120		97.3	75-125			

Permian Basin Environmental Lab, L.P.

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P0B2803 - General Preparation (GC)

Matrix Spike (P0B2803-MS1)		Source: 0B26011-01			Prepared & Analyzed: 02/28/20					
Benzene	0.126	0.00120	mg/kg dry	0.120	0.0490	63.7	80-120			QM-07
Toluene	0.0990	0.00120	"	0.120	0.0281	58.8	80-120			QM-07
Ethylbenzene	0.0990	0.00120	"	0.120	0.0154	69.4	80-120			QM-07
Xylene (p/m)	0.198	0.00241	"	0.241	0.0497	61.5	80-120			QM-07
Xylene (o)	0.0682	0.00120	"	0.120	0.0308	31.0	80-120			QM-07
Surrogate: 1,4-Difluorobenzene	0.135		"	0.145		93.4	75-125			
Surrogate: 4-Bromofluorobenzene	0.168		"	0.145		116	75-125			

Matrix Spike Dup (P0B2803-MSD1)		Source: 0B26011-01			Prepared & Analyzed: 02/28/20					
Benzene	0.116	0.00120	mg/kg dry	0.120	0.0490	55.6	80-120	13.5	20	QM-07
Toluene	0.0961	0.00120	"	0.120	0.0281	56.5	80-120	4.06	20	QM-07
Ethylbenzene	0.0822	0.00120	"	0.120	0.0154	55.5	80-120	22.3	20	QM-07
Xylene (p/m)	0.181	0.00241	"	0.241	0.0497	54.5	80-120	11.9	20	QM-07
Xylene (o)	0.0694	0.00120	"	0.120	0.0308	32.0	80-120	3.33	20	QM-07
Surrogate: 1,4-Difluorobenzene	0.129		"	0.145		89.2	75-125			
Surrogate: 4-Bromofluorobenzene	0.101		"	0.145		69.7	75-125			S-GC

Permian Basin Environmental Lab, L.P.

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P0B2510 - * DEFAULT PREP *****

Blank (P0B2510-BLK1)

Prepared & Analyzed: 02/25/20

Chloride	ND	1.00	mg/kg wet
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LCS (P0B2510-BS1)

Prepared & Analyzed: 02/25/20

Chloride	376	1.00	mg/kg wet	400	94.0	80-120
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LCS Dup (P0B2510-BSD1)

Prepared & Analyzed: 02/25/20

Chloride	379	1.00	mg/kg wet	400	94.7	80-120	0.657	20
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Calibration Blank (P0B2510-CCB1)

Prepared & Analyzed: 02/25/20

Chloride	0.00		mg/kg wet
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Calibration Blank (P0B2510-CCB2)

Prepared & Analyzed: 02/25/20

Chloride	0.00		mg/kg wet
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Calibration Check (P0B2510-CCV1)

Prepared & Analyzed: 02/25/20

Chloride	18.9		mg/kg	20.0	94.6	0-200
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Calibration Check (P0B2510-CCV2)

Prepared & Analyzed: 02/25/20

Chloride	19.0		mg/kg	20.0	95.0	0-200
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Calibration Check (P0B2510-CCV3)

Prepared: 02/25/20 Analyzed: 02/26/20

Chloride	18.8		mg/kg	20.0	94.2	0-200
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Matrix Spike (P0B2510-MS1)

Source: 0B25001-03

Prepared & Analyzed: 02/25/20

Chloride	19700	51.5	mg/kg dry	5150	13600	119	80-120
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Matrix Spike (P0B2510-MS2)

Source: 0B25001-04

Prepared & Analyzed: 02/25/20

Chloride	26400	64.1	mg/kg dry	6410	20000	99.6	80-120
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Permian Basin Environmental Lab, L.P.

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Midland TX, 79710

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P0B2510 - *** DEFAULT PREP ***										
Matrix Spike Dup (P0B2510-MSD1)		Source: 0B25001-03			Prepared & Analyzed: 02/25/20					
Chloride	19500	51.5	mg/kg dry	5150	13600	115	80-120	1.23	20	
Matrix Spike Dup (P0B2510-MSD2)		Source: 0B25001-04			Prepared & Analyzed: 02/25/20					
Chloride	26600	64.1	mg/kg dry	6410	20000	102	80-120	0.588	20	
Batch P0B2601 - *** DEFAULT PREP ***										
Blank (P0B2601-BLK1)		Prepared & Analyzed: 02/26/20								
Chloride	ND	1.00	mg/kg wet							
LCS (P0B2601-BS1)		Prepared & Analyzed: 02/26/20								
Chloride	386	1.00	mg/kg wet	400		96.6	80-120			
LCS Dup (P0B2601-BSD1)		Prepared & Analyzed: 02/26/20								
Chloride	383	1.00	mg/kg wet	400		95.7	80-120	0.931	20	
Calibration Blank (P0B2601-CCB1)		Prepared & Analyzed: 02/26/20								
Chloride	0.00		mg/kg wet							
Calibration Blank (P0B2601-CCB2)		Prepared: 02/26/20 Analyzed: 02/27/20								
Chloride	0.00		mg/kg wet							
Calibration Check (P0B2601-CCV1)		Prepared & Analyzed: 02/26/20								
Chloride	19.0		mg/kg	20.0		95.0	0-200			
Calibration Check (P0B2601-CCV2)		Prepared: 02/26/20 Analyzed: 02/27/20								
Chloride	18.3		mg/kg	20.0		91.7	0-200			

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Project Number: 16-0120-01
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General Chemistry Parameters by EPA / Standard Methods - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P0B2601 - * DEFAULT PREP *****

Matrix Spike (P0B2601-MS1)		Source: 0B25005-02		Prepared & Analyzed: 02/26/20						
Chloride	17300	58.8	mg/kg dry	5880	11200	104	80-120			
Matrix Spike (P0B2601-MS2)		Source: 0B26005-11		Prepared: 02/26/20 Analyzed: 02/27/20						
Chloride	3840	28.7	mg/kg dry	2870	881	103	80-120			
Matrix Spike Dup (P0B2601-MSD1)		Source: 0B25005-02		Prepared & Analyzed: 02/26/20						
Chloride	17400	58.8	mg/kg dry	5880	11200	106	80-120	0.573	20	
Matrix Spike Dup (P0B2601-MSD2)		Source: 0B26005-11		Prepared: 02/26/20 Analyzed: 02/27/20						
Chloride	3800	28.7	mg/kg dry	2870	881	102	80-120	1.04	20	

Batch P0B2603 - * DEFAULT PREP *****

Blank (P0B2603-BLK1)		Prepared & Analyzed: 02/26/20								
% Moisture	ND	0.1	%							
Duplicate (P0B2603-DUP1)		Source: 0B25005-02		Prepared & Analyzed: 02/26/20						
% Moisture	15.0	0.1	%		15.0			0.00	20	
Duplicate (P0B2603-DUP2)		Source: 0B25007-04		Prepared & Analyzed: 02/26/20						
% Moisture	14.0	0.1	%		15.0			6.90	20	

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P0B2508 - TX 1005

LCS (P0B2508-BS1)

Prepared & Analyzed: 02/25/20

C6-C12	960	25.0	mg/kg wet	1000		96.0	75-125			
>C12-C28	1040	25.0	"	1000		104	75-125			
Surrogate: 1-Chlorooctane	113		"	100		113	70-130			
Surrogate: o-Terphenyl	56.4		"	50.0		113	70-130			

LCS Dup (P0B2508-BS1)

Prepared & Analyzed: 02/25/20

C6-C12	991	25.0	mg/kg wet	1000		99.1	75-125	3.21	20	
>C12-C28	1060	25.0	"	1000		106	75-125	1.72	20	
Surrogate: 1-Chlorooctane	111		"	100		111	70-130			
Surrogate: o-Terphenyl	52.8		"	50.0		106	70-130			

Calibration Blank (P0B2508-CCB1)

Prepared & Analyzed: 02/25/20

C6-C12	15.7		mg/kg wet							
>C12-C28	4.45		"							
Surrogate: 1-Chlorooctane	111		"	100		111	70-130			
Surrogate: o-Terphenyl	57.8		"	50.0		116	70-130			

Calibration Blank (P0B2508-CCB2)

Prepared & Analyzed: 02/25/20

C6-C12	12.6		mg/kg wet							
>C12-C28	9.16		"							
Surrogate: 1-Chlorooctane	110		"	100		110	70-130			
Surrogate: o-Terphenyl	57.7		"	50.0		115	70-130			

Calibration Check (P0B2508-CCV1)

Prepared & Analyzed: 02/25/20

C6-C12	530	25.0	mg/kg wet	500		106	85-115			
>C12-C28	556	25.0	"	500		111	85-115			
Surrogate: 1-Chlorooctane	122		"	100		122	70-130			
Surrogate: o-Terphenyl	56.1		"	50.0		112	70-130			

Permian Basin Environmental Lab, L.P.

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Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P0B2508 - TX 1005

Calibration Check (P0B2508-CCV2)

Prepared & Analyzed: 02/25/20

C6-C12	543	25.0	mg/kg wet	500		109	85-115			
>C12-C28	554	25.0	"	500		111	85-115			
Surrogate: 1-Chlorooctane	118		"	100		118	70-130			
Surrogate: o-Terphenyl	57.6		"	50.0		115	70-130			

Matrix Spike (P0B2508-MS1)

Source: 0B24009-01

Prepared: 02/25/20 Analyzed: 02/26/20

C6-C12	954	25.8	mg/kg dry	1030	12.9	91.3	75-125			
>C12-C28	1020	25.8	"	1030	16.7	97.0	75-125			
Surrogate: 1-Chlorooctane	100		"	103		97.4	70-130			
Surrogate: o-Terphenyl	54.5		"	51.5		106	70-130			

Matrix Spike Dup (P0B2508-MSD1)

Source: 0B24009-01

Prepared: 02/25/20 Analyzed: 02/26/20

C6-C12	877	25.8	mg/kg dry	1030	12.9	83.8	75-125	8.56	20	
>C12-C28	948	25.8	"	1030	16.7	90.4	75-125	7.07	20	
Surrogate: 1-Chlorooctane	88.5		"	103		85.8	70-130			
Surrogate: o-Terphenyl	41.5		"	51.5		80.6	70-130			

Batch P0B2607 - TX 1005

Blank (P0B2607-BLK1)

Prepared & Analyzed: 02/26/20

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	105		"	100		105	70-130			
Surrogate: o-Terphenyl	54.4		"	50.0		109	70-130			

LCS (P0B2607-BS1)

Prepared & Analyzed: 02/26/20

C6-C12	982	25.0	mg/kg wet	1000		98.2	75-125			
>C12-C28	1070	25.0	"	1000		107	75-125			
Surrogate: 1-Chlorooctane	103		"	100		103	70-130			
Surrogate: o-Terphenyl	58.7		"	50.0		117	70-130			

Permian Basin Environmental Lab, L.P.

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

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Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P0B2607 - TX 1005

LCS Dup (P0B2607-BSD1)

Prepared & Analyzed: 02/26/20

C6-C12	863	25.0	mg/kg wet	1000		86.3	75-125	13.0	20	
>C12-C28	968	25.0	"	1000		96.8	75-125	10.2	20	
Surrogate: 1-Chlorooctane	116		"	100		116	70-130			
Surrogate: o-Terphenyl	46.8		"	50.0		93.7	70-130			

Calibration Blank (P0B2607-CCB1)

Prepared & Analyzed: 02/26/20

C6-C12	13.8		mg/kg wet							
>C12-C28	12.0		"							
Surrogate: 1-Chlorooctane	126		"	100		126	70-130			
Surrogate: o-Terphenyl	65.6		"	50.0		131	70-130			S-GC

Calibration Blank (P0B2607-CCB2)

Prepared & Analyzed: 02/26/20

C6-C12	15.2		mg/kg wet							
>C12-C28	20.2		"							
Surrogate: 1-Chlorooctane	116		"	100		116	70-130			
Surrogate: o-Terphenyl	59.8		"	50.0		120	70-130			

Calibration Check (P0B2607-CCV1)

Prepared & Analyzed: 02/26/20

C6-C12	525	25.0	mg/kg wet	500		105	85-115			
>C12-C28	564	25.0	"	500		113	85-115			
Surrogate: 1-Chlorooctane	126		"	100		126	70-130			
Surrogate: o-Terphenyl	67.4		"	50.0		135	70-130			S-GC

Calibration Check (P0B2607-CCV2)

Prepared & Analyzed: 02/26/20

C6-C12	571	25.0	mg/kg wet	500		114	85-115			
>C12-C28	540	25.0	"	500		108	85-115			
Surrogate: 1-Chlorooctane	152		"	200		76.1	70-130			
Surrogate: o-Terphenyl	81.4		"	100		81.4	70-130			

Permian Basin Environmental Lab, L.P.

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

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

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

Batch P0B2607 - TX 1005

Calibration Check (P0B2607-CCV3)

Prepared: 02/26/20 Analyzed: 02/27/20

C6-C12	546	25.0	mg/kg wet	500		109	85-115			
>C12-C28	516	25.0	"	500		103	85-115			
Surrogate: 1-Chlorooctane	228		"	300		75.9	70-130			
Surrogate: o-Terphenyl	123		"	150		81.8	70-130			

Matrix Spike (P0B2607-MS1)

Source: 0B26004-19

Prepared: 02/26/20 Analyzed: 02/27/20

C6-C12	918	28.1	mg/kg dry	1120	16.2	80.2	75-125			
>C12-C28	1110	28.1	"	1120	57.9	93.7	75-125			
Surrogate: 1-Chlorooctane	122		"	112		108	70-130			
Surrogate: o-Terphenyl	51.9		"	56.2		92.3	70-130			

Matrix Spike Dup (P0B2607-MSD1)

Source: 0B26004-19

Prepared: 02/26/20 Analyzed: 02/27/20

C6-C12	1100	28.1	mg/kg dry	1120	16.2	96.4	75-125	18.3	20	
>C12-C28	1290	28.1	"	1120	57.9	110	75-125	15.7	20	
Surrogate: 1-Chlorooctane	144		"	112		128	70-130			
Surrogate: o-Terphenyl	64.8		"	56.2		115	70-130			

Permian Basin Environmental Lab, L.P.

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

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Notes and Definitions

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

ROI Received on Ice

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

BULK Samples received in Bulk soil containers

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:



Date:

3/2/2020

Brent Barron, Laboratory Director/Technical Director

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

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

Permian Basin Environmental Lab, L.P.

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

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

Larson & Associates, Inc.

Project: Targa Epperson 1

Fax: (432) 687-0456

P.O. Box 50685

Project Number: 16-0120-01

Midland TX, 79710

Project Manager: Mark Larson

Permian Basin Environmental Lab, L.P.

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

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

0979 N

CHAIN-OF-CUSTODY

Varson & Associates, Inc.
Environmental Consultants

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

Data Reported to:

DATE: 8/27/2000 PAGE 1 OF 1
PO#: _____ LAB WORK ORDER#: 0825002
PROJECT LOCATION OR NAME: Targa Epperson "Le"
LAI PROJECT #: 16-010-01 COLLECTOR: EC/IDS

Page 28 of 28

[illegible]

Project Id: 16-0120-01
Contact: Mark Larson
Project Location:

Certificate of Analysis Summary 666945
Larson and Associates, Inc., Midland, TX

Project Name: Epperson

Date Received in Lab: Mon 07.13.2020 08:10
Report Date: 07.17.2020 11:59
Project Manager: Holly Taylor

<i>Analysis Requested</i>	<i>Lab Id:</i>	666945-001	666945-002	666945-003	666945-004	666945-005	666945-006
	<i>Field Id:</i>	C-1	C-2	C-3	C-4	C-5	C-6
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Chloride by EPA 300	<i>Sampled:</i>	07.10.2020 07:20	07.10.2020 07:21	07.10.2020 07:24	07.10.2020 07:30	07.10.2020 07:35	07.10.2020 07:40
	<i>Extracted:</i>	07.14.2020 11:10	07.14.2020 11:10	07.14.2020 11:10	07.14.2020 11:10	07.14.2020 11:10	07.14.2020 11:10
	<i>Analyzed:</i>	07.15.2020 13:41	07.15.2020 13:46	07.15.2020 13:51	07.15.2020 13:56	07.15.2020 14:07	07.15.2020 14:02
Chloride	<i>Units/RL:</i>	mg/kg RL 28.7 5.04	mg/kg RL 56.9 4.95	mg/kg RL 822 4.95	mg/kg RL 358 4.96	mg/kg RL 309 4.99	mg/kg RL 486 25.1

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Holly Taylor

Project Id: 16-0120-01
Contact: Mark Larson
Project Location:

Certificate of Analysis Summary 666945
Larson and Associates, Inc., Midland, TX

Project Name: Epperson

Date Received in Lab: Mon 07.13.2020 08:10
Report Date: 07.17.2020 11:59
Project Manager: Holly Taylor

<i>Analysis Requested</i>	<i>Lab Id:</i>	666945-007	666945-008	666945-009	666945-010	666945-011	666945-012
	<i>Field Id:</i>	C-7	C-8	C-9	C-10	C-11	C-12
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	07.10.2020 07:42	07.10.2020 08:00	07.10.2020 08:03	07.10.2020 08:05	07.10.2020 08:10	07.10.2020 08:20
Chloride by EPA 300	<i>Extracted:</i>	07.14.2020 11:10	07.14.2020 11:10	07.14.2020 11:10	07.14.2020 11:10	07.14.2020 11:10	07.14.2020 11:10
	<i>Analyzed:</i>	07.15.2020 14:22	07.15.2020 14:27	07.15.2020 14:48	07.15.2020 14:53	07.15.2020 14:58	07.15.2020 15:03
	<i>Units/RL:</i>	mg/kg RL 166 4.97	mg/kg RL 2820 24.8	mg/kg RL 271 25.2	mg/kg RL 378 4.99	mg/kg RL 808 25.3	mg/kg RL 376 4.98
Chloride							

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Holly Taylor

Project Id: 16-0120-01
Contact: Mark Larson
Project Location:

Certificate of Analysis Summary 666945
Larson and Associates, Inc., Midland, TX

Project Name: Epperson

Date Received in Lab: Mon 07.13.2020 08:10
Report Date: 07.17.2020 11:59
Project Manager: Holly Taylor

<i>Analysis Requested</i>	<i>Lab Id:</i>	666945-013	<i>Field Id:</i>	666945-014	<i>Depth:</i>	666945-015	<i>Matrix:</i>	666945-016	<i>Units/RL:</i>	666945-017	<i>Sampled:</i>	666945-018
		C-13	C-14	C-15	C-16	C-17	C-18					
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL					
		07.10.2020 08:25	07.10.2020 08:30	07.10.2020 08:50	07.10.2020 08:53	07.10.2020 09:00	07.10.2020 09:05					
		07.14.2020 11:10	07.14.2020 11:10	07.14.2020 11:10	07.14.2020 13:55	07.14.2020 13:55	07.13.2020 10:30					
Chloride by EPA 300		07.15.2020 15:08	07.15.2020 15:13	07.15.2020 15:18	07.14.2020 17:48	07.14.2020 18:07	07.13.2020 15:31					
Chloride		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		270	74.0	227	122	31.8	60.5					
		5.00	5.03	4.95	5.02	4.99	5.05					

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Holly Taylor



Xenco

Analytical Report 666945

for

Larson and Associates, Inc.

Project Manager: Mark Larson

Epperson

16-0120-01

07.17.2020

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-36), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-25), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-17)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-22)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-7)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



Xenco

07.17.2020

Project Manager: **Mark Larson****Larson and Associates, Inc.**

P. O. Box 50685

Midland, TX 79710

Reference: Eurofins Xenco, LLC Report No(s): **666945****Epperson**

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 Eurofins Xenco, LLC Report Number(s) 666945. 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 Eurofins Xenco, LLC. 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. 666945 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 Eurofins Xenco, LLC 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
Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

**Sample Cross Reference 666945****Larson and Associates, Inc., Midland, TX****Epperson**

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
C-1	S	07.10.2020 07:20		666945-001
C-2	S	07.10.2020 07:21		666945-002
C-3	S	07.10.2020 07:24		666945-003
C-4	S	07.10.2020 07:30		666945-004
C-5	S	07.10.2020 07:35		666945-005
C-6	S	07.10.2020 07:40		666945-006
C-7	S	07.10.2020 07:42		666945-007
C-8	S	07.10.2020 08:00		666945-008
C-9	S	07.10.2020 08:03		666945-009
C-10	S	07.10.2020 08:05		666945-010
C-11	S	07.10.2020 08:10		666945-011
C-12	S	07.10.2020 08:20		666945-012
C-13	S	07.10.2020 08:25		666945-013
C-14	S	07.10.2020 08:30		666945-014
C-15	S	07.10.2020 08:50		666945-015
C-16	S	07.10.2020 08:53		666945-016
C-17	S	07.10.2020 09:00		666945-017
C-18	S	07.10.2020 09:05		666945-018



Xenco

CASE NARRATIVE

Client Name: Larson and Associates, Inc.

Project Name: Epperson

Project ID: 16-0120-01

Work Order Number(s): 666945

Report Date: 07.17.2020

Date Received: 07.13.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 666945

Larson and Associates, Inc., Midland, TX

Epperson

Sample Id: **C-1**
Lab Sample Id: 666945-001

Matrix: Soil
Date Collected: 07.10.2020 07:20

Date Received: 07.13.2020 08:10

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 07.14.2020 11:10

Basis: Wet Weight

Seq Number: 3131789

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	28.7	5.04	mg/kg	07.15.2020 13:41		1

**Certificate of Analytical Results 666945****Larson and Associates, Inc., Midland, TX**
Epperson

Sample Id: **C-2** Matrix: Soil Date Received: 07.13.2020 08:10
Lab Sample Id: 666945-002 Date Collected: 07.10.2020 07:21
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: SPC % Moisture:
Analyst: SPC Date Prep: 07.14.2020 11:10 Basis: Wet Weight
Seq Number: 3131789

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	56.9	4.95	mg/kg	07.15.2020 13:46		1

**Certificate of Analytical Results 666945****Larson and Associates, Inc., Midland, TX****Epperson**

Sample Id: **C-3**
Lab Sample Id: 666945-003

Matrix: **Soil**
Date Collected: 07.10.2020 07:24

Date Received: 07.13.2020 08:10

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: **SPC**

% Moisture:

Analyst: **SPC**

Date Prep: 07.14.2020 11:10

Basis: **Wet Weight**

Seq Number: 3131789

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	822	4.95	mg/kg	07.15.2020 13:51		1

**Certificate of Analytical Results 666945****Larson and Associates, Inc., Midland, TX****Epperson**

Sample Id: **C-4**
Lab Sample Id: 666945-004

Matrix: Soil
Date Collected: 07.10.2020 07:30

Date Received: 07.13.2020 08:10

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 07.14.2020 11:10

Basis: Wet Weight

Seq Number: 3131789

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	358	4.96	mg/kg	07.15.2020 13:56		1

**Certificate of Analytical Results 666945****Larson and Associates, Inc., Midland, TX**
Epperson

Sample Id: **C-5** Matrix: Soil Date Received: 07.13.2020 08:10
Lab Sample Id: 666945-005 Date Collected: 07.10.2020 07:35
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: SPC % Moisture:
Analyst: SPC Date Prep: 07.14.2020 11:10 Basis: Wet Weight
Seq Number: 3131789

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	309	4.99	mg/kg	07.15.2020 14:07		1



Certificate of Analytical Results 666945

Larson and Associates, Inc., Midland, TX

Epperson

Sample Id: **C-6**
Lab Sample Id: 666945-006

Matrix: Soil
Date Collected: 07.10.2020 07:40

Date Received: 07.13.2020 08:10

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 07.14.2020 11:10

Basis: Wet Weight

Seq Number: 3131789

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	486	25.1	mg/kg	07.15.2020 14:02		5

**Certificate of Analytical Results 666945****Larson and Associates, Inc., Midland, TX****Epperson**

Sample Id: **C-7**
Lab Sample Id: 666945-007

Matrix: **Soil**
Date Collected: 07.10.2020 07:42

Date Received: 07.13.2020 08:10

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: **SPC**

% Moisture:

Analyst: **SPC**

Date Prep: 07.14.2020 11:10

Basis: **Wet Weight**

Seq Number: 3131789

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	166	4.97	mg/kg	07.15.2020 14:22		1



Certificate of Analytical Results 666945

Larson and Associates, Inc., Midland, TX

Epperson

Sample Id: **C-8**

Matrix: Soil

Date Received: 07.13.2020 08:10

Lab Sample Id: 666945-008

Date Collected: 07.10.2020 08:00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 07.14.2020 11:10

Basis: Wet Weight

Seq Number: 3131789

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2820	24.8	mg/kg	07.15.2020 14:27		5

**Certificate of Analytical Results 666945****Larson and Associates, Inc., Midland, TX**
Epperson

Sample Id: **C-9** Matrix: **Soil** Date Received: 07.13.2020 08:10
Lab Sample Id: 666945-009 Date Collected: 07.10.2020 08:03
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: SPC % Moisture:
Analyst: SPC Date Prep: 07.14.2020 11:10 Basis: Wet Weight
Seq Number: 3131789

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	271	25.2	mg/kg	07.15.2020 14:48		5

**Certificate of Analytical Results 666945****Larson and Associates, Inc., Midland, TX****Epperson**

Sample Id: **C-10**
Lab Sample Id: 666945-010

Matrix: Soil
Date Collected: 07.10.2020 08:05

Date Received: 07.13.2020 08:10

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 07.14.2020 11:10

Basis: Wet Weight

Seq Number: 3131789

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	378	4.99	mg/kg	07.15.2020 14:53		1

**Certificate of Analytical Results 666945****Larson and Associates, Inc., Midland, TX****Epperson**Sample Id: **C-11**Matrix: **Soil**

Date Received: 07.13.2020 08:10

Lab Sample Id: 666945-011

Date Collected: 07.10.2020 08:10

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: **SPC**

% Moisture:

Analyst: **SPC**

Date Prep: 07.14.2020 11:10

Basis: **Wet Weight**

Seq Number: 3131789

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	808	25.3	mg/kg	07.15.2020 14:58		5



Certificate of Analytical Results 666945

Larson and Associates, Inc., Midland, TX

Epperson

Sample Id: **C-12**

Matrix: Soil

Date Received: 07.13.2020 08:10

Lab Sample Id: 666945-012

Date Collected: 07.10.2020 08:20

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 07.14.2020 11:10

Basis: Wet Weight

Seq Number: 3131789

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	376	4.98	mg/kg	07.15.2020 15:03		1

**Certificate of Analytical Results 666945****Larson and Associates, Inc., Midland, TX**
Epperson

Sample Id: **C-13** Matrix: Soil Date Received: 07.13.2020 08:10
Lab Sample Id: 666945-013 Date Collected: 07.10.2020 08:25
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: SPC % Moisture:
Analyst: SPC Date Prep: 07.14.2020 11:10 Basis: Wet Weight
Seq Number: 3131789

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	270	5.00	mg/kg	07.15.2020 15:08		1

**Certificate of Analytical Results 666945****Larson and Associates, Inc., Midland, TX**
Epperson

Sample Id: **C-14** Matrix: **Soil** Date Received: 07.13.2020 08:10
Lab Sample Id: 666945-014 Date Collected: 07.10.2020 08:30
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: SPC % Moisture:
Analyst: SPC Date Prep: 07.14.2020 11:10 Basis: Wet Weight
Seq Number: 3131789

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	74.0	5.03	mg/kg	07.15.2020 15:13		1



Certificate of Analytical Results 666945

Larson and Associates, Inc., Midland, TX

Epperson

Sample Id: **C-15**

Matrix: Soil

Date Received: 07.13.2020 08:10

Lab Sample Id: 666945-015

Date Collected: 07.10.2020 08:50

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 07.14.2020 11:10

Basis: Wet Weight

Seq Number: 3131789

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	227	4.95	mg/kg	07.15.2020 15:18		1

**Certificate of Analytical Results 666945****Larson and Associates, Inc., Midland, TX**
Epperson

Sample Id: **C-16** Matrix: Soil Date Received: 07.13.2020 08:10
Lab Sample Id: 666945-016 Date Collected: 07.10.2020 08:53
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: SPC % Moisture:
Analyst: SPC Date Prep: 07.14.2020 13:55 Basis: Wet Weight
Seq Number: 3131647

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	122	5.02	mg/kg	07.14.2020 17:48		1



Certificate of Analytical Results 666945

Larson and Associates, Inc., Midland, TX Epperson

Sample Id: **C-17** Matrix: **Soil** Date Received: 07.13.2020 08:10
Lab Sample Id: 666945-017 Date Collected: 07.10.2020 09:00
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: SPC % Moisture:
Analyst: SPC Date Prep: 07.14.2020 13:55 Basis: Wet Weight
Seq Number: 3131647

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	31.8	4.99	mg/kg	07.14.2020 18:07		1



Certificate of Analytical Results 666945

Larson and Associates, Inc., Midland, TX

Epperson

Sample Id: **C-18**

Matrix: Soil

Date Received: 07.13.2020 08:10

Lab Sample Id: 666945-018

Date Collected: 07.10.2020 09:05

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 07.13.2020 10:30

Basis: Wet Weight

Seq Number: 3131500

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	60.5	5.05	mg/kg	07.13.2020 15:31		1



Xenco

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. **ND** Not Detected.

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



Xenco

QC Summary 666945

Larson and Associates, Inc.
Epperson

Analytical Method: Chloride by EPA 300

Seq Number: 3131500

MB Sample Id: 7707209-1-BLK

Matrix: Solid

LCS Sample Id: 7707209-1-BKS

Prep Method: E300P

Date Prep: 07.13.2020

LCSD Sample Id: 7707209-1-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	252	101	255	102	90-110	1	20	mg/kg	07.13.2020 13:04	

Analytical Method: Chloride by EPA 300

Seq Number: 3131789

MB Sample Id: 7707280-1-BLK

Matrix: Solid

LCS Sample Id: 7707280-1-BKS

Prep Method: E300P

Date Prep: 07.14.2020

LCSD Sample Id: 7707280-1-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	250	100	253	101	90-110	1	20	mg/kg	07.15.2020 12:42	

Analytical Method: Chloride by EPA 300

Seq Number: 3131647

MB Sample Id: 7707300-1-BLK

Matrix: Solid

LCS Sample Id: 7707300-1-BKS

Prep Method: E300P

Date Prep: 07.14.2020

LCSD Sample Id: 7707300-1-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	268	107	266	106	90-110	1	20	mg/kg	07.14.2020 17:35	

Analytical Method: Chloride by EPA 300

Seq Number: 3131500

Parent Sample Id: 666431-001

Matrix: Soil

MS Sample Id: 666431-001 S

Prep Method: E300P

Date Prep: 07.13.2020

MSD Sample Id: 666431-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	248	249	494	99	500	101	90-110	1	20	mg/kg	07.13.2020 13:19	

Analytical Method: Chloride by EPA 300

Seq Number: 3131500

Parent Sample Id: 666718-004

Matrix: Soil

MS Sample Id: 666718-004 S

Prep Method: E300P

Date Prep: 07.13.2020

MSD Sample Id: 666718-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	140	250	399	104	408	107	90-110	2	20	mg/kg	07.13.2020 14:30	

Analytical Method: Chloride by EPA 300

Seq Number: 3131789

Parent Sample Id: 666924-019

Matrix: Soil

MS Sample Id: 666924-019 S

Prep Method: E300P

Date Prep: 07.14.2020

MSD Sample Id: 666924-019 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	624	253	906	111	860	93	90-110	5	20	mg/kg	07.15.2020 13:01	X

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



Xenco

QC Summary 666945

Larson and Associates, Inc.
Epperson**Analytical Method: Chloride by EPA 300**

Seq Number: 3131789

Parent Sample Id: 666945-005

Matrix: Soil

MS Sample Id: 666945-005 S

Prep Method: E300P

Date Prep: 07.14.2020

MSD Sample Id: 666945-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	309	250	567	103	574	106	90-110	1	20	mg/kg	07.15.2020 14:12	

Analytical Method: Chloride by EPA 300

Seq Number: 3131647

Parent Sample Id: 666945-016

Matrix: Soil

MS Sample Id: 666945-016 S

Prep Method: E300P

Date Prep: 07.14.2020

MSD Sample Id: 666945-016 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	122	251	387	106	388	106	90-110	0	20	mg/kg	07.14.2020 17:54	

Analytical Method: Chloride by EPA 300

Seq Number: 3131647

Parent Sample Id: 667024-001

Matrix: Soil

MS Sample Id: 667024-001 S

Prep Method: E300P

Date Prep: 07.14.2020

MSD Sample Id: 667024-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	265	250	520	102	519	102	90-110	0	20	mg/kg	07.14.2020 19:23	

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

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

DATE: 1/10/20 PAGE 1 OF 2
PO#: _____ LAB WORK ORDER#: _____
PROJECT LOCATION OR NAME: EPH15c1
LAI PROJECT #: 16-0120-01 COLLECTOR: JTBDS

S=SOIL
W=WATER
A=AIR

P=PAINT
SL=SLUDGE
OT=OTHER

TIME ZONE:
Time zone/State:
MST

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

HCl
HNO ₃
H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/>

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 NO.

FIELD NOTES

	7/10/20	5	1	X	X
C-1	0720				
C-2	0721				
C-3	0724				
C-4	0730				
C-5	0735				
C-6	0740				
C-7	0742				
C-8	0800				
C-9	0803				
C-10	0805				
C-11	0810				
C-12	0820				
C-13	0825				
C-14	0830				
C-15	0850				
TOTAL	15				

RELINQUISHED BY: (Signature)

DATE/TIMERECEIVED BY: (Signature)

RELINQUISHED BY: (Signature)

DATE/TIMERECEIVED BY: (Signature)

RELINQUISHED BY: (Signature)

DATE/TIMERECEIVED BY: (Signature)

LABORATORY: XENCO

TURN AROUND TIME

NORMAL ☒ 1 DAY ☐
2 DAY ☐
OTHER ☐

LABORATORY USE ONLY:
RECEIVING TEMP: 09/10/14 THERM #: 228
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL # _____
☐ HAND DELIVERED



Marson &
Associates, Inc.
Environmental Consultants

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

Data Reported to:

DATE: 7/10/20 PAGE 2 OF 2
PO#: _____ LAB WORK ORDER#: _____
PROJECT LOCATION OR NAME: _____
LAI PROJECT #: 16-0120-01 COLLECTOR: DSATJ

TRRP report?
☐ Yes ☒ No

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

TIME ZONE:
Time zone/State:

MST

Field
Sample I.D.

Lab #

Date

Time

Matrix

of Containers

HCl

HNO₃

H₂SO₄ ☐ 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 - METALS (RCRA) ☐ Semi-VOC ☐
TOTAL METALS (RCRA) ☐ OTHER LIST ☐
LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐
RCL ☐ TOX ☐ FLASHPOINT ☐
TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐
PH ☐ HEXAVALENT CHROMIUM ☐
EXPLOSIVES ☐ PETCHLORATE ☐
CHLORIDE ☐ ANIONS ☐ ALKALINITY ☐

FIELD NOTES

C-16
C-17
C-18

7/10/20

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0900
0905

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TOTAL

3

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

TURN AROUND TIME

LABORATORY USE ONLY:

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

TURN AROUND TIME

LABORATORY USE ONLY:

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

TURN AROUND TIME

LABORATORY USE ONLY:

LABORATORY: XCALD

DATE/TIME

RECEIVED BY: (Signature)

TURN AROUND TIME

LABORATORY USE ONLY:

RECEIVING TEMP: 80°C/104°F

THERM #: me

CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED

☐ CARRIER BILL # _____

☐ HAND DELIVERED

NO 1189

CHAIN-OF-CUSTODY

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Larson and Associates, Inc.**Date/ Time Received:** 07.13.2020 08.10.00 AM**Work Order #:** 666945**Acceptable Temperature Range:** 0 - 6 degC**Air and Metal samples Acceptable Range:** Ambient**Temperature Measuring device used :** IR-8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	.4
#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: 07.13.2020

Checklist reviewed by:



Holly Taylor

Date: 07.16.2020

Certificate of Analysis Summary 678622



Larson and Associates, Inc., Midland, TX

Project Name: Epperson

Project Id: 16-0120-01
Contact: Mark Larson
Project Location: New Mexico

Date Received in Lab: Fri 11.20.2020 13:37**Report Date:** 11.23.2020 09:39**Project Manager:** Holly Taylor

<i>Analysis Requested</i>	<i>Lab Id:</i>	678622-001	678622-002	678622-003	678622-004	678622-005	678622-006
	<i>Field Id:</i>	C-1	C-2	C-3	C-4	C-5	C-6
	<i>Depth:</i>	26- ft	26- ft	26- ft	26- ft	26- ft	26- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	11.20.2020 09:40	11.20.2020 09:48	11.20.2020 09:57	11.20.2020 09:59	11.20.2020 10:04	11.20.2020 10:08
BTEX by EPA 8021B	<i>Extracted:</i>	11.20.2020 14:51	11.20.2020 14:51	11.20.2020 14:51	11.20.2020 14:51	11.20.2020 14:51	11.20.2020 14:51
	<i>Analyzed:</i>	11.20.2020 17:46	11.20.2020 18:43	11.20.2020 19:06	11.20.2020 20:25	11.20.2020 20:48	11.20.2020 17:23
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200
m,p-Xylenes		<0.00400 0.00400	<0.00397 0.00397	<0.00399 0.00399	<0.00401 0.00401	<0.00397 0.00397	<0.00399 0.00399
o-Xylene		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200
Total Xylenes		<0.002000 0.002000	<0.001980 0.001980	<0.002000 0.002000	<0.002000 0.002000	<0.001980 0.001980	<0.002000 0.002000
Total BTEX		<0.002000 0.002000	<0.001980 0.001980	<0.002000 0.002000	<0.002000 0.002000	<0.001980 0.001980	<0.002000 0.002000
Chloride by EPA 300	<i>Extracted:</i>	11.20.2020 17:47	11.20.2020 17:47	11.20.2020 17:47	11.20.2020 17:47	11.20.2020 17:47	11.20.2020 17:47
	<i>Analyzed:</i>	11.21.2020 02:11	11.21.2020 02:27	11.21.2020 02:32	11.21.2020 02:37	11.21.2020 02:42	11.21.2020 02:58
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<9.94 9.94	12.2 10.0	<10.1 10.1	<10.0 10.0	<10.0 10.0	11.1 10.0
TPH by SW8015 Mod	<i>Extracted:</i>	11.20.2020 16:00	11.20.2020 16:00	11.20.2020 16:00	11.20.2020 16:00	11.20.2020 16:00	11.20.2020 16:00
	<i>Analyzed:</i>	11.20.2020 17:08	11.20.2020 17:28	11.20.2020 17:48	11.20.2020 18:08	11.20.2020 18:28	11.20.2020 18:48
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.8 49.8	<50.0 50.0	<50.1 50.1	<50.1 50.1	<50.2 50.2	<50.1 50.1
Diesel Range Organics (DRO)		<49.8 49.8	<50.0 50.0	<50.1 50.1	<50.1 50.1	<50.2 50.2	<50.1 50.1
Motor Oil Range Hydrocarbons (MRO)		<49.8 49.8	<50.0 50.0	<50.1 50.1	<50.1 50.1	<50.2 50.2	<50.1 50.1
Total TPH		<49.80 49.80	<50.00 50.00	<50.10 50.10	<50.10 50.10	<50.20 50.20	<50.10 50.10

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Certificate of Analysis Summary 678622



Larson and Associates, Inc., Midland, TX

Project Name: Epperson

Project Id: 16-0120-01

Contact: Mark Larson

Project Location: New Mexico

Date Received in Lab: Fri 11.20.2020 13:37

Report Date: 11.23.2020 09:39

Project Manager: Holly Taylor

Analysis Requested	Lab Id:	678622-007	678622-008	678622-009	678622-010		
	Field Id:	C-7	C-8	C-9	C-10		
	Depth:	26- ft	26- ft	26- ft	26- ft		
	Matrix:	SOIL	SOIL	SOIL	SOIL		
	Sampled:	11.20.2020 10:20	11.20.2020 10:35	11.20.2020 10:40	11.20.2020 10:50		
BTEX by EPA 8021B	Extracted:	11.20.2020 14:51	11.20.2020 14:51	11.20.2020 14:51	11.20.2020 14:51		
	Analyzed:	11.20.2020 21:10	11.20.2020 21:33	11.20.2020 21:55	11.20.2020 22:17		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
m,p-Xylenes		<0.00399 0.00399	<0.00399 0.00399	<0.00399 0.00399	<0.00400 0.00400		
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Total Xylenes		<0.002000 0.002000	<0.002000 0.002000	<0.002000 0.002000	<0.002000 0.002000		
Total BTEX		<0.002000 0.002000	<0.002000 0.002000	<0.002000 0.002000	<0.002000 0.002000		
Chloride by EPA 300	Extracted:	11.20.2020 17:47	11.20.2020 17:47	11.20.2020 17:47	11.20.2020 17:47		
	Analyzed:	11.21.2020 03:03	11.21.2020 03:08	11.21.2020 03:13	11.21.2020 03:18		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		10.8 10.0	<9.90 9.90	<9.94 9.94	<10.1 10.1		
TPH by SW8015 Mod	Extracted:	11.20.2020 16:00	11.20.2020 16:00	11.20.2020 16:00	11.20.2020 16:00		
	Analyzed:	11.20.2020 19:10	11.20.2020 19:31	11.20.2020 19:51	11.20.2020 20:11		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.2 50.2		
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.2 50.2		
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.2 50.2		
Total TPH		<50.00 50.00	<49.90 49.90	<50.00 50.00	<50.20 50.20		

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Analytical Report 678622

for

Larson and Associates, Inc.

Project Manager: Mark Larson

Epperson

16-0120-01

11.23.2020

Collected By: Client

**1089 N Canal Street
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



11.23.2020

Project Manager: **Mark Larson**

Larson and Associates, Inc.

P. O. Box 50685

Midland, TX 79710

Reference: Eurofins Xenco, LLC Report No(s): **678622**

Epperson

Project Address: New Mexico

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 Eurofins Xenco, LLC Report Number(s) 678622. 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 Eurofins Xenco, LLC. 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. 678622 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads "Holly Taylor".

Holly Taylor
Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

**Sample Cross Reference 678622****Larson and Associates, Inc., Midland, TX**

Epperson

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
C-1	S	11.20.2020 09:40	26 ft	678622-001
C-2	S	11.20.2020 09:48	26 ft	678622-002
C-3	S	11.20.2020 09:57	26 ft	678622-003
C-4	S	11.20.2020 09:59	26 ft	678622-004
C-5	S	11.20.2020 10:04	26 ft	678622-005
C-6	S	11.20.2020 10:08	26 ft	678622-006
C-7	S	11.20.2020 10:20	26 ft	678622-007
C-8	S	11.20.2020 10:35	26 ft	678622-008
C-9	S	11.20.2020 10:40	26 ft	678622-009
C-10	S	11.20.2020 10:50	26 ft	678622-010



CASE NARRATIVE

Client Name: Larson and Associates, Inc.

Project Name: Epperson

Project ID: 16-0120-01
Work Order Number(s): 678622

Report Date: 11.23.2020
Date Received: 11.20.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 678622

Larson and Associates, Inc., Midland, TX

Epperson

Sample Id: C-1 Matrix: Soil Date Received: 11.20.2020 13:37
 Lab Sample Id: 678622-001 Date Collected: 11.20.2020 09:40 Sample Depth: 26 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 11.20.2020 17:47 % Moisture:
 Seq Number: 3142929 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.94	9.94	mg/kg	11.21.2020 02:11	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 11.20.2020 16:00 % Moisture:
 Seq Number: 3142933 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	11.20.2020 17:08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	11.20.2020 17:08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.20.2020 17:08	U	1
Total TPH	PHC635	<49.80	49.80	mg/kg	11.20.2020 17:08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	11.20.2020 17:08	
o-Terphenyl	84-15-1	118	%	70-135	11.20.2020 17:08	



Certificate of Analytical Results 678622

Larson and Associates, Inc., Midland, TX

Epperson

Sample Id: C-1
Lab Sample Id: 678622-001

Matrix: Soil
Date Collected: 11.20.2020 09:40

Date Received: 11.20.2020 13:37
Sample Depth: 26 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.20.2020 14:51

% Moisture:
Basis: Wet Weight

Seq Number: 3142932

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.20.2020 17:46	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.20.2020 17:46	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.20.2020 17:46	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	11.20.2020 17:46	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.20.2020 17:46	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	11.20.2020 17:46	U	1
Total BTEX		<0.002000	0.002000	mg/kg	11.20.2020 17:46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	112	%	70-130	11.20.2020 17:46		
1,4-Difluorobenzene	540-36-3	101	%	70-130	11.20.2020 17:46		



Certificate of Analytical Results 678622

Larson and Associates, Inc., Midland, TX

Epperson

Sample Id: **C-2** Matrix: Soil Date Received: 11.20.2020 13:37
 Lab Sample Id: 678622-002 Date Collected: 11.20.2020 09:48 Sample Depth: 26 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 11.20.2020 17:47 % Moisture:
 Seq Number: 3142929 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.2	10.0	mg/kg	11.21.2020 02:27		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 11.20.2020 16:00 % Moisture:
 Seq Number: 3142933 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	11.20.2020 17:28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	11.20.2020 17:28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.20.2020 17:28	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	11.20.2020 17:28	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	124	%	70-135	11.20.2020 17:28		
o-Terphenyl	84-15-1	98	%	70-135	11.20.2020 17:28		



Certificate of Analytical Results 678622

Larson and Associates, Inc., Midland, TX

Epperson

Sample Id: C-2
Lab Sample Id: 678622-002

Matrix: Soil
Date Collected: 11.20.2020 09:48

Date Received: 11.20.2020 13:37
Sample Depth: 26 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.20.2020 14:51

% Moisture:
Basis: Wet Weight

Seq Number: 3142932

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	11.20.2020 18:43	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	11.20.2020 18:43	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	11.20.2020 18:43	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	11.20.2020 18:43	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	11.20.2020 18:43	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	11.20.2020 18:43	U	1
Total BTEX		<0.001980	0.001980	mg/kg	11.20.2020 18:43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	70-130	11.20.2020 18:43		
1,4-Difluorobenzene	540-36-3	103	%	70-130	11.20.2020 18:43		



Certificate of Analytical Results 678622

Larson and Associates, Inc., Midland, TX

Epperson

Sample Id: **C-3** Matrix: Soil Date Received: 11.20.2020 13:37
 Lab Sample Id: 678622-003 Date Collected: 11.20.2020 09:57 Sample Depth: 26 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 11.20.2020 17:47 % Moisture:
 Seq Number: 3142929 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.1	10.1	mg/kg	11.21.2020 02:32	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 11.20.2020 16:00 % Moisture:
 Seq Number: 3142933 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.20.2020 17:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.20.2020 17:48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.20.2020 17:48	U	1
Total TPH	PHC635	<50.10	50.10	mg/kg	11.20.2020 17:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	11.20.2020 17:48	
o-Terphenyl	84-15-1	94	%	70-135	11.20.2020 17:48	



Certificate of Analytical Results 678622

Larson and Associates, Inc., Midland, TX

Epperson

Sample Id: **C-3**
Lab Sample Id: 678622-003

Matrix: Soil
Date Collected: 11.20.2020 09:57

Date Received: 11.20.2020 13:37
Sample Depth: 26 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.20.2020 14:51

% Moisture:
Basis: Wet Weight

Seq Number: 3142932

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.20.2020 19:06	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.20.2020 19:06	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.20.2020 19:06	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	11.20.2020 19:06	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.20.2020 19:06	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	11.20.2020 19:06	U	1
Total BTEX		<0.002000	0.002000	mg/kg	11.20.2020 19:06	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	70-130	11.20.2020 19:06		
1,4-Difluorobenzene	540-36-3	99	%	70-130	11.20.2020 19:06		



Certificate of Analytical Results 678622

Larson and Associates, Inc., Midland, TX

Epperson

Sample Id: **C-4** Matrix: Soil Date Received: 11.20.2020 13:37
 Lab Sample Id: 678622-004 Date Collected: 11.20.2020 09:59 Sample Depth: 26 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 11.20.2020 17:47 % Moisture:
 Seq Number: 3142929 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	11.21.2020 02:37	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 11.20.2020 16:00 % Moisture:
 Seq Number: 3142933 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.20.2020 18:08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.20.2020 18:08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.20.2020 18:08	U	1
Total TPH	PHC635	<50.10	50.10	mg/kg	11.20.2020 18:08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	11.20.2020 18:08	
o-Terphenyl	84-15-1	118	%	70-135	11.20.2020 18:08	



Certificate of Analytical Results 678622

Larson and Associates, Inc., Midland, TX

Epperson

Sample Id: **C-4**
Lab Sample Id: 678622-004

Matrix: Soil
Date Collected: 11.20.2020 09:59

Date Received: 11.20.2020 13:37
Sample Depth: 26 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.20.2020 14:51

% Moisture:
Basis: Wet Weight

Seq Number: 3142932

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.20.2020 20:25	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.20.2020 20:25	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.20.2020 20:25	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	11.20.2020 20:25	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.20.2020 20:25	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	11.20.2020 20:25	U	1
Total BTEX		<0.002000	0.002000	mg/kg	11.20.2020 20:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	112	%	70-130	11.20.2020 20:25	
1,4-Difluorobenzene	540-36-3	101	%	70-130	11.20.2020 20:25	



Certificate of Analytical Results 678622

Larson and Associates, Inc., Midland, TX

Epperson

Sample Id: C-5 Matrix: Soil Date Received: 11.20.2020 13:37
 Lab Sample Id: 678622-005 Date Collected: 11.20.2020 10:04 Sample Depth: 26 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 11.20.2020 17:47 % Moisture:
 Seq Number: 3142929 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	11.21.2020 02:42	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 11.20.2020 16:00 % Moisture:
 Seq Number: 3142933 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.20.2020 18:28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.20.2020 18:28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.20.2020 18:28	U	1
Total TPH	PHC635	<50.20	50.20	mg/kg	11.20.2020 18:28	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	105	%	70-135	11.20.2020 18:28		
o-Terphenyl	84-15-1	112	%	70-135	11.20.2020 18:28		



Certificate of Analytical Results 678622

Larson and Associates, Inc., Midland, TX

Epperson

Sample Id: C-5
Lab Sample Id: 678622-005

Matrix: Soil
Date Collected: 11.20.2020 10:04

Date Received: 11.20.2020 13:37
Sample Depth: 26 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.20.2020 14:51

% Moisture:
Basis: Wet Weight

Seq Number: 3142932

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	11.20.2020 20:48	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	11.20.2020 20:48	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	11.20.2020 20:48	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	11.20.2020 20:48	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	11.20.2020 20:48	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	11.20.2020 20:48	U	1
Total BTEX		<0.001980	0.001980	mg/kg	11.20.2020 20:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	70-130	11.20.2020 20:48	
4-Bromofluorobenzene	460-00-4	115	%	70-130	11.20.2020 20:48	



Certificate of Analytical Results 678622

Larson and Associates, Inc., Midland, TX

Epperson

Sample Id: **C-6** Matrix: Soil Date Received: 11.20.2020 13:37
 Lab Sample Id: 678622-006 Date Collected: 11.20.2020 10:08 Sample Depth: 26 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 11.20.2020 17:47 % Moisture:
 Seq Number: 3142929 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.1	10.0	mg/kg	11.21.2020 02:58		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 11.20.2020 16:00 % Moisture:
 Seq Number: 3142933 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.20.2020 18:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.20.2020 18:48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.20.2020 18:48	U	1
Total TPH	PHC635	<50.10	50.10	mg/kg	11.20.2020 18:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	11.20.2020 18:48	
o-Terphenyl	84-15-1	110	%	70-135	11.20.2020 18:48	



Certificate of Analytical Results 678622

Larson and Associates, Inc., Midland, TX

Epperson

Sample Id: **C-6**
Lab Sample Id: 678622-006

Matrix: Soil
Date Collected: 11.20.2020 10:08

Date Received: 11.20.2020 13:37
Sample Depth: 26 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.20.2020 14:51

% Moisture:
Basis: Wet Weight

Seq Number: 3142932

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.20.2020 17:23	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.20.2020 17:23	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.20.2020 17:23	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	11.20.2020 17:23	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.20.2020 17:23	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	11.20.2020 17:23	U	1
Total BTEX		<0.002000	0.002000	mg/kg	11.20.2020 17:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	11.20.2020 17:23	
4-Bromofluorobenzene	460-00-4	116	%	70-130	11.20.2020 17:23	



Certificate of Analytical Results 678622

Larson and Associates, Inc., Midland, TX

Epperson

Sample Id: **C-7** Matrix: Soil Date Received: 11.20.2020 13:37
 Lab Sample Id: 678622-007 Date Collected: 11.20.2020 10:20 Sample Depth: 26 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 11.20.2020 17:47 % Moisture:
 Seq Number: 3142929 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10.8	10.0	mg/kg	11.21.2020 03:03		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 11.20.2020 16:00 % Moisture:
 Seq Number: 3142933 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	11.20.2020 19:10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	11.20.2020 19:10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.20.2020 19:10	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	11.20.2020 19:10	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	110	%	70-135	11.20.2020 19:10		
o-Terphenyl	84-15-1	112	%	70-135	11.20.2020 19:10		



Certificate of Analytical Results 678622

Larson and Associates, Inc., Midland, TX

Epperson

Sample Id: C-7
Lab Sample Id: 678622-007

Matrix: Soil
Date Collected: 11.20.2020 10:20

Date Received: 11.20.2020 13:37
Sample Depth: 26 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.20.2020 14:51

% Moisture:
Basis: Wet Weight

Seq Number: 3142932

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.20.2020 21:10	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.20.2020 21:10	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.20.2020 21:10	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	11.20.2020 21:10	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.20.2020 21:10	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	11.20.2020 21:10	U	1
Total BTEX		<0.002000	0.002000	mg/kg	11.20.2020 21:10	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	70-130	11.20.2020 21:10		
1,4-Difluorobenzene	540-36-3	105	%	70-130	11.20.2020 21:10		



Certificate of Analytical Results 678622

Larson and Associates, Inc., Midland, TX

Epperson

Sample Id: **C-8** Matrix: Soil Date Received: 11.20.2020 13:37
 Lab Sample Id: 678622-008 Date Collected: 11.20.2020 10:35 Sample Depth: 26 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 11.20.2020 17:47 % Moisture:
 Seq Number: 3142929 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.90	9.90	mg/kg	11.21.2020 03:08	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 11.20.2020 16:00 % Moisture:
 Seq Number: 3142933 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	11.20.2020 19:31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	11.20.2020 19:31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.20.2020 19:31	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	11.20.2020 19:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	11.20.2020 19:31	
o-Terphenyl	84-15-1	126	%	70-135	11.20.2020 19:31	



Certificate of Analytical Results 678622

Larson and Associates, Inc., Midland, TX

Epperson

Sample Id: **C-8**
Lab Sample Id: 678622-008

Matrix: Soil
Date Collected: 11.20.2020 10:35

Date Received: 11.20.2020 13:37
Sample Depth: 26 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.20.2020 14:51

% Moisture:
Basis: Wet Weight

Seq Number: 3142932

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.20.2020 21:33	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.20.2020 21:33	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.20.2020 21:33	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	11.20.2020 21:33	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.20.2020 21:33	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	11.20.2020 21:33	U	1
Total BTEX		<0.002000	0.002000	mg/kg	11.20.2020 21:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	11.20.2020 21:33	
4-Bromofluorobenzene	460-00-4	108	%	70-130	11.20.2020 21:33	



Certificate of Analytical Results 678622

Larson and Associates, Inc., Midland, TX

Epperson

Sample Id: **C-9** Matrix: Soil Date Received: 11.20.2020 13:37
 Lab Sample Id: 678622-009 Date Collected: 11.20.2020 10:40 Sample Depth: 26 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 11.20.2020 17:47 % Moisture:
 Seq Number: 3142929 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.94	9.94	mg/kg	11.21.2020 03:13	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 11.20.2020 16:00 % Moisture:
 Seq Number: 3142933 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	11.20.2020 19:51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	11.20.2020 19:51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.20.2020 19:51	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	11.20.2020 19:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	11.20.2020 19:51	
o-Terphenyl	84-15-1	118	%	70-135	11.20.2020 19:51	



Certificate of Analytical Results 678622

Larson and Associates, Inc., Midland, TX

Epperson

Sample Id: **C-9**
Lab Sample Id: 678622-009

Matrix: Soil
Date Collected: 11.20.2020 10:40

Date Received: 11.20.2020 13:37
Sample Depth: 26 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.20.2020 14:51

% Moisture:
Basis: Wet Weight

Seq Number: 3142932

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.20.2020 21:55	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.20.2020 21:55	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.20.2020 21:55	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	11.20.2020 21:55	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.20.2020 21:55	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	11.20.2020 21:55	U	1
Total BTEX		<0.002000	0.002000	mg/kg	11.20.2020 21:55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	11.20.2020 21:55	
1,4-Difluorobenzene	540-36-3	90	%	70-130	11.20.2020 21:55	



Certificate of Analytical Results 678622

Larson and Associates, Inc., Midland, TX

Epperson

Sample Id: **C-10** Matrix: Soil Date Received: 11.20.2020 13:37
 Lab Sample Id: 678622-010 Date Collected: 11.20.2020 10:50 Sample Depth: 26 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 11.20.2020 17:47 % Moisture:
 Seq Number: 3142929 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.1	10.1	mg/kg	11.21.2020 03:18	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 11.20.2020 16:00 % Moisture:
 Seq Number: 3142933 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.20.2020 20:11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.20.2020 20:11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.20.2020 20:11	U	1
Total TPH	PHC635	<50.20	50.20	mg/kg	11.20.2020 20:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	11.20.2020 20:11	
o-Terphenyl	84-15-1	104	%	70-135	11.20.2020 20:11	



Certificate of Analytical Results 678622

Larson and Associates, Inc., Midland, TX

Epperson

Sample Id: **C-10**
Lab Sample Id: 678622-010

Matrix: Soil
Date Collected: 11.20.2020 10:50

Date Received: 11.20.2020 13:37
Sample Depth: 26 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.20.2020 14:51

% Moisture:
Basis: Wet Weight

Seq Number: 3142932

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.20.2020 22:17	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.20.2020 22:17	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.20.2020 22:17	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	11.20.2020 22:17	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.20.2020 22:17	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	11.20.2020 22:17	U	1
Total BTEX		<0.002000	0.002000	mg/kg	11.20.2020 22:17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	94	%	70-130	11.20.2020 22:17	
4-Bromofluorobenzene	460-00-4	106	%	70-130	11.20.2020 22:17	

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. **ND** Not Detected.

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



Larson and Associates, Inc.
Epperson

Analytical Method: Chloride by EPA 300

Seq Number: 3142929

MB Sample Id: 7715683-1-BLK

Matrix: Solid

LCS Sample Id: 7715683-1-BKS

Prep Method: E300P

Date Prep: 11.20.2020

LCSD Sample Id: 7715683-1-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	250	252	101	254	102	90-110	1	20	mg/kg	11.21.2020 02:01	

Analytical Method: Chloride by EPA 300

Seq Number: 3142929

Parent Sample Id: 678622-001

Matrix: Soil

MS Sample Id: 678622-001 S

Prep Method: E300P

Date Prep: 11.20.2020

MSD Sample Id: 678622-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<9.98	200	209	105	201	101	90-110	4	20	mg/kg	11.21.2020 02:16	

Analytical Method: Chloride by EPA 300

Seq Number: 3142929

Parent Sample Id: 678647-004

Matrix: Soil

MS Sample Id: 678647-004 S

Prep Method: E300P

Date Prep: 11.20.2020

MSD Sample Id: 678647-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	30.4	200	229	99	229	99	90-110	0	20	mg/kg	11.21.2020 03:29	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3142933

MB Sample Id: 7715676-1-BLK

Matrix: Solid

LCS Sample Id: 7715676-1-BKS

Prep Method: SW8015P

Date Prep: 11.20.2020

LCSD Sample Id: 7715676-1-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)	<50.0	1000	1110	111	1190	119	70-135	7	35	mg/kg	11.20.2020 12:06	
Diesel Range Organics (DRO)	<50.0	1000	1090	109	1170	117	70-135	7	35	mg/kg	11.20.2020 12:06	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		113		110		70-135	%	11.20.2020 12:06
o-Terphenyl	104		104		113		70-135	%	11.20.2020 12:06

Analytical Method: TPH by SW8015 Mod

Seq Number: 3142933

Matrix: Solid

MB Sample Id: 7715676-1-BLK

Prep Method: SW8015P

Date Prep: 11.20.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.20.2020 11:46	

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

Larson and Associates, Inc.
Epperson

Analytical Method: TPH by SW8015 Mod

Seq Number: 3142933

Parent Sample Id: 678519-001

Matrix: Soil

MS Sample Id: 678519-001 S

Prep Method: SW8015P

Date Prep: 11.20.2020

MSD Sample Id: 678519-001 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)	<50.2	1000	1150	115	1110	111	70-135	4	35	mg/kg	11.20.2020 13:06	
Diesel Range Organics (DRO)	<50.2	1000	1220	122	1130	113	70-135	8	35	mg/kg	11.20.2020 13:06	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	107		112		70-135	%	11.20.2020 13:06
o-Terphenyl	114		106		70-135	%	11.20.2020 13:06

Analytical Method: BTEX by EPA 8021B

Seq Number: 3142932

MB Sample Id: 7715670-1-BLK

Matrix: Solid

LCS Sample Id: 7715670-1-BKS

Prep Method: SW5035A

Date Prep: 11.20.2020

LCSD Sample Id: 7715670-1-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	0.104	104	0.105	105	70-130	1	35	mg/kg	11.20.2020 12:29	
Toluene	<0.00200	0.100	0.0999	100	0.0988	99	70-130	1	35	mg/kg	11.20.2020 12:29	
Ethylbenzene	<0.00200	0.100	0.101	101	0.105	105	71-129	4	35	mg/kg	11.20.2020 12:29	
m,p-Xylenes	<0.00400	0.200	0.208	104	0.214	107	70-135	3	35	mg/kg	11.20.2020 12:29	
o-Xylene	<0.00200	0.100	0.103	103	0.105	105	71-133	2	35	mg/kg	11.20.2020 12:29	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		99		104		70-130	%	11.20.2020 12:29
4-Bromofluorobenzene	116		107		112		70-130	%	11.20.2020 12:29

Analytical Method: BTEX by EPA 8021B

Seq Number: 3142932

Parent Sample Id: 678519-001

Matrix: Soil

MS Sample Id: 678519-001 S

Prep Method: SW5035A

Date Prep: 11.20.2020

MSD Sample Id: 678519-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0950	95	0.104	105	70-130	9	35	mg/kg	11.20.2020 13:14	
Toluene	<0.00200	0.100	0.0871	87	0.0969	97	70-130	11	35	mg/kg	11.20.2020 13:14	
Ethylbenzene	<0.00200	0.100	0.0824	82	0.0971	98	71-129	16	35	mg/kg	11.20.2020 13:14	
m,p-Xylenes	<0.00401	0.200	0.169	85	0.197	99	70-135	15	35	mg/kg	11.20.2020 13:14	
o-Xylene	<0.00200	0.100	0.0840	84	0.0956	96	71-133	13	35	mg/kg	11.20.2020 13:14	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		98		70-130	%	11.20.2020 13:14
4-Bromofluorobenzene	108		106		70-130	%	11.20.2020 13:14

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



Chain of Custody

Work Order No: 678622

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-5440 EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296 Crystal, NM (432) 704-5440
 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

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Project Manager:	Company Name:	Address:	City, State ZIP:	Phone:	Bill to: (if different)	Company Name:	Address:	City, State ZIP:	Email:
	Lauson & Associates	507 N. WALLFIELD	Midland, Texas 79701	432-770-5942					dstgorman@lausonmanfa1

Project Name:	Project Number:	Project Location:	Sample Name:	PO #:	Turn Around	Pres. Code	ANALYSIS REQUEST	Preservative Codes
EXPRESS	16-0120-01	N/A	Daniel St. Lawrence		Routine <input type="checkbox"/>			MeOH: Me None: NO HNO3: HN H2SO4: H2 HCL: HL NaOH: Na Zn Acetate+ NaOH: Zn
Temperature (°C):	Received Intact:	Cooler Custody Seals:	Sample Custody Seals:	Temp Blank:	Thermometer ID	Correction Factor:	Total Containers:	
52/5.0	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	7-NM-007	-0.2	10	

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Sample Comments
C-1		S	11/20/12	0940	2'0"	1	TPH
C-2		S		0918		1	BTEX
C-3		S		0957		1	CHLORIDE
C-4		S		0959		1	
C-5		S		1004		1	
C-6		S		1008		1	
C-7		S		1020		1	
C-8		S		1035		1	
C-9		S		1040		1	
C-10		S		1050		1	

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn
 Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U 1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Daniel St. Lawrence	Cue Laffra	11/20/12 / 1337			

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Larson and Associates, Inc.**Date/ Time Received:** 11.20.2020 01.37.00 PM**Work Order #:** 678622**Acceptable Temperature Range:** 0 - 6 degC**Air and Metal samples Acceptable Range:** Ambient**Temperature Measuring device used :** T_NM_007**Sample Receipt Checklist****Comments**

#1 *Temperature of cooler(s)?	5	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	Yes	
#5 Custody Seals intact on sample bottles?	Yes	
#6 *Custody Seals Signed and dated?	Yes	
#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	Samples received in bulk containers.
#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)?	No	
#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:

Cloe Clifton

Date: 11.20.2020

Checklist reviewed by:

Holly Taylor

Date: 11.20.2020

Certificate of Analysis Summary 678765

Larson and Associates, Inc., Midland, TX

Project Name: EPPERSON

Project Id: 16-0120-01

Contact: Mark Larson

Project Location:

Date Received in Lab: Mon 11.23.2020 11:45

Report Date: 11.24.2020 11:54

Project Manager: Holly Taylor

Analysis Requested	Lab Id: 678765-001 Field Id: C-11 Depth: Matrix: SOIL Sampled: 11.23.2020 09:00					
BTEX by EPA 8021B	Extracted: 11.23.2020 14:27 Analyzed: 11.23.2020 17:35 Units/RL: mg/kg RL					
Benzene	<0.00202 0.00202					
Toluene	<0.00202 0.00202					
Ethylbenzene	<0.00202 0.00202					
m,p-Xylenes	<0.00403 0.00403					
o-Xylene	<0.00202 0.00202					
Total Xylenes	<0.002020 0.002020					
Total BTEX	<0.002020 0.002020					
TPH by SW8015 Mod	Extracted: 11.23.2020 12:30 Analyzed: 11.23.2020 15:48 Units/RL: mg/kg RL					
Gasoline Range Hydrocarbons (GRO)	<50.2 50.2					
Diesel Range Organics (DRO)	<50.2 50.2					
Motor Oil Range Hydrocarbons (MRO)	<50.2 50.2					
Total TPH	<50.20 50.20					

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico





Analytical Report 678765

for

Larson and Associates, Inc.

Project Manager: Mark Larson

EPPERSON

16-0120-01

11.24.2020

Collected By: Client

**1089 N Canal Street
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



11.24.2020

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

Reference: Eurofins Xenco, LLC Report No(s): **678765**
EPPERSON
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 Eurofins Xenco, LLC Report Number(s) 678765. 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 Eurofins Xenco, LLC. 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. 678765 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads "Holly Taylor".

Holly Taylor
Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Sample Cross Reference 678765

Larson and Associates, Inc., Midland, TX

EPPERSON

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
C-11	S	11.23.2020 09:00		678765-001



CASE NARRATIVE

Client Name: Larson and Associates, Inc.

Project Name: EPPERSON

Project ID: 16-0120-01
Work Order Number(s): 678765

Report Date: 11.24.2020
Date Received: 11.23.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 678765

Larson and Associates, Inc., Midland, TX EPPERSON

Sample Id: **C-11**
Lab Sample Id: 678765-001

Matrix: Soil
Date Collected: 11.23.2020 09:00

Date Received: 11.23.2020 11:45

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 11.23.2020 12:30

% Moisture:
Basis: Wet Weight

Seq Number: 3143140

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.23.2020 15:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.23.2020 15:48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.23.2020 15:48	U	1
Total TPH	PHC635	<50.20	50.20	mg/kg	11.23.2020 15:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	11.23.2020 15:48	
o-Terphenyl	84-15-1	113	%	70-135	11.23.2020 15:48	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.23.2020 14:27

% Moisture:
Basis: Wet Weight

Seq Number: 3143144

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	11.23.2020 17:35	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	11.23.2020 17:35	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	11.23.2020 17:35	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	11.23.2020 17:35	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	11.23.2020 17:35	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	11.23.2020 17:35	U	1
Total BTEX		<0.002020	0.002020	mg/kg	11.23.2020 17:35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	115	%	70-130	11.23.2020 17:35	
1,4-Difluorobenzene	540-36-3	104	%	70-130	11.23.2020 17:35	

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. **ND** Not Detected.

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



Larson and Associates, Inc.
EPPERSON

Analytical Method: TPH by SW8015 Mod

Seq Number: 3143140

MB Sample Id: 7715859-1-BLK

Matrix: Solid

LCS Sample Id: 7715859-1-BKS

Prep Method: SW8015P

Date Prep: 11.23.2020

LCSD Sample Id: 7715859-1-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)	<50.0	1000	1070	107	1030	103	70-135	4	35	mg/kg	11.23.2020 14:07	
Diesel Range Organics (DRO)	<50.0	1000	1260	126	1210	121	70-135	4	35	mg/kg	11.23.2020 14:07	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		133		117		70-135	%	11.23.2020 14:07
o-Terphenyl	129		122		117		70-135	%	11.23.2020 14:07

Analytical Method: TPH by SW8015 Mod

Seq Number: 3143140

Matrix: Solid

MB Sample Id: 7715859-1-BLK

Prep Method: SW8015P

Date Prep: 11.23.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.23.2020 13:48	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3143140

Matrix: Soil

Parent Sample Id: 678677-001

MS Sample Id: 678677-001 S

Prep Method: SW8015P

Date Prep: 11.23.2020

MSD Sample Id: 678677-001 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)	<50.1	1000	1120	112	1020	102	70-135	9	35	mg/kg	11.23.2020 15:08	
Diesel Range Organics (DRO)	<50.1	1000	1060	106	986	99	70-135	7	35	mg/kg	11.23.2020 15:08	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	111		106		70-135	%	11.23.2020 15:08
o-Terphenyl	114		114		70-135	%	11.23.2020 15:08

Analytical Method: BTEX by EPA 8021B

Seq Number: 3143144

Matrix: Solid

MB Sample Id: 7715766-1-BLK

LCS Sample Id: 7715766-1-BKS

Prep Method: SW5035A

Date Prep: 11.23.2020

LCSD Sample Id: 7715766-1-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	0.104	104	0.0993	99	70-130	5	35	mg/kg	11.23.2020 12:09	
Toluene	<0.00200	0.100	0.0985	99	0.0933	93	70-130	5	35	mg/kg	11.23.2020 12:09	
Ethylbenzene	<0.00200	0.100	0.103	103	0.0966	97	71-129	6	35	mg/kg	11.23.2020 12:09	
m,p-Xylenes	<0.00400	0.200	0.213	107	0.200	100	70-135	6	35	mg/kg	11.23.2020 12:09	
o-Xylene	<0.00200	0.100	0.103	103	0.0980	98	71-133	5	35	mg/kg	11.23.2020 12:09	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		99		98		70-130	%	11.23.2020 12:09
4-Bromofluorobenzene	116		112		107		70-130	%	11.23.2020 12:09

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

Larson and Associates, Inc.
EPPERSON
Analytical Method: BTEX by EPA 8021B

Seq Number: 3143144

Parent Sample Id: 678677-001

Matrix: Soil

MS Sample Id: 678677-001 S

Prep Method: SW5035A

Date Prep: 11.23.2020

MSD Sample Id: 678677-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0766	77	0.0920	93	70-130	18	35	mg/kg	11.23.2020 12:54	
Toluene	<0.00200	0.0998	0.0717	72	0.0864	87	70-130	19	35	mg/kg	11.23.2020 12:54	
Ethylbenzene	<0.00200	0.0998	0.0704	71	0.0900	91	71-129	24	35	mg/kg	11.23.2020 12:54	
m,p-Xylenes	<0.00399	0.200	0.145	73	0.185	93	70-135	24	35	mg/kg	11.23.2020 12:54	
o-Xylene	<0.00200	0.0998	0.0732	73	0.0912	92	71-133	22	35	mg/kg	11.23.2020 12:54	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		102		70-130	%	11.23.2020 12:54
4-Bromofluorobenzene	118		113		70-130	%	11.23.2020 12:54

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

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Larson and Associates, Inc.**Date/ Time Received:** 11.23.2020 11.45.00 AM**Work Order #:** 678765**Acceptable Temperature Range:** 0 - 6 degC**Air and Metal samples Acceptable Range:** Ambient**Temperature Measuring device used :** T_NM_007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2.2
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#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)?	No
#18 Water VOC samples have zero headspace?	N/A

Samples received in bulk containers.

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Cloe Clifton

Date: 11.23.2020

Checklist reviewed by:

Holly Taylor

Date: 11.23.2020

Certificate of Analysis Summary 676306



Larson and Associates, Inc., Midland, TX

Project Name: Targa-Epperson

Project Id: 16-0120-01

Contact: Mark Larson

Project Location:

Date Received in Lab: Thu 10.29.2020 08:38

Report Date: 10.30.2020 14:34

Project Manager: Holly Taylor

<i>Analysis Requested</i>	<i>Lab Id:</i>	676306-001					
	<i>Field Id:</i>	NSBP,16'					
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL					
	<i>Sampled:</i>	10.28.2020 12:15					
Chloride by EPA 300	<i>Extracted:</i>	10.29.2020 16:45					
	<i>Analyzed:</i>	10.29.2020 16:46					
	<i>Units/RL:</i>	mg/kg RL					
Chloride		10.3 5.05					

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Analytical Report 676306

for

Larson and Associates, Inc.

Project Manager: Mark Larson

Targa-Epperson

16-0120-01

10.30.2020

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



10.30.2020

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

Reference: Eurofins Xenco, LLC Report No(s): **676306**
Targa-Epperson
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 Eurofins Xenco, LLC Report Number(s) 676306. 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 Eurofins Xenco, LLC. 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. 676306 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads "Holly Taylor".

Holly Taylor
Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Sample Cross Reference 676306

Larson and Associates, Inc., Midland, TX

Targa-Epperson

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
NSBP,16'	S	10.28.2020 12:15		676306-001



CASE NARRATIVE

Client Name: Larson and Associates, Inc.

Project Name: Targa-Epperson

Project ID: 16-0120-01

Work Order Number(s): 676306

Report Date: 10.30.2020

Date Received: 10.29.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

**Certificate of Analytical Results 676306****Larson and Associates, Inc., Midland, TX**

Targa-Epperson

Sample Id: **NSBP,16'**

Matrix: Soil

Date Received: 10.29.2020 08:38

Lab Sample Id: 676306-001

Date Collected: 10.28.2020 12:15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 10.29.2020 16:45

% Moisture:

Seq Number: 3141000

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10.3	5.05	mg/kg	10.29.2020 16:46		1

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. **ND** Not Detected.

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



Larson and Associates, Inc.
Targa-Epperson

Analytical Method: Chloride by EPA 300

Seq Number: 3141000

MB Sample Id: 7714209-1-BLK

Matrix: Solid

LCS Sample Id: 7714209-1-BKS

Prep Method: E300P

Date Prep: 10.29.2020

LCSD Sample Id: 7714209-1-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	260	104	260	104	90-110	0	20	mg/kg	10.29.2020 16:35	

Analytical Method: Chloride by EPA 300

Seq Number: 3141000

Parent Sample Id: 676306-001

Matrix: Soil

MS Sample Id: 676306-001 S

Prep Method: E300P

Date Prep: 10.29.2020

MSD Sample Id: 676306-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	10.3	253	279	106	277	105	90-110	1	20	mg/kg	10.29.2020 16:51	

Analytical Method: Chloride by EPA 300

Seq Number: 3141000

Parent Sample Id: 676355-002

Matrix: Soil

MS Sample Id: 676355-002 S

Prep Method: E300P

Date Prep: 10.29.2020

MSD Sample Id: 676355-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	916	250	1140	90	1190	110	90-110	4	20	mg/kg	10.29.2020 18:05	

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

[illegible]

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Larson and Associates, Inc.**Date/ Time Received:** 10.29.2020 08.38.00 AM**Work Order #:** 676306**Acceptable Temperature Range:** 0 - 6 degC**Air and Metal samples Acceptable Range:** Ambient**Temperature Measuring device used :** IR-8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	5.4
#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: 10.29.2020

Checklist reviewed by:

Holly Taylor

Date: 10.29.2020

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



Analytical Report

Prepared for:

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

Project: Epperson 16" Pipeline

Project Number: 16-0120-01

Location:

Lab Order Number: 1B19004



Current Certification

Report Date: 02/23/21

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1-1	1B19004-01	Soil	02/19/21 00:00	02-19-2021 16:36
1-2	1B19004-02	Soil	02/19/21 00:00	02-19-2021 16:36
1-3	1B19004-03	Soil	02/19/21 00:00	02-19-2021 16:36
1-4	1B19004-04	Soil	02/19/21 00:00	02-19-2021 16:36
2-1	1B19004-05	Soil	02/19/21 00:00	02-19-2021 16:36
2-2	1B19004-06	Soil	02/19/21 00:00	02-19-2021 16:36
3-1	1B19004-07	Soil	02/19/21 00:00	02-19-2021 16:36
3-2	1B19004-08	Soil	02/19/21 00:00	02-19-2021 16:36
4-1	1B19004-09	Soil	02/19/21 00:00	02-19-2021 16:36
4-2	1B19004-10	Soil	02/19/21 00:00	02-19-2021 16:36

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

1-1
1B19004-01 (Soil)

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

BTEX by 8021B

Benzene	ND	0.00108	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 13:18	EPA 8021B	
Toluene	ND	0.00108	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 13:18	EPA 8021B	
Ethylbenzene	ND	0.00108	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 13:18	EPA 8021B	
Xylene (p/m)	ND	0.00215	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 13:18	EPA 8021B	
Xylene (o)	ND	0.00108	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 13:18	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		105 %	80-120		P1B2204	02/22/21 09:23	02/22/21 13:18	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		97.2 %	80-120		P1B2204	02/22/21 09:23	02/22/21 13:18	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	20.2	1.08	mg/kg dry	1	P1B2202	02/22/21 09:05	02/22/21 12:26	EPA 300.0	
% Moisture	7.0	0.1	%	1	P1B2205	02/22/21 10:13	02/22/21 10:13	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.9	mg/kg dry	1	P1B2001	02/20/21 09:55	02/20/21 12:21	TPH 8015M	
>C12-C28	ND	26.9	mg/kg dry	1	P1B2001	02/20/21 09:55	02/20/21 12:21	TPH 8015M	
>C28-C35	ND	26.9	mg/kg dry	1	P1B2001	02/20/21 09:55	02/20/21 12:21	TPH 8015M	
Surrogate: 1-Chlorooctane		77.6 %	70-130		P1B2001	02/20/21 09:55	02/20/21 12:21	TPH 8015M	
Surrogate: o-Terphenyl		81.6 %	70-130		P1B2001	02/20/21 09:55	02/20/21 12:21	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.9	mg/kg dry	1	[CALC]	02/20/21 09:55	02/20/21 12:21	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

1-2
1B19004-02 (Soil)

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

BTEX by 8021B

Benzene	ND	0.00105	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 13:39	EPA 8021B	
Toluene	ND	0.00105	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 13:39	EPA 8021B	
Ethylbenzene	ND	0.00105	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 13:39	EPA 8021B	
Xylene (p/m)	ND	0.00211	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 13:39	EPA 8021B	
Xylene (o)	ND	0.00105	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 13:39	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		103 %	80-120		P1B2204	02/22/21 09:23	02/22/21 13:39	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		95.8 %	80-120		P1B2204	02/22/21 09:23	02/22/21 13:39	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	7.24	1.05	mg/kg dry	1	P1B2202	02/22/21 09:05	02/22/21 13:15	EPA 300.0	
% Moisture	5.0	0.1	%	1	P1B2205	02/22/21 10:13	02/22/21 10:13	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.3	mg/kg dry	1	P1B2001	02/20/21 09:55	02/20/21 12:44	TPH 8015M	
>C12-C28	ND	26.3	mg/kg dry	1	P1B2001	02/20/21 09:55	02/20/21 12:44	TPH 8015M	
>C28-C35	ND	26.3	mg/kg dry	1	P1B2001	02/20/21 09:55	02/20/21 12:44	TPH 8015M	
Surrogate: 1-Chlorooctane		83.0 %	70-130		P1B2001	02/20/21 09:55	02/20/21 12:44	TPH 8015M	
Surrogate: o-Terphenyl		87.2 %	70-130		P1B2001	02/20/21 09:55	02/20/21 12:44	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.3	mg/kg dry	1	[CALC]	02/20/21 09:55	02/20/21 12:44	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

1-3
1B19004-03 (Soil)

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

BTEX by 8021B

Benzene	ND	0.00104	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 14:00	EPA 8021B	
Toluene	ND	0.00104	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 14:00	EPA 8021B	
Ethylbenzene	ND	0.00104	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 14:00	EPA 8021B	
Xylene (p/m)	ND	0.00208	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 14:00	EPA 8021B	
Xylene (o)	ND	0.00104	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 14:00	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		93.9 %	80-120		P1B2204	02/22/21 09:23	02/22/21 14:00	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		100 %	80-120		P1B2204	02/22/21 09:23	02/22/21 14:00	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	5.33	1.04	mg/kg dry	1	P1B2202	02/22/21 09:05	02/22/21 13:31	EPA 300.0	
% Moisture	4.0	0.1	%	1	P1B2205	02/22/21 10:13	02/22/21 10:13	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.0	mg/kg dry	1	P1B2001	02/20/21 09:55	02/20/21 13:07	TPH 8015M	
>C12-C28	ND	26.0	mg/kg dry	1	P1B2001	02/20/21 09:55	02/20/21 13:07	TPH 8015M	
>C28-C35	ND	26.0	mg/kg dry	1	P1B2001	02/20/21 09:55	02/20/21 13:07	TPH 8015M	
Surrogate: 1-Chlorooctane		87.8 %	70-130		P1B2001	02/20/21 09:55	02/20/21 13:07	TPH 8015M	
Surrogate: o-Terphenyl		93.5 %	70-130		P1B2001	02/20/21 09:55	02/20/21 13:07	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.0	mg/kg dry	1	[CALC]	02/20/21 09:55	02/20/21 13:07	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

1-4
1B19004-04 (Soil)

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

BTEX by 8021B

Benzene	ND	0.00106	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 14:21	EPA 8021B	
Toluene	ND	0.00106	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 14:21	EPA 8021B	
Ethylbenzene	ND	0.00106	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 14:21	EPA 8021B	
Xylene (p/m)	ND	0.00213	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 14:21	EPA 8021B	
Xylene (o)	ND	0.00106	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 14:21	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		97.7 %	80-120		P1B2204	02/22/21 09:23	02/22/21 14:21	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		105 %	80-120		P1B2204	02/22/21 09:23	02/22/21 14:21	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	3.36	1.06	mg/kg dry	1	P1B2202	02/22/21 09:05	02/22/21 13:48	EPA 300.0	
% Moisture	6.0	0.1	%	1	P1B2205	02/22/21 10:13	02/22/21 10:13	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.6	mg/kg dry	1	P1B2001	02/20/21 09:55	02/20/21 13:30	TPH 8015M	
>C12-C28	ND	26.6	mg/kg dry	1	P1B2001	02/20/21 09:55	02/20/21 13:30	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P1B2001	02/20/21 09:55	02/20/21 13:30	TPH 8015M	
Surrogate: 1-Chlorooctane		85.8 %	70-130		P1B2001	02/20/21 09:55	02/20/21 13:30	TPH 8015M	
Surrogate: o-Terphenyl		91.1 %	70-130		P1B2001	02/20/21 09:55	02/20/21 13:30	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	02/20/21 09:55	02/20/21 13:30	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

2-1

1B19004-05 (Soil)

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

BTEX by 8021B

Benzene	ND	0.00103	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 14:42	EPA 8021B	
Toluene	ND	0.00103	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 14:42	EPA 8021B	
Ethylbenzene	ND	0.00103	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 14:42	EPA 8021B	
Xylene (p/m)	ND	0.00206	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 14:42	EPA 8021B	
Xylene (o)	ND	0.00103	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 14:42	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		104 %	80-120		P1B2204	02/22/21 09:23	02/22/21 14:42	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		96.9 %	80-120		P1B2204	02/22/21 09:23	02/22/21 14:42	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	25.5	1.03	mg/kg dry	1	P1B2202	02/22/21 09:05	02/22/21 14:04	EPA 300.0	
% Moisture	3.0	0.1	%	1	P1B2205	02/22/21 10:13	02/22/21 10:13	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	25.8	mg/kg dry	1	P1B2001	02/20/21 09:55	02/20/21 13:54	TPH 8015M	
>C12-C28	ND	25.8	mg/kg dry	1	P1B2001	02/20/21 09:55	02/20/21 13:54	TPH 8015M	
>C28-C35	ND	25.8	mg/kg dry	1	P1B2001	02/20/21 09:55	02/20/21 13:54	TPH 8015M	
Surrogate: 1-Chlorooctane		87.2 %	70-130		P1B2001	02/20/21 09:55	02/20/21 13:54	TPH 8015M	
Surrogate: o-Terphenyl		92.4 %	70-130		P1B2001	02/20/21 09:55	02/20/21 13:54	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.8	mg/kg dry	1	[CALC]	02/20/21 09:55	02/20/21 13:54	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

2-2

1B19004-06 (Soil)

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

BTEX by 8021B

Benzene	ND	0.00104	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 15:03	EPA 8021B	
Toluene	ND	0.00104	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 15:03	EPA 8021B	
Ethylbenzene	ND	0.00104	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 15:03	EPA 8021B	
Xylene (p/m)	ND	0.00208	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 15:03	EPA 8021B	
Xylene (o)	ND	0.00104	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 15:03	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		104 %	80-120		P1B2204	02/22/21 09:23	02/22/21 15:03	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		95.6 %	80-120		P1B2204	02/22/21 09:23	02/22/21 15:03	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	3.25	1.04	mg/kg dry	1	P1B2202	02/22/21 09:05	02/22/21 14:20	EPA 300.0	
% Moisture	4.0	0.1	%	1	P1B2205	02/22/21 10:13	02/22/21 10:13	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.0	mg/kg dry	1	P1B2001	02/20/21 09:55	02/20/21 14:17	TPH 8015M	
>C12-C28	ND	26.0	mg/kg dry	1	P1B2001	02/20/21 09:55	02/20/21 14:17	TPH 8015M	
>C28-C35	ND	26.0	mg/kg dry	1	P1B2001	02/20/21 09:55	02/20/21 14:17	TPH 8015M	
Surrogate: 1-Chlorooctane		84.8 %	70-130		P1B2001	02/20/21 09:55	02/20/21 14:17	TPH 8015M	
Surrogate: o-Terphenyl		90.2 %	70-130		P1B2001	02/20/21 09:55	02/20/21 14:17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.0	mg/kg dry	1	[CALC]	02/20/21 09:55	02/20/21 14:17	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

3-1
1B19004-07 (Soil)

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

BTEX by 8021B

Benzene	ND	0.00108	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 15:24	EPA 8021B	
Toluene	ND	0.00108	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 15:24	EPA 8021B	
Ethylbenzene	ND	0.00108	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 15:24	EPA 8021B	
Xylene (p/m)	ND	0.00215	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 15:24	EPA 8021B	
Xylene (o)	ND	0.00108	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 15:24	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		102 %	80-120		P1B2204	02/22/21 09:23	02/22/21 15:24	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		93.6 %	80-120		P1B2204	02/22/21 09:23	02/22/21 15:24	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	72.3	1.08	mg/kg dry	1	P1B2202	02/22/21 09:05	02/22/21 14:37	EPA 300.0	
% Moisture	7.0	0.1	%	1	P1B2205	02/22/21 10:13	02/22/21 10:13	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.9	mg/kg dry	1	P1B2001	02/20/21 09:55	02/20/21 14:40	TPH 8015M	
>C12-C28	ND	26.9	mg/kg dry	1	P1B2001	02/20/21 09:55	02/20/21 14:40	TPH 8015M	
>C28-C35	ND	26.9	mg/kg dry	1	P1B2001	02/20/21 09:55	02/20/21 14:40	TPH 8015M	
Surrogate: 1-Chlorooctane		82.3 %	70-130		P1B2001	02/20/21 09:55	02/20/21 14:40	TPH 8015M	
Surrogate: o-Terphenyl		87.4 %	70-130		P1B2001	02/20/21 09:55	02/20/21 14:40	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.9	mg/kg dry	1	[CALC]	02/20/21 09:55	02/20/21 14:40	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

3-2
1B19004-08 (Soil)

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

BTEX by 8021B

Benzene	ND	0.00105	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 15:45	EPA 8021B	
Toluene	ND	0.00105	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 15:45	EPA 8021B	
Ethylbenzene	ND	0.00105	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 15:45	EPA 8021B	
Xylene (p/m)	ND	0.00211	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 15:45	EPA 8021B	
Xylene (o)	ND	0.00105	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 15:45	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		94.3 %	80-120		P1B2204	02/22/21 09:23	02/22/21 15:45	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		102 %	80-120		P1B2204	02/22/21 09:23	02/22/21 15:45	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	333	5.26	mg/kg dry	5	P1B2202	02/22/21 09:05	02/22/21 14:53	EPA 300.0	
% Moisture	5.0	0.1	%	1	P1B2205	02/22/21 10:13	02/22/21 10:13	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.3	mg/kg dry	1	P1B2001	02/20/21 09:55	02/20/21 15:04	TPH 8015M	
>C12-C28	ND	26.3	mg/kg dry	1	P1B2001	02/20/21 09:55	02/20/21 15:04	TPH 8015M	
>C28-C35	ND	26.3	mg/kg dry	1	P1B2001	02/20/21 09:55	02/20/21 15:04	TPH 8015M	
Surrogate: 1-Chlorooctane		79.0 %	70-130		P1B2001	02/20/21 09:55	02/20/21 15:04	TPH 8015M	
Surrogate: o-Terphenyl		84.2 %	70-130		P1B2001	02/20/21 09:55	02/20/21 15:04	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.3	mg/kg dry	1	[CALC]	02/20/21 09:55	02/20/21 15:04	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

4-1

1B19004-09 (Soil)

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

BTEX by 8021B

Benzene	ND	0.00109	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 16:06	EPA 8021B	
Toluene	ND	0.00109	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 16:06	EPA 8021B	
Ethylbenzene	ND	0.00109	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 16:06	EPA 8021B	
Xylene (p/m)	ND	0.00217	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 16:06	EPA 8021B	
Xylene (o)	ND	0.00109	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 16:06	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		95.4 %	80-120		P1B2204	02/22/21 09:23	02/22/21 16:06	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		100 %	80-120		P1B2204	02/22/21 09:23	02/22/21 16:06	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	44.3	1.09	mg/kg dry	1	P1B2202	02/22/21 09:05	02/22/21 15:09	EPA 300.0	
% Moisture	8.0	0.1	%	1	P1B2205	02/22/21 10:13	02/22/21 10:13	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.2	mg/kg dry	1	P1B2001	02/20/21 09:55	02/20/21 15:28	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P1B2001	02/20/21 09:55	02/20/21 15:28	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P1B2001	02/20/21 09:55	02/20/21 15:28	TPH 8015M	
Surrogate: 1-Chlorooctane		77.0 %	70-130		P1B2001	02/20/21 09:55	02/20/21 15:28	TPH 8015M	
Surrogate: o-Terphenyl		82.2 %	70-130		P1B2001	02/20/21 09:55	02/20/21 15:28	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	02/20/21 09:55	02/20/21 15:28	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

4-2

1B19004-10 (Soil)

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

BTEX by 8021B

Benzene	ND	0.00110	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 16:27	EPA 8021B	
Toluene	ND	0.00110	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 16:27	EPA 8021B	
Ethylbenzene	ND	0.00110	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 16:27	EPA 8021B	
Xylene (p/m)	ND	0.00220	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 16:27	EPA 8021B	
Xylene (o)	ND	0.00110	mg/kg dry	1	P1B2204	02/22/21 09:23	02/22/21 16:27	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		101 %	80-120		P1B2204	02/22/21 09:23	02/22/21 16:27	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		96.1 %	80-120		P1B2204	02/22/21 09:23	02/22/21 16:27	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	34.7	1.10	mg/kg dry	1	P1B2202	02/22/21 09:05	02/22/21 15:26	EPA 300.0	
% Moisture	9.0	0.1	%	1	P1B2205	02/22/21 10:13	02/22/21 10:13	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.5	mg/kg dry	1	P1B2001	02/20/21 09:55	02/20/21 15:51	TPH 8015M	
>C12-C28	ND	27.5	mg/kg dry	1	P1B2001	02/20/21 09:55	02/20/21 15:51	TPH 8015M	
>C28-C35	ND	27.5	mg/kg dry	1	P1B2001	02/20/21 09:55	02/20/21 15:51	TPH 8015M	
Surrogate: 1-Chlorooctane		78.0 %	70-130		P1B2001	02/20/21 09:55	02/20/21 15:51	TPH 8015M	
Surrogate: o-Terphenyl		83.6 %	70-130		P1B2001	02/20/21 09:55	02/20/21 15:51	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.5	mg/kg dry	1	[CALC]	02/20/21 09:55	02/20/21 15:51	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

BTEX by 8021B - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P1B2204 - * DEFAULT PREP *****

Blank (P1B2204-BLK1)

Prepared & Analyzed: 02/22/21

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	0.111		"	0.120		92.2	80-120			
Surrogate: 4-Bromofluorobenzene	0.116		"	0.120		96.8	80-120			

LCS (P1B2204-BS1)

Prepared & Analyzed: 02/22/21

Benzene	0.0823	0.00100	mg/kg wet	0.100		82.3	70-130			
Toluene	0.0968	0.00100	"	0.100		96.8	70-130			
Ethylbenzene	0.111	0.00100	"	0.100		111	70-130			
Xylene (p/m)	0.226	0.00200	"	0.200		113	70-130			
Xylene (o)	0.110	0.00100	"	0.100		110	70-130			
Surrogate: 4-Bromofluorobenzene	0.123		"	0.120		102	80-120			
Surrogate: 1,4-Difluorobenzene	0.120		"	0.120		100	80-120			

LCS Dup (P1B2204-BSD1)

Prepared & Analyzed: 02/22/21

Benzene	0.0806	0.00100	mg/kg wet	0.100		80.6	70-130	2.09	20	
Toluene	0.0941	0.00100	"	0.100		94.1	70-130	2.73	20	
Ethylbenzene	0.106	0.00100	"	0.100		106	70-130	5.12	20	
Xylene (p/m)	0.225	0.00200	"	0.200		112	70-130	0.519	20	
Xylene (o)	0.109	0.00100	"	0.100		109	70-130	0.768	20	
Surrogate: 1,4-Difluorobenzene	0.119		"	0.120		99.0	80-120			
Surrogate: 4-Bromofluorobenzene	0.123		"	0.120		102	80-120			

Calibration Blank (P1B2204-CCB1)

Prepared & Analyzed: 02/22/21

Benzene	0.00		mg/kg wet							
Toluene	0.460		"							
Ethylbenzene	0.220		"							
Xylene (p/m)	0.380		"							
Xylene (o)	0.00		"							
Surrogate: 1,4-Difluorobenzene	0.113		"	0.120		94.5	80-120			
Surrogate: 4-Bromofluorobenzene	0.120		"	0.120		100	80-120			

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

BTEX by 8021B - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P1B2204 - * DEFAULT PREP *****

Calibration Blank (P1B2204-CCB2)

Prepared & Analyzed: 02/22/21

Benzene	0.00		mg/kg wet							
Toluene	0.400		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.230		"							
Xylene (o)	0.00		"							
Surrogate: 4-Bromofluorobenzene	0.119		"	0.120		99.5	80-120			
Surrogate: 1,4-Difluorobenzene	0.112		"	0.120		93.2	80-120			

Calibration Blank (P1B2204-CCB3)

Prepared & Analyzed: 02/22/21

Benzene	0.00		mg/kg wet							
Toluene	0.250		"							
Ethylbenzene	0.210		"							
Xylene (p/m)	0.260		"							
Xylene (o)	0.00		"							
Surrogate: 4-Bromofluorobenzene	0.120		"	0.120		100	80-120			
Surrogate: 1,4-Difluorobenzene	0.111		"	0.120		92.6	80-120			

Calibration Check (P1B2204-CCV1)

Prepared & Analyzed: 02/22/21

Benzene	0.0812	0.00100	mg/kg wet	0.100		81.2	80-120			
Toluene	0.0961	0.00100	"	0.100		96.1	80-120			
Ethylbenzene	0.120	0.00100	"	0.100		120	80-120			
Xylene (p/m)	0.225	0.00200	"	0.200		113	80-120			
Xylene (o)	0.112	0.00100	"	0.100		112	80-120			
Surrogate: 1,4-Difluorobenzene	0.119		"	0.120		99.0	75-125			
Surrogate: 4-Bromofluorobenzene	0.124		"	0.120		104	75-125			

Calibration Check (P1B2204-CCV2)

Prepared & Analyzed: 02/22/21

Benzene	0.0810	0.00100	mg/kg wet	0.100		81.0	80-120			
Toluene	0.0936	0.00100	"	0.100		93.6	80-120			
Ethylbenzene	0.116	0.00100	"	0.100		116	80-120			
Xylene (p/m)	0.219	0.00200	"	0.200		110	80-120			
Xylene (o)	0.110	0.00100	"	0.100		110	80-120			
Surrogate: 1,4-Difluorobenzene	0.114		"	0.120		95.4	75-125			
Surrogate: 4-Bromofluorobenzene	0.122		"	0.120		101	75-125			

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

BTEX by 8021B - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P1B2204 - * DEFAULT PREP *****

Calibration Check (P1B2204-CCV3)

Prepared & Analyzed: 02/22/21

Benzene	0.0822	0.00100	mg/kg wet	0.100		82.2	80-120			
Toluene	0.0943	0.00100	"	0.100		94.3	80-120			
Ethylbenzene	0.118	0.00100	"	0.100		118	80-120			
Xylene (p/m)	0.220	0.00200	"	0.200		110	80-120			
Xylene (o)	0.114	0.00100	"	0.100		114	80-120			
Surrogate: 1,4-Difluorobenzene	0.114		"	0.120		94.8	75-125			
Surrogate: 4-Bromofluorobenzene	0.114		"	0.120		95.2	75-125			

Matrix Spike (P1B2204-MS1)

Source: 1B19004-10

Prepared & Analyzed: 02/22/21

Benzene	0.0713	0.00110	mg/kg dry	0.110	ND	64.9	80-120			QM-07
Toluene	0.0844	0.00110	"	0.110	ND	76.8	80-120			QM-07
Ethylbenzene	0.0959	0.00110	"	0.110	ND	87.3	80-120			
Xylene (p/m)	0.179	0.00220	"	0.220	ND	81.3	80-120			
Xylene (o)	0.0837	0.00110	"	0.110	ND	76.2	80-120			QM-07
Surrogate: 1,4-Difluorobenzene	0.129		"	0.132		98.2	80-120			
Surrogate: 4-Bromofluorobenzene	0.130		"	0.132		98.3	80-120			

Matrix Spike Dup (P1B2204-MSD1)

Source: 1B19004-10

Prepared & Analyzed: 02/22/21

Benzene	0.0667	0.00110	mg/kg dry	0.110	ND	60.7	80-120	6.70	20	QM-07
Toluene	0.0693	0.00110	"	0.110	ND	63.1	80-120	19.6	20	QM-07
Ethylbenzene	0.0824	0.00110	"	0.110	ND	75.0	80-120	15.1	20	QM-07
Xylene (p/m)	0.156	0.00220	"	0.220	ND	71.0	80-120	13.6	20	QM-07
Xylene (o)	0.0758	0.00110	"	0.110	ND	69.0	80-120	9.88	20	QM-07
Surrogate: 1,4-Difluorobenzene	0.127		"	0.132		96.0	80-120			
Surrogate: 4-Bromofluorobenzene	0.126		"	0.132		95.7	80-120			

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P1B2202 - * DEFAULT PREP *****

Blank (P1B2202-BLK1)		Prepared & Analyzed: 02/22/21								
Chloride	ND	1.00	mg/kg wet							
LCS (P1B2202-BS1)		Prepared & Analyzed: 02/22/21								
Chloride	378	1.00	mg/kg wet	400		94.6	90-110			
LCS Dup (P1B2202-BSD1)		Prepared & Analyzed: 02/22/21								
Chloride	375	1.00	mg/kg wet	400		93.8	90-110	0.889	20	
Calibration Check (P1B2202-CCV1)		Prepared & Analyzed: 02/22/21								
Chloride	18.6		mg/kg	20.0		92.9	90-110			
Calibration Check (P1B2202-CCV2)		Prepared & Analyzed: 02/22/21								
Chloride	18.9		mg/kg	20.0		94.3	90-110			
Calibration Check (P1B2202-CCV3)		Prepared & Analyzed: 02/22/21								
Chloride	19.1		mg/kg	20.0		95.6	90-110			
Matrix Spike (P1B2202-MS1)		Source: 1B19004-01		Prepared & Analyzed: 02/22/21						
Chloride	484	1.08	mg/kg dry	538	20.2	86.3	80-120			
Matrix Spike (P1B2202-MS2)		Source: 1B22001-01		Prepared & Analyzed: 02/22/21						
Chloride	1330	1.10	mg/kg dry	549	814	94.5	80-120			
Matrix Spike Dup (P1B2202-MSD1)		Source: 1B19004-01		Prepared & Analyzed: 02/22/21						
Chloride	507	1.08	mg/kg dry	538	20.2	90.6	80-120	4.69	20	
Matrix Spike Dup (P1B2202-MSD2)		Source: 1B22001-01		Prepared & Analyzed: 02/22/21						
Chloride	1390	1.10	mg/kg dry	549	814	104	80-120	3.90	20	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P1B2205 - * DEFAULT PREP *****

Blank (P1B2205-BLK1)

Prepared & Analyzed: 02/22/21

% Moisture	ND	0.1	%
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Duplicate (P1B2205-DUP1)

Source: 1B19003-04

Prepared & Analyzed: 02/22/21

% Moisture	10.0	0.1	%	10.0	0.00	20
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Duplicate (P1B2205-DUP2)

Source: 1B19004-10

Prepared & Analyzed: 02/22/21

% Moisture	8.0	0.1	%	9.0	11.8	20
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Permian Basin Environmental Lab, L.P.

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

Larson & Associates, Inc.
P.O. Box 50685
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Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch P1B2001 - TX 1005									
Blank (P1B2001-BLK1)					Prepared & Analyzed: 02/20/21				
C6-C12	ND	25.0	mg/kg wet						
>C12-C28	ND	25.0	"						
>C28-C35	ND	25.0	"						
Surrogate: 1-Chlorooctane	82.1		"	100		82.1	70-130		
Surrogate: o-Terphenyl	43.2		"	50.0		86.3	70-130		
LCS (P1B2001-BS1)					Prepared & Analyzed: 02/20/21				
C6-C12	900	25.0	mg/kg wet	1000		90.0	75-125		
>C12-C28	900	25.0	"	1000		90.0	75-125		
Surrogate: 1-Chlorooctane	123		"	100		123	70-130		
Surrogate: o-Terphenyl	49.3		"	50.0		98.6	70-130		
LCS Dup (P1B2001-BSD1)					Prepared & Analyzed: 02/20/21				
C6-C12	882	25.0	mg/kg wet	1000		88.2	75-125	2.05	20
>C12-C28	889	25.0	"	1000		88.9	75-125	1.32	20
Surrogate: 1-Chlorooctane	121		"	100		121	70-130		
Surrogate: o-Terphenyl	48.2		"	50.0		96.4	70-130		
Calibration Blank (P1B2001-CCB1)					Prepared & Analyzed: 02/20/21				
C6-C12	13.6		mg/kg wet						
>C12-C28	12.0		"						
Surrogate: 1-Chlorooctane	87.0		"	100		87.0	70-130		
Surrogate: o-Terphenyl	46.5		"	50.0		93.1	70-130		
Calibration Blank (P1B2001-CCB2)					Prepared & Analyzed: 02/20/21				
C6-C12	11.6		mg/kg wet						
>C12-C28	12.7		"						
Surrogate: 1-Chlorooctane	67.5		"	100		67.5	70-130		S-GC
Surrogate: o-Terphenyl	36.1		"	50.0		72.2	70-130		

Permian Basin Environmental Lab, L.P.

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P1B2001 - TX 1005

Calibration Check (P1B2001-CCV1)

Prepared & Analyzed: 02/20/21

C6-C12	469	25.0	mg/kg wet	500		93.8	85-115			
>C12-C28	519	25.0	"	500		104	85-115			
Surrogate: 1-Chlorooctane	106		"	100		106	70-130			
Surrogate: o-Terphenyl	48.2		"	50.0		96.4	70-130			

Calibration Check (P1B2001-CCV2)

Prepared & Analyzed: 02/20/21

C6-C12	443	25.0	mg/kg wet	500		88.6	85-115			
>C12-C28	434	25.0	"	500		86.8	85-115			
Surrogate: 1-Chlorooctane	84.1		"	100		84.1	70-130			
Surrogate: o-Terphenyl	38.6		"	50.0		77.2	70-130			

Calibration Check (P1B2001-CCV3)

Prepared & Analyzed: 02/20/21

C6-C12	437	25.0	mg/kg wet	500		87.5	85-115			
>C12-C28	460	25.0	"	500		92.0	85-115			
Surrogate: 1-Chlorooctane	94.6		"	100		94.6	70-130			
Surrogate: o-Terphenyl	43.2		"	50.0		86.5	70-130			

Matrix Spike (P1B2001-MS1)

Source: 1B19004-10

Prepared & Analyzed: 02/20/21

C6-C12	918	27.5	mg/kg dry	1100	15.7	82.1	75-125			
>C12-C28	890	27.5	"	1100	24.7	78.7	75-125			
Surrogate: 1-Chlorooctane	128		"	110		117	70-130			
Surrogate: o-Terphenyl	49.5		"	54.9		90.1	70-130			

Matrix Spike Dup (P1B2001-MSD1)

Source: 1B19004-10

Prepared & Analyzed: 02/20/21

C6-C12	897	27.5	mg/kg dry	1100	15.7	80.2	75-125	2.37	20	
>C12-C28	885	27.5	"	1100	24.7	78.3	75-125	0.484	20	
Surrogate: 1-Chlorooctane	126		"	110		115	70-130			
Surrogate: o-Terphenyl	48.6		"	54.9		88.5	70-130			

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Notes and Definitions

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

ROI Received on Ice

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

BULK Samples received in Bulk soil containers

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:



Date:

2/23/2021

Brent Barron, Laboratory Director/Technical Director

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

Permian Basin Environmental Lab, L.P.

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

Larson & Associates, Inc.

Project: Epperson 16" Pipeline

Fax: (432) 687-0456

P.O. Box 50685

Project Number: 16-0120-01

Midland TX, 79710

Project Manager: Mark Larson

Permian Basin Environmental Lab, L.P.

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

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



Analytical Report

Prepared for:

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

Project: Epperson 16" Pipeline

Project Number: 16-0120-01

Location: NM

Lab Order Number: 1C15001



Current Certification

Report Date: 03/16/21

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Backfill-1	1C15001-01	Soil	03/12/21 10:38	03-15-2021 09:22
Backfill-2	1C15001-02	Soil	03/12/21 10:40	03-15-2021 09:22
Backfill-3	1C15001-03	Soil	03/12/21 10:42	03-15-2021 09:22
Backfill-4	1C15001-04	Soil	03/12/21 10:43	03-15-2021 09:22
Backfill-5	1C15001-05	Soil	03/12/21 10:45	03-15-2021 09:22
Backfill-6	1C15001-06	Soil	03/12/21 10:46	03-15-2021 09:22
Backfill-7	1C15001-07	Soil	03/12/21 10:47	03-15-2021 09:22
Backfill-8	1C15001-08	Soil	03/12/21 10:48	03-15-2021 09:22
Backfill-9	1C15001-09	Soil	03/12/21 10:51	03-15-2021 09:22
Backfill-10	1C15001-10	Soil	03/12/21 10:52	03-15-2021 09:22
Backfill-11	1C15001-11	Soil	03/12/21 10:53	03-15-2021 09:22
Backfill-12	1C15001-12	Soil	03/12/21 10:55	03-15-2021 09:22

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Backfill-1
1C15001-01 (Soil)

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

BTEX by 8021B

Benzene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 07:09	EPA 8021B	
Toluene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 07:09	EPA 8021B	
Ethylbenzene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 07:09	EPA 8021B	
Xylene (p/m)	ND	0.00202	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 07:09	EPA 8021B	
Xylene (o)	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 07:09	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		82.6 %	80-120		P1C1511	03/15/21 15:49	03/16/21 07:09	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		87.8 %	80-120		P1C1511	03/15/21 15:49	03/16/21 07:09	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	6.87	1.01	mg/kg dry	1	P1C1503	03/15/21 11:10	03/15/21 13:43	EPA 300.0	
% Moisture	1.0	0.1	%	1	P1C1602	03/16/21 09:41	03/16/21 09:45	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	25.3	mg/kg dry	1	P1C1501	03/15/21 11:30	03/15/21 16:18	TPH 8015M	
>C12-C28	ND	25.3	mg/kg dry	1	P1C1501	03/15/21 11:30	03/15/21 16:18	TPH 8015M	
>C28-C35	ND	25.3	mg/kg dry	1	P1C1501	03/15/21 11:30	03/15/21 16:18	TPH 8015M	
Surrogate: 1-Chlorooctane		88.5 %	70-130		P1C1501	03/15/21 11:30	03/15/21 16:18	TPH 8015M	
Surrogate: o-Terphenyl		96.3 %	70-130		P1C1501	03/15/21 11:30	03/15/21 16:18	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.3	mg/kg dry	1	[CALC]	03/15/21 11:30	03/15/21 16:18	calc	

Permian Basin Environmental Lab, L.P.

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Backfill-2
1C15001-02 (Soil)

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

BTEX by 8021B

Benzene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 07:29	EPA 8021B	
Toluene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 07:29	EPA 8021B	
Ethylbenzene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 07:29	EPA 8021B	
Xylene (p/m)	ND	0.00202	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 07:29	EPA 8021B	
Xylene (o)	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 07:29	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		91.3 %	80-120		P1C1511	03/15/21 15:49	03/16/21 07:29	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		81.0 %	80-120		P1C1511	03/15/21 15:49	03/16/21 07:29	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	31.8	1.01	mg/kg dry	1	P1C1503	03/15/21 11:10	03/15/21 14:42	EPA 300.0	
% Moisture	1.0	0.1	%	1	P1C1602	03/16/21 09:41	03/16/21 09:45	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	25.3	mg/kg dry	1	P1C1501	03/15/21 11:30	03/15/21 16:40	TPH 8015M	
>C12-C28	ND	25.3	mg/kg dry	1	P1C1501	03/15/21 11:30	03/15/21 16:40	TPH 8015M	
>C28-C35	ND	25.3	mg/kg dry	1	P1C1501	03/15/21 11:30	03/15/21 16:40	TPH 8015M	
Surrogate: 1-Chlorooctane		95.6 %	70-130		P1C1501	03/15/21 11:30	03/15/21 16:40	TPH 8015M	
Surrogate: o-Terphenyl		103 %	70-130		P1C1501	03/15/21 11:30	03/15/21 16:40	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.3	mg/kg dry	1	[CALC]	03/15/21 11:30	03/15/21 16:40	calc	

Permian Basin Environmental Lab, L.P.

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Backfill-3
1C15001-03 (Soil)

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

BTEX by 8021B

Benzene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 07:50	EPA 8021B	
Toluene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 07:50	EPA 8021B	
Ethylbenzene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 07:50	EPA 8021B	
Xylene (p/m)	ND	0.00202	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 07:50	EPA 8021B	
Xylene (o)	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 07:50	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		95.8 %	80-120		P1C1511	03/15/21 15:49	03/16/21 07:50	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		75.4 %	80-120		P1C1511	03/15/21 15:49	03/16/21 07:50	EPA 8021B	S-GC

General Chemistry Parameters by EPA / Standard Methods

Chloride	11.0	1.01	mg/kg dry	1	P1C1503	03/15/21 11:10	03/15/21 15:01	EPA 300.0	
% Moisture	1.0	0.1	%	1	P1C1602	03/16/21 09:41	03/16/21 09:45	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	25.3	mg/kg dry	1	P1C1501	03/15/21 11:30	03/15/21 17:02	TPH 8015M	
>C12-C28	ND	25.3	mg/kg dry	1	P1C1501	03/15/21 11:30	03/15/21 17:02	TPH 8015M	
>C28-C35	ND	25.3	mg/kg dry	1	P1C1501	03/15/21 11:30	03/15/21 17:02	TPH 8015M	
Surrogate: 1-Chlorooctane		94.1 %	70-130		P1C1501	03/15/21 11:30	03/15/21 17:02	TPH 8015M	
Surrogate: o-Terphenyl		103 %	70-130		P1C1501	03/15/21 11:30	03/15/21 17:02	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.3	mg/kg dry	1	[CALC]	03/15/21 11:30	03/15/21 17:02	calc	

Permian Basin Environmental Lab, L.P.

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Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Backfill-4
1C15001-04 (Soil)

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

BTEX by 8021B

Benzene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 08:11	EPA 8021B	
Toluene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 08:11	EPA 8021B	
Ethylbenzene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 08:11	EPA 8021B	
Xylene (p/m)	ND	0.00202	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 08:11	EPA 8021B	
Xylene (o)	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 08:11	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		90.8 %	80-120		P1C1511	03/15/21 15:49	03/16/21 08:11	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		75.0 %	80-120		P1C1511	03/15/21 15:49	03/16/21 08:11	EPA 8021B	S-GC

General Chemistry Parameters by EPA / Standard Methods

Chloride	5.66	1.01	mg/kg dry	1	P1C1503	03/15/21 11:10	03/15/21 15:21	EPA 300.0	
% Moisture	1.0	0.1	%	1	P1C1602	03/16/21 09:41	03/16/21 09:45	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	25.3	mg/kg dry	1	P1C1501	03/15/21 11:30	03/15/21 17:25	TPH 8015M	
>C12-C28	ND	25.3	mg/kg dry	1	P1C1501	03/15/21 11:30	03/15/21 17:25	TPH 8015M	
>C28-C35	ND	25.3	mg/kg dry	1	P1C1501	03/15/21 11:30	03/15/21 17:25	TPH 8015M	
Surrogate: 1-Chlorooctane		97.8 %	70-130		P1C1501	03/15/21 11:30	03/15/21 17:25	TPH 8015M	
Surrogate: o-Terphenyl		107 %	70-130		P1C1501	03/15/21 11:30	03/15/21 17:25	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.3	mg/kg dry	1	[CALC]	03/15/21 11:30	03/15/21 17:25	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Backfill-5
1C15001-05 (Soil)

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

BTEX by 8021B

Benzene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 08:32	EPA 8021B	
Toluene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 08:32	EPA 8021B	
Ethylbenzene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 08:32	EPA 8021B	
Xylene (p/m)	ND	0.00202	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 08:32	EPA 8021B	
Xylene (o)	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 08:32	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		72.3 %	80-120		P1C1511	03/15/21 15:49	03/16/21 08:32	EPA 8021B	S-GC
Surrogate: 1,4-Difluorobenzene		93.7 %	80-120		P1C1511	03/15/21 15:49	03/16/21 08:32	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	11.7	1.01	mg/kg dry	1	P1C1503	03/15/21 11:10	03/15/21 15:40	EPA 300.0	
% Moisture	1.0	0.1	%	1	P1C1602	03/16/21 09:41	03/16/21 09:45	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	25.3	mg/kg dry	1	P1C1501	03/15/21 11:30	03/15/21 17:47	TPH 8015M	
>C12-C28	ND	25.3	mg/kg dry	1	P1C1501	03/15/21 11:30	03/15/21 17:47	TPH 8015M	
>C28-C35	ND	25.3	mg/kg dry	1	P1C1501	03/15/21 11:30	03/15/21 17:47	TPH 8015M	
Surrogate: 1-Chlorooctane		93.4 %	70-130		P1C1501	03/15/21 11:30	03/15/21 17:47	TPH 8015M	
Surrogate: o-Terphenyl		103 %	70-130		P1C1501	03/15/21 11:30	03/15/21 17:47	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.3	mg/kg dry	1	[CALC]	03/15/21 11:30	03/15/21 17:47	calc	

Permian Basin Environmental Lab, L.P.

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

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Backfill-6
1C15001-06 (Soil)

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

BTEX by 8021B

Benzene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 08:53	EPA 8021B	
Toluene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 08:53	EPA 8021B	
Ethylbenzene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 08:53	EPA 8021B	
Xylene (p/m)	ND	0.00202	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 08:53	EPA 8021B	
Xylene (o)	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 08:53	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		75.0 %	80-120		P1C1511	03/15/21 15:49	03/16/21 08:53	EPA 8021B	S-GC
Surrogate: 1,4-Difluorobenzene		86.4 %	80-120		P1C1511	03/15/21 15:49	03/16/21 08:53	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	36.5	1.01	mg/kg dry	1	P1C1503	03/15/21 11:10	03/15/21 16:00	EPA 300.0	
% Moisture	1.0	0.1	%	1	P1C1602	03/16/21 09:41	03/16/21 09:45	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	25.3	mg/kg dry	1	P1C1501	03/15/21 11:30	03/15/21 18:09	TPH 8015M	
>C12-C28	ND	25.3	mg/kg dry	1	P1C1501	03/15/21 11:30	03/15/21 18:09	TPH 8015M	
>C28-C35	ND	25.3	mg/kg dry	1	P1C1501	03/15/21 11:30	03/15/21 18:09	TPH 8015M	
Surrogate: 1-Chlorooctane		90.8 %	70-130		P1C1501	03/15/21 11:30	03/15/21 18:09	TPH 8015M	
Surrogate: o-Terphenyl		103 %	70-130		P1C1501	03/15/21 11:30	03/15/21 18:09	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.3	mg/kg dry	1	[CALC]	03/15/21 11:30	03/15/21 18:09	calc	

Permian Basin Environmental Lab, L.P.

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

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Backfill-7
1C15001-07 (Soil)

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

BTEX by 8021B

Benzene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 09:14	EPA 8021B	
Toluene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 09:14	EPA 8021B	
Ethylbenzene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 09:14	EPA 8021B	
Xylene (p/m)	ND	0.00202	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 09:14	EPA 8021B	
Xylene (o)	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 09:14	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		70.2 %	80-120		P1C1511	03/15/21 15:49	03/16/21 09:14	EPA 8021B	S-GC
Surrogate: 1,4-Difluorobenzene		87.6 %	80-120		P1C1511	03/15/21 15:49	03/16/21 09:14	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	114	1.01	mg/kg dry	1	P1C1503	03/15/21 11:10	03/15/21 16:19	EPA 300.0	
% Moisture	1.0	0.1	%	1	P1C1602	03/16/21 09:41	03/16/21 09:45	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	25.3	mg/kg dry	1	P1C1501	03/15/21 11:30	03/15/21 18:31	TPH 8015M	
>C12-C28	ND	25.3	mg/kg dry	1	P1C1501	03/15/21 11:30	03/15/21 18:31	TPH 8015M	
>C28-C35	ND	25.3	mg/kg dry	1	P1C1501	03/15/21 11:30	03/15/21 18:31	TPH 8015M	
Surrogate: 1-Chlorooctane		92.5 %	70-130		P1C1501	03/15/21 11:30	03/15/21 18:31	TPH 8015M	
Surrogate: o-Terphenyl		102 %	70-130		P1C1501	03/15/21 11:30	03/15/21 18:31	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.3	mg/kg dry	1	[CALC]	03/15/21 11:30	03/15/21 18:31	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Backfill-8
1C15001-08 (Soil)

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

BTEX by 8021B

Benzene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 09:35	EPA 8021B	
Toluene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 09:35	EPA 8021B	
Ethylbenzene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 09:35	EPA 8021B	
Xylene (p/m)	ND	0.00202	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 09:35	EPA 8021B	
Xylene (o)	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 09:35	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		90.8 %	80-120		P1C1511	03/15/21 15:49	03/16/21 09:35	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		73.3 %	80-120		P1C1511	03/15/21 15:49	03/16/21 09:35	EPA 8021B	S-GC

General Chemistry Parameters by EPA / Standard Methods

Chloride	69.3	1.01	mg/kg dry	1	P1C1503	03/15/21 11:10	03/15/21 16:39	EPA 300.0	
% Moisture	1.0	0.1	%	1	P1C1602	03/16/21 09:41	03/16/21 09:45	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	25.3	mg/kg dry	1	P1C1501	03/15/21 11:30	03/15/21 18:54	TPH 8015M	
>C12-C28	ND	25.3	mg/kg dry	1	P1C1501	03/15/21 11:30	03/15/21 18:54	TPH 8015M	
>C28-C35	ND	25.3	mg/kg dry	1	P1C1501	03/15/21 11:30	03/15/21 18:54	TPH 8015M	
Surrogate: 1-Chlorooctane		91.0 %	70-130		P1C1501	03/15/21 11:30	03/15/21 18:54	TPH 8015M	
Surrogate: o-Terphenyl		104 %	70-130		P1C1501	03/15/21 11:30	03/15/21 18:54	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.3	mg/kg dry	1	[CALC]	03/15/21 11:30	03/15/21 18:54	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Backfill-9
1C15001-09 (Soil)

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

BTEX by 8021B

Benzene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 09:56	EPA 8021B	
Toluene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 09:56	EPA 8021B	
Ethylbenzene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 09:56	EPA 8021B	
Xylene (p/m)	ND	0.00202	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 09:56	EPA 8021B	
Xylene (o)	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 09:56	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		94.4 %	80-120		P1C1511	03/15/21 15:49	03/16/21 09:56	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		72.2 %	80-120		P1C1511	03/15/21 15:49	03/16/21 09:56	EPA 8021B	S-GC

General Chemistry Parameters by EPA / Standard Methods

Chloride	3.55	1.01	mg/kg dry	1	P1C1503	03/15/21 11:10	03/15/21 16:58	EPA 300.0	
% Moisture	1.0	0.1	%	1	P1C1602	03/16/21 09:41	03/16/21 09:45	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	25.3	mg/kg dry	1	P1C1501	03/15/21 11:30	03/15/21 19:16	TPH 8015M	
>C12-C28	ND	25.3	mg/kg dry	1	P1C1501	03/15/21 11:30	03/15/21 19:16	TPH 8015M	
>C28-C35	ND	25.3	mg/kg dry	1	P1C1501	03/15/21 11:30	03/15/21 19:16	TPH 8015M	
Surrogate: 1-Chlorooctane		92.2 %	70-130		P1C1501	03/15/21 11:30	03/15/21 19:16	TPH 8015M	
Surrogate: o-Terphenyl		107 %	70-130		P1C1501	03/15/21 11:30	03/15/21 19:16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.3	mg/kg dry	1	[CALC]	03/15/21 11:30	03/15/21 19:16	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Backfill-10
1C15001-10 (Soil)

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

BTEX by 8021B

Benzene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 10:17	EPA 8021B	
Toluene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 10:17	EPA 8021B	
Ethylbenzene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 10:17	EPA 8021B	
Xylene (p/m)	ND	0.00202	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 10:17	EPA 8021B	
Xylene (o)	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 10:17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		89.1 %	80-120		P1C1511	03/15/21 15:49	03/16/21 10:17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		72.1 %	80-120		P1C1511	03/15/21 15:49	03/16/21 10:17	EPA 8021B	S-GC

General Chemistry Parameters by EPA / Standard Methods

Chloride	8.95	1.01	mg/kg dry	1	P1C1503	03/15/21 11:10	03/15/21 17:18	EPA 300.0	
% Moisture	1.0	0.1	%	1	P1C1602	03/16/21 09:41	03/16/21 09:45	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	25.3	mg/kg dry	1	P1C1508	03/15/21 12:55	03/16/21 00:52	TPH 8015M	
>C12-C28	ND	25.3	mg/kg dry	1	P1C1508	03/15/21 12:55	03/16/21 00:52	TPH 8015M	
>C28-C35	ND	25.3	mg/kg dry	1	P1C1508	03/15/21 12:55	03/16/21 00:52	TPH 8015M	
Surrogate: 1-Chlorooctane		86.7 %	70-130		P1C1508	03/15/21 12:55	03/16/21 00:52	TPH 8015M	
Surrogate: o-Terphenyl		94.7 %	70-130		P1C1508	03/15/21 12:55	03/16/21 00:52	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.3	mg/kg dry	1	[CALC]	03/15/21 12:55	03/16/21 00:52	calc	

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Backfill-11
1C15001-11 (Soil)

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

BTEX by 8021B

Benzene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 11:19	EPA 8021B	
Toluene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 11:19	EPA 8021B	
Ethylbenzene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 11:19	EPA 8021B	
Xylene (p/m)	ND	0.00202	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 11:19	EPA 8021B	
Xylene (o)	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 11:19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		76.9 %	80-120		P1C1511	03/15/21 15:49	03/16/21 11:19	EPA 8021B	S-GC
Surrogate: 1,4-Difluorobenzene		88.0 %	80-120		P1C1511	03/15/21 15:49	03/16/21 11:19	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	109	1.01	mg/kg dry	1	P1C1503	03/15/21 11:10	03/15/21 18:17	EPA 300.0	
% Moisture	1.0	0.1	%	1	P1C1602	03/16/21 09:41	03/16/21 09:45	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	25.3	mg/kg dry	1	P1C1508	03/15/21 12:55	03/16/21 01:15	TPH 8015M	
>C12-C28	ND	25.3	mg/kg dry	1	P1C1508	03/15/21 12:55	03/16/21 01:15	TPH 8015M	
>C28-C35	ND	25.3	mg/kg dry	1	P1C1508	03/15/21 12:55	03/16/21 01:15	TPH 8015M	
Surrogate: 1-Chlorooctane		88.0 %	70-130		P1C1508	03/15/21 12:55	03/16/21 01:15	TPH 8015M	
Surrogate: o-Terphenyl		95.7 %	70-130		P1C1508	03/15/21 12:55	03/16/21 01:15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.3	mg/kg dry	1	[CALC]	03/15/21 12:55	03/16/21 01:15	calc	

Permian Basin Environmental Lab, L.P.

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

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Backfill-12
1C15001-12 (Soil)

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

BTEX by 8021B

Benzene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 11:40	EPA 8021B	
Toluene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 11:40	EPA 8021B	
Ethylbenzene	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 11:40	EPA 8021B	
Xylene (p/m)	ND	0.00202	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 11:40	EPA 8021B	
Xylene (o)	ND	0.00101	mg/kg dry	1	P1C1511	03/15/21 15:49	03/16/21 11:40	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		61.4 %	80-120		P1C1511	03/15/21 15:49	03/16/21 11:40	EPA 8021B	S-GC
Surrogate: 1,4-Difluorobenzene		90.4 %	80-120		P1C1511	03/15/21 15:49	03/16/21 11:40	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	50.5	1.01	mg/kg dry	1	P1C1503	03/15/21 11:10	03/15/21 19:15	EPA 300.0	
% Moisture	1.0	0.1	%	1	P1C1602	03/16/21 09:41	03/16/21 09:45	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	25.3	mg/kg dry	1	P1C1508	03/15/21 12:55	03/16/21 01:38	TPH 8015M	
>C12-C28	ND	25.3	mg/kg dry	1	P1C1508	03/15/21 12:55	03/16/21 01:38	TPH 8015M	
>C28-C35	ND	25.3	mg/kg dry	1	P1C1508	03/15/21 12:55	03/16/21 01:38	TPH 8015M	
Surrogate: 1-Chlorooctane		85.3 %	70-130		P1C1508	03/15/21 12:55	03/16/21 01:38	TPH 8015M	
Surrogate: o-Terphenyl		93.8 %	70-130		P1C1508	03/15/21 12:55	03/16/21 01:38	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.3	mg/kg dry	1	[CALC]	03/15/21 12:55	03/16/21 01:38	calc	

Permian Basin Environmental Lab, L.P.

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

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

BTEX by 8021B - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P1C1511 - * DEFAULT PREP *****

Blank (P1C1511-BLK1)

Prepared: 03/15/21 Analyzed: 03/16/21

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	0.0994		"	0.120		82.8	80-120			
Surrogate: 4-Bromofluorobenzene	0.0909		"	0.120		75.8	80-120			S-GC

LCS (P1C1511-BS1)

Prepared: 03/15/21 Analyzed: 03/16/21

Benzene	0.114	0.00100	mg/kg wet	0.100		114	70-130			
Toluene	0.0857	0.00100	"	0.100		85.7	70-130			
Ethylbenzene	0.0869	0.00100	"	0.100		86.9	70-130			
Xylene (p/m)	0.171	0.00200	"	0.200		85.4	70-130			
Xylene (o)	0.0848	0.00100	"	0.100		84.8	70-130			
Surrogate: 1,4-Difluorobenzene	0.110		"	0.120		91.8	80-120			
Surrogate: 4-Bromofluorobenzene	0.0980		"	0.120		81.6	80-120			

LCS Dup (P1C1511-BSD1)

Prepared: 03/15/21 Analyzed: 03/16/21

Benzene	0.111	0.00100	mg/kg wet	0.100		111	70-130	2.64	20	
Toluene	0.0864	0.00100	"	0.100		86.4	70-130	0.837	20	
Ethylbenzene	0.0870	0.00100	"	0.100		87.0	70-130	0.0230	20	
Xylene (p/m)	0.170	0.00200	"	0.200		85.2	70-130	0.229	20	
Xylene (o)	0.0806	0.00100	"	0.100		80.6	70-130	5.15	20	
Surrogate: 1,4-Difluorobenzene	0.112		"	0.120		93.3	80-120			
Surrogate: 4-Bromofluorobenzene	0.0984		"	0.120		82.0	80-120			

Calibration Blank (P1C1511-CCB1)

Prepared: 03/15/21 Analyzed: 03/16/21

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	0.0985		"	0.120		82.1	80-120			
Surrogate: 4-Bromofluorobenzene	0.101		"	0.120		84.2	80-120			

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

BTEX by 8021B - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch PIC1511 - * DEFAULT PREP *****

Calibration Blank (PIC1511-CCB2)

Prepared: 03/15/21 Analyzed: 03/16/21

Benzene	0.00		mg/kg wet							
Toluene	0.00		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.00		"							
Xylene (o)	0.00		"							
Surrogate: 4-Bromofluorobenzene	0.0843		"	0.120		70.2	80-120			S-GC
Surrogate: 1,4-Difluorobenzene	0.108		"	0.120		89.7	80-120			

Calibration Check (PIC1511-CCV1)

Prepared: 03/15/21 Analyzed: 03/16/21

Benzene	0.0990	0.00100	mg/kg wet	0.100		99.0	80-120			
Toluene	0.0922	0.00100	"	0.100		92.2	80-120			
Ethylbenzene	0.0958	0.00100	"	0.100		95.8	80-120			
Xylene (p/m)	0.190	0.00200	"	0.200		94.8	80-120			
Xylene (o)	0.0806	0.00100	"	0.100		80.6	80-120			
Surrogate: 1,4-Difluorobenzene	0.110		"	0.120		91.9	75-125			
Surrogate: 4-Bromofluorobenzene	0.0918		"	0.120		76.5	75-125			

Calibration Check (PIC1511-CCV2)

Prepared: 03/15/21 Analyzed: 03/16/21

Benzene	0.108	0.00100	mg/kg wet	0.100		108	80-120			
Toluene	0.0866	0.00100	"	0.100		86.6	80-120			
Ethylbenzene	0.0919	0.00100	"	0.100		91.9	80-120			
Xylene (p/m)	0.193	0.00200	"	0.200		96.5	80-120			
Xylene (o)	0.109	0.00100	"	0.100		109	80-120			
Surrogate: 1,4-Difluorobenzene	0.126		"	0.120		105	75-125			
Surrogate: 4-Bromofluorobenzene	0.100		"	0.120		83.3	75-125			

Calibration Check (PIC1511-CCV3)

Prepared: 03/15/21 Analyzed: 03/16/21

Benzene	0.119	0.00100	mg/kg wet	0.100		119	80-120			
Toluene	0.0858	0.00100	"	0.100		85.8	80-120			
Ethylbenzene	0.0819	0.00100	"	0.100		81.9	80-120			
Xylene (p/m)	0.166	0.00200	"	0.200		83.0	80-120			
Xylene (o)	0.0810	0.00100	"	0.100		81.0	80-120			
Surrogate: 1,4-Difluorobenzene	0.131		"	0.120		109	75-125			
Surrogate: 4-Bromofluorobenzene	0.0731		"	0.120		60.9	75-125			S-GC

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

BTEX by 8021B - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P1C1511 - * DEFAULT PREP *****

Matrix Spike (P1C1511-MS1)		Source: 1C15001-01		Prepared: 03/15/21		Analyzed: 03/16/21				
Benzene	0.0764	0.00101	mg/kg dry	0.101	ND	75.6	80-120			QM-07
Toluene	0.0534	0.00101	"	0.101	ND	52.8	80-120			QM-07
Ethylbenzene	0.0453	0.00101	"	0.101	ND	44.9	80-120			QM-07
Xylene (p/m)	0.0814	0.00202	"	0.202	ND	40.3	80-120			QM-07
Xylene (o)	0.0407	0.00101	"	0.101	ND	40.3	80-120			QM-07
Surrogate: 1,4-Difluorobenzene	0.112		"	0.121		92.7	80-120			
Surrogate: 4-Bromofluorobenzene	0.0701		"	0.121		57.8	80-120			S-GC

Matrix Spike Dup (P1C1511-MSD1)		Source: 1C15001-01		Prepared: 03/15/21		Analyzed: 03/16/21				
Benzene	0.0790	0.00101	mg/kg dry	0.101	ND	78.2	80-120	3.30	20	QM-07
Toluene	0.0610	0.00101	"	0.101	ND	60.4	80-120	13.3	20	QM-07
Ethylbenzene	0.0491	0.00101	"	0.101	ND	48.6	80-120	7.98	20	QM-07
Xylene (p/m)	0.0852	0.00202	"	0.202	ND	42.2	80-120	4.60	20	QM-07
Xylene (o)	0.0423	0.00101	"	0.101	ND	41.9	80-120	3.70	20	QM-07
Surrogate: 1,4-Difluorobenzene	0.123		"	0.121		101	80-120			
Surrogate: 4-Bromofluorobenzene	0.0770		"	0.121		63.5	80-120			S-GC

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P1C1503 - * DEFAULT PREP *****

Blank (P1C1503-BLK1)

Prepared & Analyzed: 03/15/21

Chloride	ND	1.00	mg/kg wet
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LCS (P1C1503-BS1)

Prepared & Analyzed: 03/15/21

Chloride	428	1.00	mg/kg wet	400	107	90-110
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LCS Dup (P1C1503-BSD1)

Prepared & Analyzed: 03/15/21

Chloride	428	1.00	mg/kg wet	400	107	90-110	0.0350	20
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Calibration Check (P1C1503-CCV1)

Prepared & Analyzed: 03/15/21

Chloride	20.1		mg/kg	20.0	100	90-110
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Calibration Check (P1C1503-CCV2)

Prepared & Analyzed: 03/15/21

Chloride	20.3		mg/kg	20.0	101	90-110
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Calibration Check (P1C1503-CCV3)

Prepared & Analyzed: 03/15/21

Chloride	20.4		mg/kg	20.0	102	90-110
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Matrix Spike (P1C1503-MS1)

Source: 1C15001-01

Prepared & Analyzed: 03/15/21

Chloride	485	1.01	mg/kg dry	505	6.87	94.6	80-120
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Matrix Spike (P1C1503-MS2)

Source: 1C15001-11

Prepared & Analyzed: 03/15/21

Chloride	525	1.01	mg/kg dry	505	109	82.4	80-120
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Matrix Spike Dup (P1C1503-MSD1)

Source: 1C15001-01

Prepared & Analyzed: 03/15/21

Chloride	502	1.01	mg/kg dry	505	6.87	98.0	80-120	3.45	20
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Matrix Spike Dup (P1C1503-MSD2)

Source: 1C15001-11

Prepared & Analyzed: 03/15/21

Chloride	531	1.01	mg/kg dry	505	109	83.6	80-120	1.20	20
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Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P1C1602 - *** DEFAULT PREP ***										
Blank (P1C1602-BLK1)	Prepared & Analyzed: 03/16/21									
% Moisture	ND	0.1	%							
Blank (P1C1602-BLK2)	Prepared & Analyzed: 03/16/21									
% Moisture	ND	0.1	%							
Blank (P1C1602-BLK3)	Prepared & Analyzed: 03/16/21									
% Moisture	ND	0.1	%							
Duplicate (P1C1602-DUP1)	Source: 1C12010-10		Prepared & Analyzed: 03/16/21							
% Moisture	13.0	0.1	%		10.0			26.1	20	R3
Duplicate (P1C1602-DUP2)	Source: 1C15001-07		Prepared & Analyzed: 03/16/21							
% Moisture	1.0	0.1	%		1.0			0.00	20	
Duplicate (P1C1602-DUP3)	Source: 1C15006-01		Prepared & Analyzed: 03/16/21							
% Moisture	13.0	0.1	%		9.0			36.4	20	R3
Duplicate (P1C1602-DUP4)	Source: 1C15006-11		Prepared & Analyzed: 03/16/21							
% Moisture	5.0	0.1	%		8.0			46.2	20	R3
Duplicate (P1C1602-DUP5)	Source: 1C15007-06		Prepared & Analyzed: 03/16/21							
% Moisture	3.0	0.1	%		6.0			66.7	20	R3

Permian Basin Environmental Lab, L.P.

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P1C1501 - TX 1005

Blank (P1C1501-BLK1)

Prepared & Analyzed: 03/15/21

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	131		"	120		109	70-130			
Surrogate: o-Terphenyl	73.2		"	60.0		122	70-130			

LCS (P1C1501-BS1)

Prepared & Analyzed: 03/15/21

C6-C12	1130	25.0	mg/kg wet	1000		113	75-125			
>C12-C28	1120	25.0	"	1000		112	75-125			
Surrogate: 1-Chlorooctane	119		"	120		99.6	70-130			
Surrogate: o-Terphenyl	66.1		"	60.0		110	70-130			

LCS Dup (P1C1501-BSD1)

Prepared & Analyzed: 03/15/21

C6-C12	1170	25.0	mg/kg wet	1000		117	75-125	3.27	20	
>C12-C28	1150	25.0	"	1000		115	75-125	3.10	20	
Surrogate: 1-Chlorooctane	123		"	120		102	70-130			
Surrogate: o-Terphenyl	66.2		"	60.0		110	70-130			

Calibration Check (P1C1501-CCV1)

Prepared & Analyzed: 03/15/21

C6-C12	570	25.0	mg/kg wet	500		114	85-115			
>C12-C28	559	25.0	"	500		112	85-115			
Surrogate: 1-Chlorooctane	129		"	120		108	70-130			
Surrogate: o-Terphenyl	73.6		"	60.0		123	70-130			

Calibration Check (P1C1501-CCV2)

Prepared & Analyzed: 03/15/21

C6-C12	548	25.0	mg/kg wet	500		110	85-115			
>C12-C28	567	25.0	"	500		113	85-115			
Surrogate: 1-Chlorooctane	119		"	120		99.2	70-130			
Surrogate: o-Terphenyl	65.9		"	60.0		110	70-130			

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P1C1501 - TX 1005

Calibration Check (P1C1501-CCV3)

Prepared & Analyzed: 03/15/21

C6-C12	533	25.0	mg/kg wet	500		107	85-115			
>C12-C28	538	25.0	"	500		108	85-115			
Surrogate: 1-Chlorooctane	125		"	120		104	70-130			
Surrogate: o-Terphenyl	69.1		"	60.0		115	70-130			

Matrix Spike (P1C1501-MS1)

Source: 1C12007-21

Prepared & Analyzed: 03/15/21

C6-C12	1090	28.1	mg/kg dry	1120	ND	97.2	75-125			
>C12-C28	1040	28.1	"	1120	22.6	90.9	75-125			
Surrogate: 1-Chlorooctane	95.8		"	112		85.3	70-130			
Surrogate: o-Terphenyl	59.6		"	56.2		106	70-130			

Matrix Spike Dup (P1C1501-MSD1)

Source: 1C12007-21

Prepared & Analyzed: 03/15/21

C6-C12	1100	28.1	mg/kg dry	1120	ND	98.3	75-125	1.12	20	
>C12-C28	1040	28.1	"	1120	22.6	90.4	75-125	0.606	20	
Surrogate: 1-Chlorooctane	98.7		"	112		87.9	70-130			
Surrogate: o-Terphenyl	61.4		"	56.2		109	70-130			

Batch P1C1508 - TX 1005

Blank (P1C1508-BLK1)

Prepared: 03/15/21 Analyzed: 03/16/21

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	81.5		"	100		81.5	70-130			
Surrogate: o-Terphenyl	45.1		"	50.0		90.1	70-130			

LCS (P1C1508-BS1)

Prepared & Analyzed: 03/15/21

C6-C12	926	25.0	mg/kg wet	1000		92.6	75-125			
>C12-C28	910	25.0	"	1000		91.0	75-125			
Surrogate: 1-Chlorooctane	90.5		"	100		90.5	70-130			
Surrogate: o-Terphenyl	52.1		"	50.0		104	70-130			

Permian Basin Environmental Lab, L.P.

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

Larson & Associates, Inc.
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Midland TX, 79710

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P1C1508 - TX 1005										
LCS Dup (P1C1508-BSD1)				Prepared: 03/15/21 Analyzed: 03/16/21						
C6-C12	887	25.0	mg/kg wet	1000		88.7	75-125	4.29	20	
>C12-C28	896	25.0	"	1000		89.6	75-125	1.59	20	
Surrogate: 1-Chlorooctane	112		"	100		112	70-130			
Surrogate: o-Terphenyl	48.2		"	50.0		96.4	70-130			
Calibration Check (P1C1508-CCV1)				Prepared & Analyzed: 03/15/21						
C6-C12	427	25.0	mg/kg wet	500		85.5	85-115			
>C12-C28	459	25.0	"	500		91.8	85-115			
Surrogate: 1-Chlorooctane	93.8		"	100		93.8	70-130			
Surrogate: o-Terphenyl	44.0		"	50.0		88.0	70-130			
Calibration Check (P1C1508-CCV2)				Prepared: 03/15/21 Analyzed: 03/16/21						
C6-C12	434	25.0	mg/kg wet	500		86.9	85-115			
>C12-C28	469	25.0	"	500		93.9	85-115			
Surrogate: 1-Chlorooctane	103		"	100		103	70-130			
Surrogate: o-Terphenyl	47.7		"	50.0		95.5	70-130			
Calibration Check (P1C1508-CCV3)				Prepared: 03/15/21 Analyzed: 03/16/21						
C6-C12	485	25.0	mg/kg wet	500		97.0	85-115			
>C12-C28	568	25.0	"	500		114	85-115			
Surrogate: 1-Chlorooctane	114		"	100		114	70-130			
Surrogate: o-Terphenyl	53.9		"	50.0		108	70-130			
Matrix Spike (P1C1508-MS1)				Source: 1C15001-12		Prepared: 03/15/21 Analyzed: 03/16/21				
C6-C12	828	25.3	mg/kg dry	1010	ND	81.9	75-125			
>C12-C28	839	25.3	"	1010	ND	83.0	75-125			
Surrogate: 1-Chlorooctane	107		"	101		106	70-130			
Surrogate: o-Terphenyl	43.5		"	50.5		86.1	70-130			

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P1C1508 - TX 1005

Matrix Spike Dup (P1C1508-MSD1)	Source: 1C15001-12			Prepared: 03/15/21		Analyzed: 03/16/21				
C6-C12	944	25.3	mg/kg dry	1010	ND	93.4	75-125	13.1	20	
>C12-C28	961	25.3	"	1010	ND	95.1	75-125	13.6	20	
Surrogate: 1-Chlorooctane	128		"	101		127	70-130			
Surrogate: o-Terphenyl	48.9		"	50.5		96.9	70-130			

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Notes and Definitions

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

ROI Received on Ice

R3 The RPD exceeded the acceptance limit due to sample matrix effects.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

BULK Samples received in Bulk soil containers

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:



Date:

3/16/2021

Brent Barron, Laboratory Director/Technical Director

Permian Basin Environmental Lab, L.P.

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Fax: (432) 687-0456

P.O. Box 50685

Project Number: 16-0120-01

Midland TX, 79710

Project Manager: Mark Larson

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

Permian Basin Environmental Lab, L.P.

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



Analytical Report

Prepared for:

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Location: Lea County, NM
Lab Order Number: 1E26001



NELAP/TCEQ # T104704516-17-8

Report Date: 05/27/21

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Topsoil 1	1E26001-01	Soil	05/25/21 10:35	05-26-2021 08:23

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Topsoil 1
1E26001-01 (Soil)

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

BTEX by 8021B

Benzene	ND	0.00104	mg/kg dry	1	P1E2604	05/26/21	05/26/21	EPA 8021B	
Toluene	ND	0.00104	mg/kg dry	1	P1E2604	05/26/21	05/26/21	EPA 8021B	
Ethylbenzene	ND	0.00104	mg/kg dry	1	P1E2604	05/26/21	05/26/21	EPA 8021B	
Xylene (p/m)	ND	0.00208	mg/kg dry	1	P1E2604	05/26/21	05/26/21	EPA 8021B	
Xylene (o)	ND	0.00104	mg/kg dry	1	P1E2604	05/26/21	05/26/21	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		98.0 %	80-120		P1E2604	05/26/21	05/26/21	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		100 %	80-120		P1E2604	05/26/21	05/26/21	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	21.7	1.04	mg/kg dry	1	P1E2605	05/26/21	05/26/21	EPA 300.0	
% Moisture	4.0	0.1	%	1	P1E2701	05/27/21	05/27/21	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.0	mg/kg dry	1	P1E2603	05/26/21	05/26/21	TPH 8015M	
>C12-C28	ND	26.0	mg/kg dry	1	P1E2603	05/26/21	05/26/21	TPH 8015M	
>C28-C35	ND	26.0	mg/kg dry	1	P1E2603	05/26/21	05/26/21	TPH 8015M	
Surrogate: 1-Chlorooctane		102 %	70-130		P1E2603	05/26/21	05/26/21	TPH 8015M	
Surrogate: o-Terphenyl		110 %	70-130		P1E2603	05/26/21	05/26/21	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.0	mg/kg dry	1	[CALC]	05/26/21	05/26/21	calc	

Permian Basin Environmental Lab, L.P.

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

BTEX by 8021B - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P1E2604 - * DEFAULT PREP *****

Blank (P1E2604-BLK1)

Prepared & Analyzed: 05/26/21

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	0.117		"	0.120		97.5	80-120			
Surrogate: 4-Bromofluorobenzene	0.118		"	0.120		98.5	80-120			

LCS (P1E2604-BS1)

Prepared & Analyzed: 05/26/21

Benzene	0.0984	0.00100	mg/kg wet	0.100		98.4	70-130			
Toluene	0.0981	0.00100	"	0.100		98.1	70-130			
Ethylbenzene	0.0931	0.00100	"	0.100		93.1	70-130			
Xylene (p/m)	0.205	0.00200	"	0.200		103	70-130			
Xylene (o)	0.0920	0.00100	"	0.100		92.0	70-130			
Surrogate: 4-Bromofluorobenzene	0.116		"	0.120		96.8	80-120			
Surrogate: 1,4-Difluorobenzene	0.119		"	0.120		99.0	80-120			

LCS Dup (P1E2604-BSD1)

Prepared & Analyzed: 05/26/21

Benzene	0.0876	0.00100	mg/kg wet	0.100		87.6	70-130	11.7	20	
Toluene	0.0890	0.00100	"	0.100		89.0	70-130	9.78	20	
Ethylbenzene	0.0823	0.00100	"	0.100		82.3	70-130	12.3	20	
Xylene (p/m)	0.179	0.00200	"	0.200		89.7	70-130	13.4	20	
Xylene (o)	0.0820	0.00100	"	0.100		82.0	70-130	11.6	20	
Surrogate: 1,4-Difluorobenzene	0.120		"	0.120		100	80-120			
Surrogate: 4-Bromofluorobenzene	0.121		"	0.120		101	80-120			

Calibration Blank (P1E2604-CCB1)

Prepared & Analyzed: 05/26/21

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	0.124		"	0.120		103	80-120			
Surrogate: 4-Bromofluorobenzene	0.121		"	0.120		101	80-120			

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

BTEX by 8021B - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P1E2604 - * DEFAULT PREP *****

Calibration Blank (P1E2604-CCB2)

Prepared & Analyzed: 05/26/21

Benzene	0.00		mg/kg wet							
Toluene	0.00		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.00		"							
Xylene (o)	0.00		"							
Surrogate: 4-Bromofluorobenzene	0.120		"	0.120		99.8	80-120			
Surrogate: 1,4-Difluorobenzene	0.119		"	0.120		99.1	80-120			

Calibration Blank (P1E2604-CCB3)

Prepared & Analyzed: 05/26/21

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	0.118		"	0.120		98.6	80-120			
Surrogate: 4-Bromofluorobenzene	0.114		"	0.120		94.9	80-120			

Calibration Check (P1E2604-CCV1)

Prepared & Analyzed: 05/26/21

Benzene	0.0909	0.00100	mg/kg wet	0.100		90.9	80-120			
Toluene	0.0879	0.00100	"	0.100		87.9	80-120			
Ethylbenzene	0.0877	0.00100	"	0.100		87.7	80-120			
Xylene (p/m)	0.176	0.00200	"	0.200		88.1	80-120			
Xylene (o)	0.0846	0.00100	"	0.100		84.6	80-120			
Surrogate: 4-Bromofluorobenzene	0.112		"	0.120		93.3	75-125			
Surrogate: 1,4-Difluorobenzene	0.118		"	0.120		98.6	75-125			

Calibration Check (P1E2604-CCV2)

Prepared & Analyzed: 05/26/21

Benzene	0.0886	0.00100	mg/kg wet	0.100		88.6	80-120			
Toluene	0.0880	0.00100	"	0.100		88.0	80-120			
Ethylbenzene	0.0855	0.00100	"	0.100		85.5	80-120			
Xylene (p/m)	0.173	0.00200	"	0.200		86.5	80-120			
Xylene (o)	0.0849	0.00100	"	0.100		84.9	80-120			
Surrogate: 4-Bromofluorobenzene	0.124		"	0.120		103	75-125			
Surrogate: 1,4-Difluorobenzene	0.123		"	0.120		103	75-125			

Permian Basin Environmental Lab, L.P.

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

BTEX by 8021B - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P1E2604 - * DEFAULT PREP *****

Calibration Check (P1E2604-CCV3)

Prepared & Analyzed: 05/26/21

Benzene	0.100	0.00100	mg/kg wet	0.100		100	80-120			
Toluene	0.0944	0.00100	"	0.100		94.4	80-120			
Ethylbenzene	0.0911	0.00100	"	0.100		91.1	80-120			
Xylene (p/m)	0.184	0.00200	"	0.200		92.1	80-120			
Xylene (o)	0.0938	0.00100	"	0.100		93.8	80-120			
Surrogate: 1,4-Difluorobenzene	0.127		"	0.120		106	75-125			
Surrogate: 4-Bromofluorobenzene	0.123		"	0.120		103	75-125			

Matrix Spike (P1E2604-MS1)

Source: 1E26001-01

Prepared & Analyzed: 05/26/21

Benzene	0.0666	0.00104	mg/kg dry	0.104	ND	63.9	80-120			QM-05
Toluene	0.0610	0.00104	"	0.104	ND	58.5	80-120			QM-05
Ethylbenzene	0.0524	0.00104	"	0.104	ND	50.3	80-120			QM-05
Xylene (p/m)	0.0967	0.00208	"	0.208	ND	46.4	80-120			QM-05
Xylene (o)	0.0541	0.00104	"	0.104	ND	51.9	80-120			QM-05
Surrogate: 4-Bromofluorobenzene	0.126		"	0.125		101	80-120			
Surrogate: 1,4-Difluorobenzene	0.129		"	0.125		103	80-120			

Matrix Spike Dup (P1E2604-MSD1)

Source: 1E26001-01

Prepared & Analyzed: 05/26/21

Benzene	0.0656	0.00104	mg/kg dry	0.104	ND	63.0	80-120	1.51	20	QM-05
Toluene	0.0600	0.00104	"	0.104	ND	57.6	80-120	1.60	20	QM-05
Ethylbenzene	0.0505	0.00104	"	0.104	ND	48.5	80-120	3.58	20	QM-05
Xylene (p/m)	0.0926	0.00208	"	0.208	ND	44.5	80-120	4.35	20	QM-05
Xylene (o)	0.0522	0.00104	"	0.104	ND	50.1	80-120	3.55	20	QM-05
Surrogate: 4-Bromofluorobenzene	0.123		"	0.125		98.5	80-120			
Surrogate: 1,4-Difluorobenzene	0.128		"	0.125		103	80-120			

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P1E2605 - * DEFAULT PREP *****

Blank (P1E2605-BLK1) Prepared & Analyzed: 05/26/21

Chloride	ND	1.00	mg/kg wet							
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LCS (P1E2605-BS1) Prepared & Analyzed: 05/26/21

Chloride	376	1.00	mg/kg wet	400		94.0	90-110			
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LCS Dup (P1E2605-BSD1) Prepared & Analyzed: 05/26/21

Chloride	374	1.00	mg/kg wet	400		93.5	90-110	0.528	20	
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Calibration Check (P1E2605-CCV1) Prepared & Analyzed: 05/26/21

Chloride	18.3		mg/kg	20.0		91.5	90-110			
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Calibration Check (P1E2605-CCV2) Prepared: 05/26/21 Analyzed: 05/27/21

Chloride	18.3		mg/kg	20.0		91.6	90-110			
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Calibration Check (P1E2605-CCV3) Prepared & Analyzed: 05/26/21

Chloride	20.5		mg/kg	20.0		103	90-110			
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Matrix Spike (P1E2605-MS1) Source: 1E26001-01 Prepared & Analyzed: 05/26/21

Chloride	552	1.04	mg/kg dry	521	21.7	102	80-120			
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Matrix Spike (P1E2605-MS2) Source: 1E21005-05 Prepared & Analyzed: 05/26/21

Chloride	879	1.15	mg/kg dry	575	414	80.9	80-120			
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Matrix Spike Dup (P1E2605-MSD1) Source: 1E26001-01 Prepared & Analyzed: 05/26/21

Chloride	508	1.04	mg/kg dry	521	21.7	93.4	80-120	8.25	20	
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Matrix Spike Dup (P1E2605-MSD2) Source: 1E21005-05 Prepared & Analyzed: 05/26/21

Chloride	964	1.15	mg/kg dry	575	414	95.8	80-120	9.24	20	
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Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P1E2701 - * DEFAULT PREP *****

Blank (P1E2701-BLK1)

Prepared & Analyzed: 05/27/21

% Moisture	ND	0.1	%
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Duplicate (P1E2701-DUP1)

Source: 1E26004-10

Prepared & Analyzed: 05/27/21

% Moisture	1.0	0.1	%	1.0	0.00	20
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Duplicate (P1E2701-DUP2)

Source: 1E26002-01

Prepared & Analyzed: 05/27/21

% Moisture	3.0	0.1	%	3.0	0.00	20
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Permian Basin Environmental Lab, L.P.

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

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

Batch P1E2603 - TX 1005

Blank (P1E2603-BLK1)

Prepared & Analyzed: 05/26/21

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	94.9		"	100		94.9	70-130			
Surrogate: o-Terphenyl	49.4		"	50.0		98.9	70-130			

LCS (P1E2603-BS1)

Prepared & Analyzed: 05/26/21

C6-C12	1060	25.0	mg/kg wet	1000		106	75-125			
>C12-C28	922	25.0	"	1000		92.2	75-125			
Surrogate: 1-Chlorooctane	98.3		"	100		98.3	70-130			
Surrogate: o-Terphenyl	55.7		"	50.0		111	70-130			

LCS Dup (P1E2603-BSD1)

Prepared & Analyzed: 05/26/21

C6-C12	1050	25.0	mg/kg wet	1000		105	75-125	0.879	20	
>C12-C28	917	25.0	"	1000		91.7	75-125	0.624	20	
Surrogate: 1-Chlorooctane	97.0		"	100		97.0	70-130			
Surrogate: o-Terphenyl	53.4		"	50.0		107	70-130			

Calibration Check (P1E2603-CCV1)

Prepared & Analyzed: 05/26/21

C6-C12	465	25.0	mg/kg wet	500		92.9	85-115			
>C12-C28	448	25.0	"	500		89.5	85-115			
Surrogate: 1-Chlorooctane	110		"	100		110	70-130			
Surrogate: o-Terphenyl	50.1		"	50.0		100	70-130			

Calibration Check (P1E2603-CCV2)

Prepared & Analyzed: 05/26/21

C6-C12	505	25.0	mg/kg wet	500		101	85-115			
>C12-C28	488	25.0	"	500		97.7	85-115			
Surrogate: 1-Chlorooctane	123		"	100		123	70-130			
Surrogate: o-Terphenyl	56.6		"	50.0		113	70-130			

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P1E2603 - TX 1005

Duplicate (P1E2603-DUP1)

Source: 1E26004-01

Prepared: 05/26/21 Analyzed: 05/27/21

C6-C12	ND	29.8	mg/kg dry		ND				20	
>C12-C28	ND	29.8	"		ND				20	
Surrogate: 1-Chlorooctane	126		"	119		106	70-130			
Surrogate: o-Terphenyl	67.8		"	59.5		114	70-130			

Permian Basin Environmental Lab, L.P.

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

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Notes and Definitions

ROI Received on Ice

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:



Date:

5/27/2021

Brent Barron, Laboratory Director/Technical Director

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

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

Permian Basin Environmental Lab, L.P.

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

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

No 1242

CHAIN-OF-CUSTODY

Varson & Associates, Inc.
Environmental Consultants

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

Data Reported to:

Mark Varson

DATE: 05-25-2021

PAGE 1 OF 1

PO#:

LAB WORK ORDER#: 1626001

PROJECT LOCATION OR NAME: Lee Co, NM / Efferson 16"

LAI PROJECT #: 16-120-01

COLLECTOR: MR

TRRP report?
☐ Yes ☒ No

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

TIME ZONE:
Time zone/State:

Mtn / NM

Field
Sample I.D.

Lab #

Date

Time

Matrix

of Containers

HCl

HNO₃H₂SO₄ ☐ NaOH ☐

ICE

UNPRESERVED

ANALYSES

BTX ☐ MTBE ☐TRPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐GASOLINE MOD 8015 ☐DIESEL - MOD 8015 ☐OIL - MOD 8015 ☐VOC 8260 ☐SVOC 8270 ☐8081 PESTICIDES ☐8082 PESTICIDES ☐TBLP - METALS (RCRA) ☐TCLP - METALS (RCRA) ☐TOTAL METALS (RCRA) ☐LEAD - TOTAL ☐RCI ☐TDS ☐pH ☐EXPLOSIVES ☐CHLORIDES ☐ANIONS ☐ALKALINITY ☐

FIELD NOTES

TOTAL

RECEIVED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

LABORATORY:

BEL

DATE/TIME

RECEIVED BY: (Signature)

TURN AROUND TIME

NORMAL ☐1 DAY ☐2 DAY ☒OTHER ☐

LABORATORY USE ONLY:

RECEIVING TEMP: 20 NTC

CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED

CARRIER BILL #

HAND DELIVERED



Environment Testing America

ANALYTICAL REPORT

Eurofins Xenco, Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-2569-1

Client Project/Site: Targa Epperson 16-0120-01

For:

Larson & Associates, Inc.
507 N Marienfeld
Suite 202
Midland, Texas 79701

Attn: Mr. Mark J Larson

Holly Taylor

Authorized for release by:
6/1/2021 9:16:21 AM

Holly Taylor, Project Manager
(806)794-1296
holly.taylor@eurofinset.com

LINKS

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www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Larson & Associates, Inc.
Project/Site: Targa Epperson 16-0120-01

Laboratory Job ID: 880-2569-1

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	8
QC Sample Results	9
QC Association Summary	13
Lab Chronicle	15
Certification Summary	16
Method Summary	17
Sample Summary	18
Chain of Custody	19
Receipt Checklists	20

1
2
3
4
5
6
7
8
9
10
11
12
13
14

Definitions/Glossary

Client: Larson & Associates, Inc.
Project/Site: Targa Epperson 16-0120-01

Job ID: 880-2569-1

Qualifiers

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Eurofins Xenco, Midland

Case Narrative

Client: Larson & Associates, Inc.
Project/Site: Targa Epperson 16-0120-01

Job ID: 880-2569-1

Job ID: 880-2569-1

Laboratory: Eurofins Xenco, Midland

Narrative

Job Narrative 880-2569-1

Receipt

The samples were received on 5/28/2021 8:28 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 6.0°C

GC VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Targa Epperson 16-0120-01

Job ID: 880-2569-1

Client Sample ID: Topsoil 2

Date Collected: 05/27/21 15:00

Date Received: 05/28/21 08:28

Lab Sample ID: 880-2569-1

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		05/28/21 09:00	05/28/21 12:49	1
Toluene	<0.00199	U	0.00199	mg/Kg		05/28/21 09:00	05/28/21 12:49	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		05/28/21 09:00	05/28/21 12:49	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		05/28/21 09:00	05/28/21 12:49	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		05/28/21 09:00	05/28/21 12:49	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		05/28/21 09:00	05/28/21 12:49	1
Total BTEX	<0.00398	U	0.00398	mg/Kg		05/28/21 09:00	05/28/21 12:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130	05/28/21 09:00	05/28/21 12:49	1
1,4-Difluorobenzene (Surr)	94		70 - 130	05/28/21 09:00	05/28/21 12:49	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/28/21 13:24	05/29/21 21:49	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/28/21 13:24	05/29/21 21:49	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/28/21 13:24	05/29/21 21:49	1
Total TPH	<50.0	U	50.0	mg/Kg		05/28/21 13:24	05/29/21 21:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	121		70 - 130	05/28/21 13:24	05/29/21 21:49	1
o-Terphenyl	113		70 - 130	05/28/21 13:24	05/29/21 21:49	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.05	U	5.05	mg/Kg			05/28/21 12:13	1

Client Sample ID: Topsoil 3

Date Collected: 05/27/21 15:05

Date Received: 05/28/21 08:28

Lab Sample ID: 880-2569-2

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/28/21 09:00	05/28/21 13:09	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/28/21 09:00	05/28/21 13:09	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/28/21 09:00	05/28/21 13:09	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		05/28/21 09:00	05/28/21 13:09	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/28/21 09:00	05/28/21 13:09	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		05/28/21 09:00	05/28/21 13:09	1
Total BTEX	<0.00401	U	0.00401	mg/Kg		05/28/21 09:00	05/28/21 13:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130	05/28/21 09:00	05/28/21 13:09	1
1,4-Difluorobenzene (Surr)	101		70 - 130	05/28/21 09:00	05/28/21 13:09	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/28/21 13:24	05/29/21 22:11	1

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Targa Epperson 16-0120-01

Job ID: 880-2569-1

Client Sample ID: Topsoil 3

Date Collected: 05/27/21 15:05

Date Received: 05/28/21 08:28

Lab Sample ID: 880-2569-2

Matrix: Solid

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/28/21 13:24	05/29/21 22:11	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/28/21 13:24	05/29/21 22:11	1
Total TPH	<50.0	U	50.0	mg/Kg		05/28/21 13:24	05/29/21 22:11	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	119		70 - 130			05/28/21 13:24	05/29/21 22:11	1
o-Terphenyl	112		70 - 130			05/28/21 13:24	05/29/21 22:11	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.04	U	5.04	mg/Kg			05/28/21 12:18	1

Client Sample ID: Topsoil 4

Date Collected: 05/27/21 15:10

Date Received: 05/28/21 08:28

Lab Sample ID: 880-2569-3

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/28/21 09:00	05/28/21 13:30	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/28/21 09:00	05/28/21 13:30	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/28/21 09:00	05/28/21 13:30	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		05/28/21 09:00	05/28/21 13:30	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/28/21 09:00	05/28/21 13:30	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		05/28/21 09:00	05/28/21 13:30	1
Total BTEX	<0.00399	U	0.00399	mg/Kg		05/28/21 09:00	05/28/21 13:30	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		70 - 130			05/28/21 09:00	05/28/21 13:30	1
1,4-Difluorobenzene (Surr)	98		70 - 130			05/28/21 09:00	05/28/21 13:30	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		05/28/21 13:24	05/29/21 22:32	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		05/28/21 13:24	05/29/21 22:32	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		05/28/21 13:24	05/29/21 22:32	1
Total TPH	<49.9	U	49.9	mg/Kg		05/28/21 13:24	05/29/21 22:32	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	102		70 - 130			05/28/21 13:24	05/29/21 22:32	1
o-Terphenyl	98		70 - 130			05/28/21 13:24	05/29/21 22:32	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.02	U	5.02	mg/Kg			05/28/21 12:24	1

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Targa Epperson 16-0120-01

Job ID: 880-2569-1

Client Sample ID: Topsoil 5

Lab Sample ID: 880-2569-4

Date Collected: 05/27/21 15:15

Matrix: Solid

Date Received: 05/28/21 08:28

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/28/21 09:00	05/28/21 13:50	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/28/21 09:00	05/28/21 13:50	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/28/21 09:00	05/28/21 13:50	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		05/28/21 09:00	05/28/21 13:50	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/28/21 09:00	05/28/21 13:50	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		05/28/21 09:00	05/28/21 13:50	1
Total BTEX	<0.00399	U	0.00399	mg/Kg		05/28/21 09:00	05/28/21 13:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		70 - 130	05/28/21 09:00	05/28/21 13:50	1
1,4-Difluorobenzene (Surr)	98		70 - 130	05/28/21 09:00	05/28/21 13:50	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/28/21 13:24	05/29/21 22:53	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/28/21 13:24	05/29/21 22:53	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/28/21 13:24	05/29/21 22:53	1
Total TPH	<50.0	U	50.0	mg/Kg		05/28/21 13:24	05/29/21 22:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	111		70 - 130	05/28/21 13:24	05/29/21 22:53	1
o-Terphenyl	107		70 - 130	05/28/21 13:24	05/29/21 22:53	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<4.95	U	4.95	mg/Kg			05/28/21 12:29	1

Eurofins Xenco, Midland

Surrogate Summary

Client: Larson & Associates, Inc.
Project/Site: Targa Epperson 16-0120-01

Job ID: 880-2569-1

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-2569-1	Topsoil 2	93	94
880-2569-1 MS	Topsoil 2	111	101
880-2569-1 MSD	Topsoil 2	116	102
880-2569-2	Topsoil 3	95	101
880-2569-3	Topsoil 4	87	98
880-2569-4	Topsoil 5	89	98
LCS 880-3589/1-A	Lab Control Sample	108	104
LCSD 880-3589/2-A	Lab Control Sample Dup	117	105
MB 880-3589/5-A	Method Blank	83	90

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-2569-1	Topsoil 2	121	113
880-2569-2	Topsoil 3	119	112
880-2569-3	Topsoil 4	102	98
880-2569-4	Topsoil 5	111	107
880-2575-A-1-F MS	Matrix Spike	101	84
880-2575-A-1-G MSD	Matrix Spike Duplicate	98	83
LCS 880-3622/2-A	Lab Control Sample	111	94
LCSD 880-3622/3-A	Lab Control Sample Dup	109	94
MB 880-3622/1-A	Method Blank	110	107

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Eurofins Xenco, Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Targa Epperson 16-0120-01

Job ID: 880-2569-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-3589/5-A

Matrix: Solid

Analysis Batch: 3600

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 3589

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/28/21 09:00	05/28/21 12:27	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/28/21 09:00	05/28/21 12:27	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/28/21 09:00	05/28/21 12:27	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		05/28/21 09:00	05/28/21 12:27	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/28/21 09:00	05/28/21 12:27	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		05/28/21 09:00	05/28/21 12:27	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		05/28/21 09:00	05/28/21 12:27	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	83		70 - 130	05/28/21 09:00	05/28/21 12:27	1
1,4-Difluorobenzene (Surr)	90		70 - 130	05/28/21 09:00	05/28/21 12:27	1

Lab Sample ID: LCS 880-3589/1-A

Matrix: Solid

Analysis Batch: 3600

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 3589

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1039		mg/Kg		104	70 - 130
Toluene	0.100	0.09706		mg/Kg		97	70 - 130
Ethylbenzene	0.100	0.1006		mg/Kg		101	70 - 130
m-Xylene & p-Xylene	0.200	0.2147		mg/Kg		107	70 - 130
o-Xylene	0.100	0.1068		mg/Kg		107	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	108		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: LCSD 880-3589/2-A

Matrix: Solid

Analysis Batch: 3600

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 3589

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.1096		mg/Kg		110	70 - 130	5	35
Toluene	0.100	0.1040		mg/Kg		104	70 - 130	7	35
Ethylbenzene	0.100	0.1094		mg/Kg		109	70 - 130	8	35
m-Xylene & p-Xylene	0.200	0.2360		mg/Kg		118	70 - 130	9	35
o-Xylene	0.100	0.1182		mg/Kg		118	70 - 130	10	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	117		70 - 130
1,4-Difluorobenzene (Surr)	105		70 - 130

Lab Sample ID: 880-2569-1 MS

Matrix: Solid

Analysis Batch: 3600

Client Sample ID: Topsoil 2

Prep Type: Total/NA

Prep Batch: 3589

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00199	U	0.100	0.08152		mg/Kg		82	70 - 130

Eurofins Xenco, Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Targa Epperson 16-0120-01

Job ID: 880-2569-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 880-2569-1 MS

Matrix: Solid

Analysis Batch: 3600

Client Sample ID: Topsoil 2

Prep Type: Total/NA

Prep Batch: 3589

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	<0.00199	U	0.100	0.07583		mg/Kg		76	70 - 130
Ethylbenzene	<0.00199	U	0.100	0.07701		mg/Kg		77	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.200	0.1609		mg/Kg		80	70 - 130
o-Xylene	<0.00199	U	0.100	0.08220		mg/Kg		82	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	111		70 - 130						
1,4-Difluorobenzene (Surr)	101		70 - 130						

Lab Sample ID: 880-2569-1 MSD

Matrix: Solid

Analysis Batch: 3600

Client Sample ID: Topsoil 2

Prep Type: Total/NA

Prep Batch: 3589

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0998	0.08831		mg/Kg		88	70 - 130	8	35
Toluene	<0.00199	U	0.0998	0.08199		mg/Kg		82	70 - 130	8	35
Ethylbenzene	<0.00199	U	0.0998	0.08349		mg/Kg		84	70 - 130	8	35
m-Xylene & p-Xylene	<0.00398	U	0.200	0.1752		mg/Kg		88	70 - 130	9	35
o-Xylene	<0.00199	U	0.0998	0.09016		mg/Kg		90	70 - 130	9	35
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	116		70 - 130								
1,4-Difluorobenzene (Surr)	102		70 - 130								

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-3622/1-A

Matrix: Solid

Analysis Batch: 3665

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 3622

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	270.2		50.0	mg/Kg		05/28/21 13:24	05/29/21 14:42	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/28/21 13:24	05/29/21 14:42	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/28/21 13:24	05/29/21 14:42	1
Total TPH	270.2		50.0	mg/Kg		05/28/21 13:24	05/29/21 14:42	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	110		70 - 130			05/28/21 13:24	05/29/21 14:42	1
o-Terphenyl	107		70 - 130			05/28/21 13:24	05/29/21 14:42	1

Lab Sample ID: LCS 880-3622/2-A

Matrix: Solid

Analysis Batch: 3665

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 3622

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1023		mg/Kg		102	70 - 130

Eurofins Xenco, Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Targa Epperson 16-0120-01

Job ID: 880-2569-1

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 880-3622/2-A

Matrix: Solid

Analysis Batch: 3665

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 3622

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics (Over C10-C28)			1000	1172		mg/Kg		117	70 - 130		
Surrogate	LCS %Recovery	LCS Qualifier	Limits								
1-Chlorooctane	111		70 - 130								
o-Terphenyl	94		70 - 130								

Lab Sample ID: LCSD 880-3622/3-A

Matrix: Solid

Analysis Batch: 3665

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 3622

Top Data: 0.02										RPD	
Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	999.1		mg/Kg		100	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	1165		mg/Kg		116	70 - 130	1	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits								
1-Chlorooctane	109		70 - 130								
o-Terphenyl	94		70 - 130								

Lab Sample ID: 880-2575-A-1-F MS

Matrix: Solid

Analysis Batch: 3665

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 3622

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.		
	Result	Qualifier	Added	Result	Qualifier			Limits			
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	996	953.5		mg/Kg		93	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	996	1147		mg/Kg		115	70 - 130		
Surrogate	MS %Recovery	MS Qualifier	Limits								
1-Chlorooctane	101		70 - 130								
o-Terphenyl	84		70 - 130								

Lab Sample ID: 880-2575-A-1-G MSD

Matrix: Solid

Analysis Batch: 3665

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 3622

Top Data: 0.22											
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	996	974.3		mg/Kg		95	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<49.9	U	996	1128		mg/Kg		113	70 - 130	2	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	98		70 - 130								
o-Terphenyl	83		70 - 130								

Eurofins Xenco, Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Targa Epperson 16-0120-01

Job ID: 880-2569-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-3595/1-A

Matrix: Solid

Analysis Batch: 3596

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			05/28/21 09:39	1

Lab Sample ID: LCS 880-3595/2-A

Matrix: Solid

Analysis Batch: 3596

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	237.9		mg/Kg		95	90 - 110

Lab Sample ID: LCSD 880-3595/3-A

Matrix: Solid

Analysis Batch: 3596

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	242.5		mg/Kg		97	90 - 110	2	20

Lab Sample ID: 880-2561-A-1-B MS

Matrix: Solid

Analysis Batch: 3596

Client Sample ID: Matrix Spike

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	1800		1260	3095		mg/Kg		103	90 - 110

Lab Sample ID: 880-2561-A-1-C MSD

Matrix: Solid

Analysis Batch: 3596

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1800		1260	3059		mg/Kg		100	90 - 110	1	20

Eurofins Xenco, Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Targa Epperson 16-0120-01

Job ID: 880-2569-1

GC VOA

Prep Batch: 3589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-2569-1	Topsoil 2	Total/NA	Solid	5035	
880-2569-2	Topsoil 3	Total/NA	Solid	5035	
880-2569-3	Topsoil 4	Total/NA	Solid	5035	
880-2569-4	Topsoil 5	Total/NA	Solid	5035	
MB 880-3589/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-3589/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-3589/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-2569-1 MS	Topsoil 2	Total/NA	Solid	5035	
880-2569-1 MSD	Topsoil 2	Total/NA	Solid	5035	

Analysis Batch: 3600

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-2569-1	Topsoil 2	Total/NA	Solid	8021B	3589
880-2569-2	Topsoil 3	Total/NA	Solid	8021B	3589
880-2569-3	Topsoil 4	Total/NA	Solid	8021B	3589
880-2569-4	Topsoil 5	Total/NA	Solid	8021B	3589
MB 880-3589/5-A	Method Blank	Total/NA	Solid	8021B	3589
LCS 880-3589/1-A	Lab Control Sample	Total/NA	Solid	8021B	3589
LCSD 880-3589/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	3589
880-2569-1 MS	Topsoil 2	Total/NA	Solid	8021B	3589
880-2569-1 MSD	Topsoil 2	Total/NA	Solid	8021B	3589

GC Semi VOA

Prep Batch: 3622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-2569-1	Topsoil 2	Total/NA	Solid	8015NM Prep	
880-2569-2	Topsoil 3	Total/NA	Solid	8015NM Prep	
880-2569-3	Topsoil 4	Total/NA	Solid	8015NM Prep	
880-2569-4	Topsoil 5	Total/NA	Solid	8015NM Prep	
MB 880-3622/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-3622/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-3622/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-2575-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-2575-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 3665

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-2569-1	Topsoil 2	Total/NA	Solid	8015B NM	3622
880-2569-2	Topsoil 3	Total/NA	Solid	8015B NM	3622
880-2569-3	Topsoil 4	Total/NA	Solid	8015B NM	3622
880-2569-4	Topsoil 5	Total/NA	Solid	8015B NM	3622
MB 880-3622/1-A	Method Blank	Total/NA	Solid	8015B NM	3622
LCS 880-3622/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	3622
LCSD 880-3622/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	3622
880-2575-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	3622
880-2575-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	3622

Eurofins Xenco, Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Targa Epperson 16-0120-01

Job ID: 880-2569-1

HPLC/IC

Leach Batch: 3595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-2569-1	Topsoil 2	Soluble	Solid	DI Leach	
880-2569-2	Topsoil 3	Soluble	Solid	DI Leach	
880-2569-3	Topsoil 4	Soluble	Solid	DI Leach	
880-2569-4	Topsoil 5	Soluble	Solid	DI Leach	
MB 880-3595/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-3595/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-3595/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-2561-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-2561-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 3596

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-2569-1	Topsoil 2	Soluble	Solid	300.0	3595
880-2569-2	Topsoil 3	Soluble	Solid	300.0	3595
880-2569-3	Topsoil 4	Soluble	Solid	300.0	3595
880-2569-4	Topsoil 5	Soluble	Solid	300.0	3595
MB 880-3595/1-A	Method Blank	Soluble	Solid	300.0	3595
LCS 880-3595/2-A	Lab Control Sample	Soluble	Solid	300.0	3595
LCSD 880-3595/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	3595
880-2561-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	3595
880-2561-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	3595

Eurofins Xenco, Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: Targa Epperson 16-0120-01

Job ID: 880-2569-1

Client Sample ID: Topsoil 2

Date Collected: 05/27/21 15:00

Date Received: 05/28/21 08:28

Lab Sample ID: 880-2569-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	3589	05/28/21 09:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3600	05/28/21 12:49	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	3622	05/28/21 13:24	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3665	05/29/21 21:49	AM	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	3595	05/28/21 11:36	CH	XEN MID
Soluble	Analysis	300.0		1			3596	05/28/21 12:13	CH	XEN MID

Client Sample ID: Topsoil 3

Date Collected: 05/27/21 15:05

Date Received: 05/28/21 08:28

Lab Sample ID: 880-2569-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	3589	05/28/21 09:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3600	05/28/21 13:09	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	3622	05/28/21 13:24	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3665	05/29/21 22:11	AM	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	3595	05/28/21 11:36	CH	XEN MID
Soluble	Analysis	300.0		1			3596	05/28/21 12:18	CH	XEN MID

Client Sample ID: Topsoil 4

Date Collected: 05/27/21 15:10

Date Received: 05/28/21 08:28

Lab Sample ID: 880-2569-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	3589	05/28/21 09:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3600	05/28/21 13:30	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	3622	05/28/21 13:24	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3665	05/29/21 22:32	AM	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	3595	05/28/21 11:36	CH	XEN MID
Soluble	Analysis	300.0		1			3596	05/28/21 12:24	CH	XEN MID

Client Sample ID: Topsoil 5

Date Collected: 05/27/21 15:15

Date Received: 05/28/21 08:28

Lab Sample ID: 880-2569-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	3589	05/28/21 09:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3600	05/28/21 13:50	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	3622	05/28/21 13:24	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3665	05/29/21 22:53	AM	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	3595	05/28/21 11:36	CH	XEN MID
Soluble	Analysis	300.0		1			3596	05/28/21 12:29	CH	XEN MID

Laboratory References:

XEN MID = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Xenco, Midland

Accreditation/Certification Summary

Client: Larson & Associates, Inc.
Project/Site: Targa Epperson 16-0120-01

Job ID: 880-2569-1

Laboratory: Eurofins Xenco, Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	06-30-21
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
8015B NM	8015NM Prep	Solid	Total TPH
8021B	5035	Solid	Total BTEX

Method Summary

Client: Larson & Associates, Inc.
Project/Site: Targa Epperson 16-0120-01

Job ID: 880-2569-1

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5035	Closed System Purge and Trap	SW846	XEN MID
8015NM Prep	Microextraction	SW846	XEN MID
DI Leach	Deionized Water Leaching Procedure	ASTM	XEN MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

XEN MID = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Xenco, Midland

Sample Summary

Client: Larson & Associates, Inc.
Project/Site: Targa Epperson 16-0120-01

Job ID: 880-2569-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
880-2569-1	Topsoil 2	Solid	05/27/21 15:00	05/28/21 08:28	
880-2569-2	Topsoil 3	Solid	05/27/21 15:05	05/28/21 08:28	
880-2569-3	Topsoil 4	Solid	05/27/21 15:10	05/28/21 08:28	
880-2569-4	Topsoil 5	Solid	05/27/21 15:15	05/28/21 08:28	

Eurofins Xenco, Midland

880-2569 Chain of Custody

Midland, TX 79701

432-687-090

DATE: X 5.27.21

PAGE 1 OF 1

PO#

LAB WORK ORDER#

PROJECT LOCATION OR NAME

Large Capuron

LA PROJECT #. 16-8125-

COLLECTOR. ML

2569
N^o 1243

CHAIN-OF-CUSTODY

Login Sample Receipt Checklist

Client: Larson & Associates, Inc.

Job Number: 880-2569-1

Login Number: 2569

List Number: 1

Creator: Phillips, Kerianna

List Source: Eurofins Xenco, Midland

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Appendix E
Waste Disposal Summary

Gandy Marley Soil Disposal Summary

Date	Ticket No	Generator ID	Transporter ID	Origin	Description	Cell	Units	Unit Type
10/13/2017	9643	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/13/2017	9646	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/13/2017	9654	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/13/2017	9665	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/13/2017	9661	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/13/2017	9647	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/13/2017	9650	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/13/2017	9649	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/13/2017	9641	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/16/2017	9683	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/16/2017	9689	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/16/2017	9688	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/16/2017	9685	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/16/2017	9684	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/16/2017	9686	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/17/2017	9756	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/17/2017	9751	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/17/2017	9759	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/17/2017	9712	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/18/2017	9800	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/18/2017	9804	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/18/2017	9803	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/18/2017	9764	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/18/2017	9802	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/18/2017	9799	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/18/2017	9797	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/18/2017	9798	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/18/2017	9789	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/18/2017	9788	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/18/2017	9785	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/18/2017	9801	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/19/2017	9807	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/19/2017	9806	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/23/2017	9808	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/23/2017	10007	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/23/2017	10009	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/23/2017	10005	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/23/2017	10001	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/23/2017	9837	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/23/2017	9810	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/23/2017	10006	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/24/2017	10039	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/24/2017	10042	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/24/2017	10079	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/24/2017	10041	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/24/2017	10043	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/24/2017	10040	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/24/2017	10044	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/24/2017	10075	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/24/2017	10076	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/24/2017	10077	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/25/2017	10105	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/25/2017	10107	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/25/2017	10108	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
10/25/2017	10078	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS

[illegible]

Gandy Marley Soil Disposal Summary

11/21/2017	10466	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/21/2017	10444	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/21/2017	10469	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/21/2017	10470	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/21/2017	10475	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/21/2017	10474	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/21/2017	10468	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/21/2017	10383	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/21/2017	10476	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/21/2017	10477	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/21/2017	10384	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/21/2017	10433	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/21/2017	10440	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/21/2017	10478	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/21/2017	10481	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/21/2017	10467	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/22/2017	10496	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/22/2017	10526	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/22/2017	10495	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/22/2017	10521	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/22/2017	10525	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/22/2017	10491	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/22/2017	10527	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/22/2017	10528	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/22/2017	10493	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/22/2017	10494	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/22/2017	10492	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/22/2017	10515	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/22/2017	10490	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/22/2017	10497	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/24/2017	10531	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/24/2017	10530	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
11/24/2017	10529	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
12/02/2017	10628	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
12/02/2017	11248	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
12/02/2017	10626	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS

Subtotal: 2940 YARDS

07/07/2020	08706	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/07/2020	05920	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/07/2020	05907	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/07/2020	31935	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/07/2020	31936	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/07/2020	05906	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/07/2020	09991	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/07/2020	32126	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/08/2020	32158	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/08/2020	32133	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/08/2020	32132	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/08/2020	32137	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/08/2020	32141	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/08/2020	32139	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/08/2020	32129	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/08/2020	32159	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/08/2020	32135	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/08/2020	32134	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS

Gandy Marley Soil Disposal Summary

07/08/2020	32140	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/08/2020	32143	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/08/2020	32136	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/08/2020	32131	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/08/2020	32160	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/08/2020	32157	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/08/2020	32127	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/08/2020	32142	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/08/2020	32138	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/08/2020	32130	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/08/2020	32149	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/09/2020	32151	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/09/2020	32152	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/09/2020	32154	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/09/2020	32155	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/09/2020	32156	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/10/2020	32146	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/10/2020	32147	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/10/2020	32145	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/10/2020	32148	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/10/2020	32150	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/31/2020	32069	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/31/2020	32071	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/31/2020	32068	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/31/2020	32083	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS
07/31/2020	32070	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	20	YARDS

Subtotal: 880 YARDS

11/20/2020	33597	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/20/2020	33596	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/20/2020	33605	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/20/2020	33600	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/20/2020	33599	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/20/2020	33593	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/20/2020	33606	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/20/2020	33598	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/20/2020	33594	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/20/2020	33595	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/23/2020	33639	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/23/2020	33619	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/23/2020	33618	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/24/2020	33666	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/24/2020	33650	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/24/2020	33642	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/24/2020	33643	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/24/2020	33645	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/24/2020	33665	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/24/2020	33655	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/24/2020	33651	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/24/2020	33652	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/24/2020	33644	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/24/2020	33657	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/24/2020	33667	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/24/2020	33656	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/24/2020	33661	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/24/2020	33658	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS

Gandy Marley Soil Disposal Summary

11/24/2020	33662	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/24/2020	33653	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/25/2020	33670	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/25/2020	33677	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/25/2020	33673	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/25/2020	33679	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/25/2020	33676	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/25/2020	33674	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/25/2020	33675	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/25/2020	33680	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/25/2020	33669	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/27/2020	33693	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/27/2020	33699	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/27/2020	33702	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/27/2020	33689	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/27/2020	33692	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/27/2020	33698	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/27/2020	33701	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/27/2020	33690	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/27/2020	33703	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/27/2020	33700	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/27/2020	33694	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS
11/27/2020	33691	TARGA	Gandy	EPPERSON DIG	OCD EXEMPT SOILS	LF	12	YARDS

SUBTOTAL: 612 YARDS

TOTAL: 4432 YARDS

Appendix F
Photographs

NOY1709044723 (1RP-4664)
Remediation and Closure Report
August 4, 2021



Epperson 16" Site #1 Viewing West, May 28, 2016



Epperson 16" Site #1 Viewing South, May 28, 2016

NOY1709044723 (1RP-4664)
Remediation and Closure Report
August 4, 2021



Epperson 16" Site #1 Viewing Southwest, February 2, 2017



Excavation Viewing Southwest, October 19, 2017

NOY1709044723 (1RP-4664)
Remediation and Closure Report
August 4, 2021



Excavation Viewing South on East Side of 16" Pipeline, October 19, 2017



Excavation Viewing South, October 31, 2017

NOY1709044723 (1RP-4664)
Remediation and Closure Report
August 4, 2021



Excavation Viewing West, October 31, 2017



Topsoil Pile Southwest of Excavation Viewing Southwest, October 31, 2017

NOY1709044723 (1RP-4664)
Remediation and Closure Report
August 4, 2021



Uncontaminated Soil Pile Southeast of Excavation Viewing Southeast, October 31, 2017



Contaminated Soil Pile Northeast of Excavation Viewing North, October 31, 2017

NOY1709044723 (1RP-4664)
Remediation and Closure Report
August 4, 2021



East Side of Excavation Viewing North, November 9, 2017



East Side of Excavation Viewing South, November 9, 2017

NOY1709044723 (1RP-4664)
Remediation and Closure Report
August 4, 2021



Excavation Viewing Northwest, November 9, 2017



Excavation Viewing Northeast, November 9, 2017

NOY1709044723 (1RP-4664)
Remediation and Closure Report
August 4, 2021



Excavation Viewing Southeast, November 9, 2017



Excavation Viewing Southwest, March 13, 2018

NOY1709044723 (1RP-4664)
Remediation and Closure Report
August 4, 2021



Drilling Monitoring Well (TMW-1) Viewing Northeast, March 13, 2018



Monitoring Well TMW-1 and Excavation Viewing West, July 9, 2020

NOY1709044723 (1RP-4664)
Remediation and Closure Report
August 4, 2021

North East Elevation

☼ 206°SW (T) ● 33°20'50"N, 103°34'28"W ±19ft ▲ 4231ft



East Side of Excavation Viewing South, July 9, 2020

North Elevation

☼ 200°S (T) ● 33°20'49"N, 103°34'30"W ±19ft ▲ 4230ft



East Side of Excavation Viewing East, July 9, 2020

NOY1709044723 (1RP-4664)
Remediation and Closure Report
August 4, 2021



West Side of Excavation Viewing North, July 9, 2020



East Side of Excavation Viewing South, Jul 10, 2020

NOY1709044723 (1RP-4664)
Remediation and Closure Report
August 4, 2021

North West Elevation

☼ 144°SE (T) ● 33°20'49"N, 103°34'29"W ±78ft ▲ 3898ft



Bottom, West and East Side of Excavation Viewing Southeast, July 10, 2020

West Elevation

☼ 110°E (T) ● 33°20'49"N, 103°34'30"W ±26ft ▲ 4230ft



West and East Side of Excavation Viewing East, July 10, 2020

NOY1709044723 (1RP-4664)
Remediation and Closure Report
August 4, 2021



West Side of Excavation Viewing West, July 31, 2020



West Side North Wall of Excavation Viewing North, July 31, 2020

NOY1709044723 (1RP-4664)
Remediation and Closure Report
August 4, 2021



West Side South Wall of Excavation Viewing South, July 31, 2020



Bottom and West Side of Excavation Viewing West, July 31, 2020

NOY1709044723 (1RP-4664)
Remediation and Closure Report
August 4, 2021



East Side Bottom of Excavation Viewing South, November 18, 2020



East Side and Bottom of Excavation Viewing East, November 20, 2020

NOY1709044723 (1RP-4664)
Remediation and Closure Report
August 4, 2021



West Side and Bottom of Excavation Viewing West, November 20, 2020



East Bottom of Excavation Viewing Southeast, November 20, 2020

NOY1709044723 (1RP-4664)
Remediation and Closure Report
August 4, 2021



Topsoil at Borrow Area North of Site Viewing East, May 25, 2021



Loading Trucks at Borrow Area North of Site Viewing East, May 25, 2021

NOY1709044723 (1RP-4664)
Remediation and Closure Report
August 4, 2021



Backfilling Excavation Viewing East, May 25, 2021



Backfilling Excavation Viewing Southeast, May 25, 2021

NOY1709044723 (1RP-4664)
Remediation and Closure Report
August 4, 2021



Backfilled Excavation Viewing Northwest, May 25, 2021



Backfilling Excavation Viewing West, May 25, 2021

NOY1709044723 (1RP-4664)
Remediation and Closure Report
August 4, 2021



Backfilling Excavation Viewing Southwest, May 25, 2021



Backfilled Excavation Viewing Southwest, May 25, 2021

NOY1709044723 (1RP-4664)
Remediation and Closure Report
August 4, 2021



Backfilled Excavation Viewing Northeast, May 25, 2021



Backfilled Excavation Viewing North, May 25, 2021

NOY1709044723 (1RP-4664)
Remediation and Closure Report
August 4, 2021



Backfilled Excavation Viewing Northwest, May 25, 2021



Backfilled Excavation Viewing Northwest, May 25, 2021

NOY1709044723 (1RP-4664)
Remediation and Closure Report
August 4, 2021



Backfilled Excavation (Caliche) Viewing West, June 25, 2021



Backfilled Excavation (Topsoil) Viewing Northeast, June 25, 2021

NOY1709044723 (1RP-4664)
Remediation and Closure Report
August 4, 2021



Completed Excavation Backfilling Viewing North, June 25, 2021



Completed Excavation Backfilling Viewing South, June 25, 2021

Appendix G
Monitoring Well Logs and Completion Diagrams

BORING RECORD

GEOLOGIC UNIT	DEPTH	Start: 10:25 MST Finish: 10:54 DESCRIPTION LITHOLOGIC	DESCRIPTION USCS	GRAPHIC LOG	Surface Elevation: 4228.40 TOC Elevation: 4231.42			REMARKS
					NUMBER	RECOVERY	DEPTH	
	0	Topsoil, Dark-Brown, Quartz, Fine Grained, 7.5YR 3x2	SC					10:25
	2	Caliche, Well Cemented, 7.5 YR, 8/1, (white), Coarse Grained Quartz Sand						10:30
	5		Caliche					10:36
	10							10:38
	15							10:39
	19	Sandstone, 7.5YR, 8/2, Well Sorted, Pinkish White, Medium to Coarse Grained Quartz Sand	Sand Stone					10:44
	20	Caliche, 7.5YR, 8/3, Pink, Fine Coarse Grained Quartz Sand, Well Cemented	Caliche					10:50
	25							10:52
	28	Sand, 7.5YR, 7/6, Reddish-Yellow, Very Fine Grained Quartz Sand	SW					10:54
	30							
	35							
	40	TD: 39'						

<div style="display: flex; justify-content: space-between;"> <div> <div style="border: 1px solid black; width: 30px; height: 10px; margin-bottom: 5px;"></div> ONE CONTINUOUS AUGER SAMPLER <div style="border: 1px solid black; width: 30px; height: 10px; margin-bottom: 5px;"></div> STANDARD PENETRATION TEST <div style="border: 1px solid black; width: 30px; height: 10px; margin-bottom: 5px;"></div> UNDISTURBED SAMPLE <div style="border: 1px solid black; width: 30px; height: 10px; margin-bottom: 5px;"></div> WATER TABLE (24 HRS) </div> <div> <div style="border: 1px solid black; width: 30px; height: 10px; margin-bottom: 5px;"></div> WATER TABLE (TIME OF BORING) <div style="border: 1px solid black; width: 30px; height: 10px; margin-bottom: 5px;"></div> LABORATORY TEST LOCATION <div style="border: 1px solid black; width: 30px; height: 10px; margin-bottom: 5px;"></div> PENETROMETER (TONS/ SQ. FT) <div style="border: 1px solid black; width: 30px; height: 10px; margin-bottom: 5px;"></div> NO RECOVERY </div> </div>	JOB NUMBER : 16-0120-01 Epperson 2" Pipeline HOLE DIAMETER : 5.5 LOCATION : Lea County, NM LAI GEOLOGIST : M. Larson & A. Thielke DRILLING CONTRACTOR : Scarbrough Drilling DRILLING METHOD : Air Rotary
--	---

	DRILL DATE : 3-13-2018	BORING NUMBER : TMW-1
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BORING RECORD

GEOLOGIC UNIT	DEPTH	Start: 10:15 MST Finish: 10:57 MST DESCRIPTION LITHOLOGIC	DESCRIPTION USCS	GRAPHIC LOG	Surface Elevation: 4226.78 TOC Elevation: 4227.13			REMARKS
					NUMBER	RECOVERY	DEPTH	
	0	Silty Clay, 5YR, 3/2, Topsoil Dark Reddish Brown,	CL					BACKGROUND PID READING SOIL : _____ PPM SOIL : _____ PPM
	5	Caliche, 5YR, 8/1, Well Cemented, Sub-angular Clast Inclusions, White						0.00 ppm
	10	5YR, 7/2, Loosely Cemented, Pinkish Aray						0.00 ppm
	15	White, Well Cemented, 5YR, 8/1	Caliche					0.00 ppm
	20							0.00 ppm
	25							0.00 ppm
	30	Sand, 5YR, 7/4, Very Fine, Quartz	SW					0.00 ppm
	35	Subangular Lithics, 0.5mm - 7mm in Diameter						0.00 ppm
		TD: 36'						

Initial Water Level : 33.5'

<div style="display: flex; justify-content: space-between;"> <div> <div></div> ONE CONTINUOUS AUGER SAMPLER <div></div> STANDARD PENETRATION TEST <div></div> UNDISTURBED SAMPLE <div></div> WATER TABLE (24 HRS) </div> <div> <div></div> WATER TABLE (TIME OF BORING) <div></div> LABORATORY TEST LOCATION <div></div> PENETROMETER (TONS/ SQ. FT) <div></div> NO RECOVERY </div> </div>	<div style="display: flex; justify-content: space-between;"> <div> JOB NUMBER : <u>Targa/ 16-0120-01</u> HOLE DIAMETER : <u>5.5</u> LOCATION : <u>Epperson 16" - Tatum, NM</u> LAI GEOLOGIST : <u>R. Owen</u> DRILLING CONTRACTOR : <u>SDI</u> DRILLING METHOD : <u>Air Rotary</u> </div> <div> DRILL DATE : <u>07-16-2019</u> BORING NUMBER : <u>TMW-2</u> </div> </div>
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BORING RECORD

GEOLOGIC UNIT	DEPTH	Start: 12:06 MST Finish: 12:24 MST DESCRIPTION LITHOLOGIC	DESCRIPTION USCS	GRAPHIC LOG	Surface Elevation: 4226.55 TOC Elevation: 4226.14			REMARKS
					NUMBER	RECOVERY	DEPTH	
	0	Silty Clay, 5YR, 3/2, Topsoil Dark Reddish Brown,	CL					BACKGROUND PID READING SOIL : _____ PPM SOIL : _____ PPM
	5	Caliche, 5YR, 8/1, Well Cemented, Sub-angular Clast Inclusions, White						0.00 ppm
	10	5YR, 7/2, Pinkish Gray						0.00 ppm
	15	5YR, 8/1, White, Well Cemented	Caliche					0.00 ppm
	20							0.00 ppm
	25							0.00 ppm
	30	Sand, 5YR, 7/4, Very Fine, Quartz, Pink	SW					0.00 ppm
	35	Subangular Lithics, Inclusions 0.5mm - 7mm in Diameter						0.00 ppm
		TD: 36'						

Initial Water Level : 33.6'

<div style="display: flex; justify-content: space-between;"> <div> <div></div> ONE CONTINUOUS AUGER SAMPLER <div></div> STANDARD PENETRATION TEST <div></div> UNDISTURBED SAMPLE <div></div> WATER TABLE (24 HRS) </div> <div> <div></div> WATER TABLE (TIME OF BORING) <div></div> LABORATORY TEST LOCATION <div></div> PENETROMETER (TONS/ SQ. FT) <div></div> NR NO RECOVERY </div> </div>	<div style="display: flex; justify-content: space-between;"> <div> JOB NUMBER : <u>Targa/ 16-0120-01</u> HOLE DIAMETER : <u>5.5</u> LOCATION : <u>Epperson 16" - Tatum, NM</u> LAI GEOLOGIST : <u>R. Owen</u> DRILLING CONTRACTOR : <u>SDI</u> DRILLING METHOD : <u>Air Rotary</u> </div> <div> DRILL DATE : <u>07-16-2019</u> BORING NUMBER : <u>TMW-3</u> </div> </div>
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Appendix H
Laboratory Groundwater Analytical Reports

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



Analytical Report

Prepared for:

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Location:

Lab Order Number: 8C15002



NELAP/TCEQ # T104704516-17-8

Report Date: 03/19/18

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TMW-1	8C15002-01	Water	03/14/18 12:35	03-15-2018 08:40
TMW-1	8C15002-02	Water	03/14/18 12:35	03-15-2018 08:40

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

TMW-1
8C15002-01 (Water)

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

General Chemistry Parameters by EPA / Standard Methods

Chloride	66.3	5.00	mg/L	10	P8C1605	03/16/18	03/18/18	EPA 300.0	
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Permian Basin Environmental Lab, L.P.

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

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

TMW-1
8C15002-02 (Water)

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

Organics by GC

Benzene	12.4	0.100	mg/L	100	P8C1505	03/15/18	03/16/18	EPA 8021B
Toluene	9.76	0.100	mg/L	100	P8C1505	03/15/18	03/16/18	EPA 8021B
Ethylbenzene	0.480	0.100	mg/L	100	P8C1505	03/15/18	03/16/18	EPA 8021B
Xylene (p/m)	ND	2.00	mg/L	100	P8C1505	03/15/18	03/16/18	EPA 8021B
Xylene (o)	0.425	0.100	mg/L	100	P8C1505	03/15/18	03/16/18	EPA 8021B
Surrogate: 4-Bromofluorobenzene		101 %	80-120	P8C1505	03/15/18	03/16/18	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		104 %	80-120	P8C1505	03/15/18	03/16/18	EPA 8021B	

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P8C1505 - General Preparation (GC)

Blank (P8C1505-BLK1)

Prepared & Analyzed: 03/15/18

Benzene	ND	0.00100	mg/L							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.0200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 4-Bromofluorobenzene	0.0709		"	0.0600		118	80-120			
Surrogate: 1,4-Difluorobenzene	0.0680		"	0.0600		113	80-120			

LCS (P8C1505-BS1)

Prepared & Analyzed: 03/15/18

Benzene	0.0845	0.00100	mg/L	0.100		84.5	80-120			
Toluene	0.0944	0.00100	"	0.100		94.4	80-120			
Ethylbenzene	0.118	0.00100	"	0.100		118	80-120			
Xylene (p/m)	0.210	0.0200	"				80-120			
Xylene (o)	0.113	0.00100	"				80-120			
Surrogate: 4-Bromofluorobenzene	0.0584		"	0.0600		97.4	80-120			
Surrogate: 1,4-Difluorobenzene	0.0491		"	0.0600		81.9	80-120			

LCS Dup (P8C1505-BSD1)

Prepared & Analyzed: 03/15/18

Benzene	0.0963	0.00100	mg/L	0.100		96.3	80-120	13.1	20	
Toluene	0.108	0.00100	"	0.100		108	80-120	13.1	20	
Ethylbenzene	0.109	0.00100	"	0.100		109	80-120	8.09	20	
Xylene (p/m)	0.208	0.0200	"				80-120		20	
Xylene (o)	0.112	0.00100	"				80-120		20	
Surrogate: 4-Bromofluorobenzene	0.0676		"	0.0600		113	80-120			
Surrogate: 1,4-Difluorobenzene	0.0546		"	0.0600		91.0	80-120			

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P8C1605 - *** DEFAULT PREP ***										
Blank (P8C1605-BLK1)				Prepared: 03/16/18 Analyzed: 03/18/18						
Chloride	ND	0.500	mg/L							
LCS (P8C1605-BS1)				Prepared: 03/16/18 Analyzed: 03/18/18						
Chloride	40.1	0.500	mg/L	40.0		100	85-115			
LCS Dup (P8C1605-BSD1)				Prepared: 03/16/18 Analyzed: 03/18/18						
Chloride	40.3	0.500	mg/L	40.0		101	85-115	0.503	20	
Duplicate (P8C1605-DUP1)				Source: 8C13010-01		Prepared: 03/16/18 Analyzed: 03/18/18				
Chloride	58.4	25.0	mg/L		78.1			28.8	20	
Matrix Spike (P8C1605-MS1)				Source: 8C13010-01		Prepared: 03/16/18 Analyzed: 03/18/18				
Chloride	558	25.0	mg/L	500	78.1	96.0	80-120			

Permian Basin Environmental Lab, L.P.

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

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

Project: Targa Epperson 1
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Notes and Definitions

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

Report Approved By:



Date:

3/19/2018

Brent Barron, Laboratory Director/Technical Director

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

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

Permian Basin Environmental Lab, L.P.

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

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

27

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

Data Reported to:

DATE: 3-15-18 PAGE 1 OF 1
PO #: _____ LAB WORK ORDER #: 801500
PROJECT LOCATION OR NAME: 16-0120-01 Targa Eppas
LAI PROJECT #: 16-0120-01 COLLECTOR: Nelson

Page 8 of 8

Released to Imaging: 3/9/2023 9:39:30 AM

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



Analytical Report

Prepared for:

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

Project: Epperson 16" Pipeline

Project Number: 16-0120-01

Location: None Given

Lab Order Number: 9G24008



NELAP/TCEQ # T104704516-18-9

Report Date: 07/30/19

Larson & Associates, Inc.	Project: Epperson 16" Pipeline	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 16-0120-01	
Midland TX, 79710	Project Manager: Mark Larson	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TMW-3	9G24008-01	Water	07/22/19 14:24	07-24-2019 11:55
TMW-2	9G24008-02	Water	07/22/19 14:44	07-24-2019 11:55

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

TMW-3
9G24008-01 (Water)

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

Organics by GC

Benzene	ND	0.00100	mg/L	1	P9G2602	07/26/19	07/26/19	EPA 8021B
Toluene	ND	0.00100	mg/L	1	P9G2602	07/26/19	07/26/19	EPA 8021B
Ethylbenzene	ND	0.00100	mg/L	1	P9G2602	07/26/19	07/26/19	EPA 8021B
Xylene (p/m)	ND	0.00200	mg/L	1	P9G2602	07/26/19	07/26/19	EPA 8021B
Xylene (o)	ND	0.00100	mg/L	1	P9G2602	07/26/19	07/26/19	EPA 8021B
Surrogate: 4-Bromofluorobenzene		104 %	80-120		P9G2602	07/26/19	07/26/19	EPA 8021B
Surrogate: 1,4-Difluorobenzene		106 %	80-120		P9G2602	07/26/19	07/26/19	EPA 8021B

General Chemistry Parameters by EPA / Standard Methods

Chloride	276	5.00	mg/L	10	P9G2410	07/24/19	07/24/19	EPA 300.0
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Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

TMW-2
9G24008-02 (Water)

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

Organics by GC

Benzene	ND	0.00100	mg/L	1	P9G2602	07/26/19	07/26/19	EPA 8021B	
Toluene	ND	0.00100	mg/L	1	P9G2602	07/26/19	07/26/19	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/L	1	P9G2602	07/26/19	07/26/19	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/L	1	P9G2602	07/26/19	07/26/19	EPA 8021B	
Xylene (o)	ND	0.00100	mg/L	1	P9G2602	07/26/19	07/26/19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		115 %	80-120		P9G2602	07/26/19	07/26/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		98.8 %	80-120		P9G2602	07/26/19	07/26/19	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	47.0	5.00	mg/L	10	P9G2410	07/24/19	07/24/19	EPA 300.0	
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Permian Basin Environmental Lab, L.P.

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

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P9G2602 - General Preparation (GC)

Blank (P9G2602-BLK1)

Prepared & Analyzed: 07/26/19

Benzene	ND	0.00100	mg/L							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 4-Bromofluorobenzene	0.119		"	0.120		99.2	80-120			
Surrogate: 1,4-Difluorobenzene	0.113		"	0.120		94.5	80-120			

LCS (P9G2602-BS1)

Prepared & Analyzed: 07/26/19

Benzene	0.112	0.00100	mg/L	0.100		112	80-120			
Toluene	0.110	0.00100	"	0.100		110	80-120			
Ethylbenzene	0.117	0.00100	"	0.100		117	80-120			
Xylene (p/m)	0.219	0.00200	"	0.200		110	80-120			
Xylene (o)	0.120	0.00100	"	0.100		120	80-120			
Surrogate: 4-Bromofluorobenzene	0.114		"	0.120		95.1	80-120			
Surrogate: 1,4-Difluorobenzene	0.112		"	0.120		93.7	80-120			

LCS Dup (P9G2602-BSD1)

Prepared & Analyzed: 07/26/19

Benzene	0.117	0.00100	mg/L	0.100		117	80-120	4.84	20	
Toluene	0.107	0.00100	"	0.100		107	80-120	2.54	20	
Ethylbenzene	0.113	0.00100	"	0.100		113	80-120	3.25	20	
Xylene (p/m)	0.209	0.00200	"	0.200		105	80-120	4.78	20	
Xylene (o)	0.116	0.00100	"	0.100		116	80-120	3.37	20	
Surrogate: 4-Bromofluorobenzene	0.113		"	0.120		93.9	80-120			
Surrogate: 1,4-Difluorobenzene	0.118		"	0.120		98.0	80-120			

Calibration Blank (P9G2602-CCB1)

Prepared & Analyzed: 07/26/19

Benzene	0.00		mg/L							
Toluene	0.00		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.00		"							
Xylene (o)	0.00		"							
Surrogate: 4-Bromofluorobenzene	0.126		"	0.120		105	80-120			
Surrogate: 1,4-Difluorobenzene	0.111		"	0.120		92.4	80-120			

Permian Basin Environmental Lab, L.P.

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

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P9G2602 - General Preparation (GC)

Calibration Blank (P9G2602-CCB2)

Prepared: 07/26/19 Analyzed: 07/29/19

Benzene	0.00		mg/L							
Toluene	0.00		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.00		"							
Xylene (o)	0.00		"							
Surrogate: 4-Bromofluorobenzene	0.120		"	0.120		99.9	80-120			
Surrogate: 1,4-Difluorobenzene	0.106		"	0.120		88.5	80-120			

Calibration Check (P9G2602-CCV1)

Prepared & Analyzed: 07/26/19

Benzene	0.111	0.00100	mg/L	0.100		111	80-120			
Toluene	0.106	0.00100	"	0.100		106	80-120			
Ethylbenzene	0.105	0.00100	"	0.100		105	80-120			
Xylene (p/m)	0.228	0.00200	"	0.200		114	80-120			
Xylene (o)	0.112	0.00100	"	0.100		112	80-120			
Surrogate: 4-Bromofluorobenzene	0.123		"	0.120		102	80-120			
Surrogate: 1,4-Difluorobenzene	0.140		"	0.120		117	80-120			

Calibration Check (P9G2602-CCV2)

Prepared & Analyzed: 07/26/19

Benzene	0.117	0.00100	mg/L	0.100		117	80-120			
Toluene	0.114	0.00100	"	0.100		114	80-120			
Ethylbenzene	0.113	0.00100	"	0.100		113	80-120			
Xylene (p/m)	0.225	0.00200	"	0.200		113	80-120			
Xylene (o)	0.113	0.00100	"	0.100		113	80-120			
Surrogate: 4-Bromofluorobenzene	0.122		"	0.120		102	80-120			
Surrogate: 1,4-Difluorobenzene	0.120		"	0.120		100	80-120			

Matrix Spike (P9G2602-MS1)

Source: 9G24008-01

Prepared & Analyzed: 07/26/19

Benzene	0.110	0.00100	mg/L	0.100	ND	110	80-120			
Toluene	0.112	0.00100	"	0.100	ND	112	80-120			
Ethylbenzene	0.0990	0.00100	"	0.100	ND	99.0	80-120			
Xylene (p/m)	0.214	0.00200	"	0.200	ND	107	80-120			
Xylene (o)	0.115	0.00100	"	0.100	ND	115	80-120			
Surrogate: 4-Bromofluorobenzene	0.131		"	0.120		109	80-120			
Surrogate: 1,4-Difluorobenzene	0.149		"	0.120		124	80-120			S-GC

Permian Basin Environmental Lab, L.P.

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Midland TX, 79710

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P9G2602 - General Preparation (GC)

Matrix Spike Dup (P9G2602-MSD1)	Source: 9G24008-01			Prepared & Analyzed: 07/26/19						
Benzene	0.109	0.00100	mg/L	0.100	ND	109	80-120	1.20	20	
Toluene	0.108	0.00100	"	0.100	ND	108	80-120	4.24	20	
Ethylbenzene	0.107	0.00100	"	0.100	ND	107	80-120	8.15	20	
Xylene (p/m)	0.228	0.00200	"	0.200	ND	114	80-120	6.69	20	
Xylene (o)	0.117	0.00100	"	0.100	ND	117	80-120	1.96	20	
Surrogate: 4-Bromofluorobenzene	0.128		"	0.120		106	80-120			
Surrogate: 1,4-Difluorobenzene	0.116		"	0.120		96.8	80-120			

Permian Basin Environmental Lab, L.P.

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Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P9G2410 - *** DEFAULT PREP ***										
Blank (P9G2410-BLK1)				Prepared & Analyzed: 07/24/19						
Chloride	ND	0.500	mg/L							
LCS (P9G2410-BS1)				Prepared & Analyzed: 07/24/19						
Chloride	20.5	0.500	mg/L	20.0		103	85-115			
LCS Dup (P9G2410-BSD1)				Prepared & Analyzed: 07/24/19						
Chloride	20.1	0.500	mg/L	20.0		100	85-115	2.23	20	
Calibration Blank (P9G2410-CCB1)				Prepared & Analyzed: 07/24/19						
Chloride	0.00		mg/L							
Calibration Check (P9G2410-CCV1)				Prepared & Analyzed: 07/24/19						
Chloride	9.47		mg/L	10.0		94.7	80-120			
Matrix Spike (P9G2410-MS1)				Source: 9G19020-01		Prepared & Analyzed: 07/24/19				
Chloride	368	12.5	mg/L	250	139	91.5	80-120			
Matrix Spike Dup (P9G2410-MSD1)				Source: 9G19020-01		Prepared & Analyzed: 07/24/19				
Chloride	403	12.5	mg/L	250	139	105	80-120	8.92	20	

Permian Basin Environmental Lab, L.P.

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

Project: Epperson 16" Pipeline
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Notes and Definitions

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

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:



Date:

7/30/2019

Brent Barron, Laboratory Director/Technical Director

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Permian Basin Environmental Lab, L.P.

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

DATE: 7/27/2014 PAGE 1 of 1
PO#: _____ LAB WORK ORDER#: 9524008
PROJECT LOCATION OR NAME: Explosion 16" Pipeline
LAI PROJECT #: 16-0130-01 COLLECTOR: RD/RN

Page 10 of 10

CHAIN-OF-CUSTODY

210 N

Released to Imaging: 3/9/2023 9:39:30 AM

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



Analytical Report

Prepared for:

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

Project: Targa Epperson 16"

Project Number: 16-0120-01

Location:

Lab Order Number: 0B25003



NELAP/TCEQ # T104704516-17-8

Report Date: 03/09/20

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

Project: Targa Epperson 16"
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-2	0B25003-01	Water	02/24/20 10:50	02-25-2020 09:06
MW-3	0B25003-02	Water	02/24/20 10:27	02-25-2020 09:06

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

Project: Targa Epperson 16"
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

MW-2

0B25003-01 (Water)

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

Organics by GC

Benzene	ND	0.00100	mg/L	1	P0B2704	02/27/20	02/27/20	EPA 8021B	
Toluene	ND	0.00100	mg/L	1	P0B2704	02/27/20	02/27/20	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/L	1	P0B2704	02/27/20	02/27/20	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/L	1	P0B2704	02/27/20	02/27/20	EPA 8021B	
Xylene (o)	ND	0.00100	mg/L	1	P0B2704	02/27/20	02/27/20	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		96.8 %		80-120	P0B2704	02/27/20	02/27/20	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		97.9 %		80-120	P0B2704	02/27/20	02/27/20	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	47.7	5.00	mg/L	10	POC0401	03/04/20	03/04/20	EPA 300.0	
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Permian Basin Environmental Lab, L.P.

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Midland TX, 79710

Project: Targa Epperson 16"
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

MW-3

0B25003-02 (Water)

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

Organics by GC

Benzene	ND	0.00100	mg/L	1	P0B2704	02/27/20	02/27/20	EPA 8021B	
Toluene	ND	0.00100	mg/L	1	P0B2704	02/27/20	02/27/20	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/L	1	P0B2704	02/27/20	02/27/20	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/L	1	P0B2704	02/27/20	02/27/20	EPA 8021B	
Xylene (o)	ND	0.00100	mg/L	1	P0B2704	02/27/20	02/27/20	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		98.4 %	80-120		P0B2704	02/27/20	02/27/20	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		97.7 %	80-120		P0B2704	02/27/20	02/27/20	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	265	25.0	mg/L	50	P0C0401	03/04/20	03/04/20	EPA 300.0	
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Permian Basin Environmental Lab, L.P.

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

Project: Targa Epperson 16"
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P0B2704 - General Preparation (GC)

Blank (P0B2704-BLK1)

Prepared & Analyzed: 02/27/20

Benzene	ND	0.00100	mg/L							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 4-Bromofluorobenzene	0.113		"	0.120		94.3	80-120			
Surrogate: 1,4-Difluorobenzene	0.117		"	0.120		97.5	80-120			

LCS (P0B2704-BS1)

Prepared & Analyzed: 02/27/20

Benzene	0.104	0.00100	mg/L	0.100		104	80-120			
Toluene	0.100	0.00100	"	0.100		100	80-120			
Ethylbenzene	0.101	0.00100	"	0.100		101	80-120			
Xylene (p/m)	0.211	0.00200	"	0.200		105	80-120			
Xylene (o)	0.0984	0.00100	"	0.100		98.4	80-120			
Surrogate: 4-Bromofluorobenzene	0.115		"	0.120		95.6	80-120			
Surrogate: 1,4-Difluorobenzene	0.121		"	0.120		101	80-120			

LCS Dup (P0B2704-BSD1)

Prepared & Analyzed: 02/27/20

Benzene	0.101	0.00100	mg/L	0.100		101	80-120	3.28	20	
Toluene	0.0985	0.00100	"	0.100		98.5	80-120	1.61	20	
Ethylbenzene	0.106	0.00100	"	0.100		106	80-120	4.77	20	
Xylene (p/m)	0.206	0.00200	"	0.200		103	80-120	2.28	20	
Xylene (o)	0.0982	0.00100	"	0.100		98.2	80-120	0.275	20	
Surrogate: 4-Bromofluorobenzene	0.117		"	0.120		97.8	80-120			
Surrogate: 1,4-Difluorobenzene	0.120		"	0.120		100	80-120			

Calibration Blank (P0B2704-CCB1)

Prepared & Analyzed: 02/27/20

Benzene	0.00		mg/L							
Toluene	0.00		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.00		"							
Xylene (o)	0.00		"							
Surrogate: 4-Bromofluorobenzene	0.117		"	0.120		97.1	80-120			
Surrogate: 1,4-Difluorobenzene	0.117		"	0.120		97.6	80-120			

Permian Basin Environmental Lab, L.P.

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P.O. Box 50685
Midland TX, 79710

Project: Targa Epperson 16"
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P0B2704 - General Preparation (GC)

Calibration Blank (P0B2704-CCB2)

Prepared & Analyzed: 02/27/20

Benzene	0.00		mg/L							
Toluene	0.00		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.00		"							
Xylene (o)	0.00		"							
Surrogate: 4-Bromofluorobenzene	0.112		"	0.120		93.4	80-120			
Surrogate: 1,4-Difluorobenzene	0.119		"	0.120		98.8	80-120			

Calibration Check (P0B2704-CCV1)

Prepared & Analyzed: 02/27/20

Benzene	0.0992	0.00100	mg/L	0.100		99.2	80-120			
Toluene	0.0955	0.00100	"	0.100		95.5	80-120			
Ethylbenzene	0.0968	0.00100	"	0.100		96.8	80-120			
Xylene (p/m)	0.195	0.00200	"	0.200		97.6	80-120			
Xylene (o)	0.0986	0.00100	"	0.100		98.6	80-120			
Surrogate: 4-Bromofluorobenzene	0.124		"	0.120		103	80-120			
Surrogate: 1,4-Difluorobenzene	0.121		"	0.120		101	80-120			

Calibration Check (P0B2704-CCV2)

Prepared & Analyzed: 02/27/20

Benzene	0.105	0.00100	mg/L	0.100		105	80-120			
Toluene	0.102	0.00100	"	0.100		102	80-120			
Ethylbenzene	0.104	0.00100	"	0.100		104	80-120			
Xylene (p/m)	0.206	0.00200	"	0.200		103	80-120			
Xylene (o)	0.0998	0.00100	"	0.100		99.8	80-120			
Surrogate: 4-Bromofluorobenzene	0.119		"	0.120		98.9	80-120			
Surrogate: 1,4-Difluorobenzene	0.122		"	0.120		102	80-120			

Calibration Check (P0B2704-CCV3)

Prepared & Analyzed: 02/27/20

Benzene	0.106	0.00100	mg/L	0.100		106	80-120			
Toluene	0.0964	0.00100	"	0.100		96.4	80-120			
Ethylbenzene	0.0966	0.00100	"	0.100		96.6	80-120			
Xylene (p/m)	0.189	0.00200	"	0.200		94.7	80-120			
Xylene (o)	0.0980	0.00100	"	0.100		98.0	80-120			
Surrogate: 4-Bromofluorobenzene	0.116		"	0.120		96.9	80-120			
Surrogate: 1,4-Difluorobenzene	0.123		"	0.120		102	80-120			

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Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P0B2704 - General Preparation (GC)

Matrix Spike (P0B2704-MS1)	Source: 0B25003-01			Prepared & Analyzed: 02/27/20						
Benzene	0.113	0.00100	mg/L	0.100	ND	113	80-120			
Toluene	0.106	0.00100	"	0.100	ND	106	80-120			
Ethylbenzene	0.102	0.00100	"	0.100	ND	102	80-120			
Xylene (p/m)	0.213	0.00200	"	0.200	ND	106	80-120			
Xylene (o)	0.105	0.00100	"	0.100	ND	105	80-120			
Surrogate: 4-Bromofluorobenzene	0.118		"	0.120		98.6	80-120			
Surrogate: 1,4-Difluorobenzene	0.125		"	0.120		104	80-120			

Permian Basin Environmental Lab, L.P.

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Midland TX, 79710

Project: Targa Epperson 16"
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P0C0401 - *** DEFAULT PREP ***										
Blank (P0C0401-BLK1)				Prepared & Analyzed: 03/04/20						
Chloride	ND	0.500	mg/L							
LCS (P0C0401-BS1)				Prepared & Analyzed: 03/04/20						
Chloride	37.9	0.500	mg/L	40.0		94.9	85-115			
LCS Dup (P0C0401-BSD1)				Prepared & Analyzed: 03/04/20						
Chloride	38.0	0.500	mg/L	40.0		94.9	85-115	0.0790	20	
Calibration Blank (P0C0401-CCB1)				Prepared & Analyzed: 03/04/20						
Chloride	0.00		mg/L							
Calibration Check (P0C0401-CCV1)				Prepared & Analyzed: 03/04/20						
Chloride	16.4		mg/L	20.0		82.1	80-120			
Matrix Spike (P0C0401-MS1)				Source: 0C04004-02		Prepared & Analyzed: 03/04/20				
Chloride	181	2.50	mg/L	100	84.6	96.8	80-120			
Matrix Spike Dup (P0C0401-MSD1)				Source: 0C04004-02		Prepared & Analyzed: 03/04/20				
Chloride	182	2.50	mg/L	100	84.6	97.1	80-120	0.129	20	

Permian Basin Environmental Lab, L.P.

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

Project: Targa Epperson 16"
Project Number: 16-0120-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Notes and Definitions

ROI Received on Ice
DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference
LCS Laboratory Control Spike
MS Matrix Spike
Dup Duplicate

Report Approved By:



Date:

3/9/2020

Brent Barron, Laboratory Director/Technical Director

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Permian Basin Environmental Lab, L.P.

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

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

CHAIN-OF-CUSTODY

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

DATE: 2/25/2020 PAGE 1 OF 1
PO#: _____ LAB WORK ORDER#: 0825003
PROJECT LOCATION OR NAME: Targa Egersen II
LAI PROJECT #: 16-0120-01 COLLECTOR: PJ/DOS

Page 10 of 10

[illegible]

District I

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Phone:(575) 393-6161 Fax:(575) 393-0720

District II

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District IV

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Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 45304

CONDITIONS

Operator: TARGA MIDSTREAM SERVICES LLC 811 Louisiana Street Houston, TX 77002	OGRID: 24650
	Action Number: 45304
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvelez	OCD approval granted for no further action (ascertained action applicable to soil remediation only) in email submitted on July 13, 2017.	3/9/2023