

Incident ID	nOY1801255310
District RP	
Facility ID	
Application ID	

nAPP2116142694 is a duplicate incident number

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>105</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" 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 checked="" type="checkbox"/> Yes <input 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 type="checkbox"/> Yes <input checked="" 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.

State of New Mexico
Oil Conservation Division

Page 4

Incident ID	nOY1801255310
District RP	
Facility ID	
Application ID	

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

Printed Name: Amy Barnhill Title: Lead Environmental SpecialistSignature:  Date: 3-2-22email: ABarnhill@chevron.comTelephone: 432-687-7108**OCD Only**

Received by: _____ Date: _____

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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: Amy Barnhill Title: Lead Environmental Specialist

Signature:  Date: 3-2-22

email: ABarnhill@chevron.com Telephone: 432-687-7108

OCD Only

Received by: _____ Date: _____

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

Signature:  Date: 03/31/2022

Incident ID	nOY1801255310
District RP	
Facility ID	
Application ID	

Closure


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

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

- ☒ 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: Amy Barnhill Title: Lead Environmental Specialist

Signature:  Date: 3-2-22

email: ABarnhill@chevron.com Telephone: 432-687-7108

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

Tracking Number: nOY1801255310
Closure Report
Northwest Abo Unit Battery (NWAUB)
Crude Oil and Produced Water Release
Lea County, New Mexico

Latitude: N 32.81466°
Longitude: W -103.56470°

LAI Project No. 20-0107-02

February 8, 2022

Prepared for:
Chevron USA Inc.
6301 Deauville Blvd.
Midland, Texas 79706

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



Robert Nelson
Sr. Geoscientist

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Table of Contents

1.0	INTRODUCTION	4
1.1	Background	4
1.2	Physical Setting	5
1.3	Remediation Standards	5
2.0	DELINEATION	5
3.0	REMEDICATION	6
4.0	DEFERRAL REQUEST	7

Tables

Table 1	Delineation Soil Sample Analytical Data Summary
Table 2	Confirmation Soil Sample Analytical Data Summary

Figures

Figure 1	Topographic Map and Groundwater Boring Location
Figure 2	Aerial Map Showing Sample Locations
Figure 3	Aerial Map Showing Excavation Location
Figure 4	Aerial Map Showing Deferral Area

Appendices

Appendix A	Chevron Spill Calculation
Appendix B	BBC Delineation Workplan
Appendix C	Karst Risk Potential
Appendix D	Laboratory Reports
Appendix E	Photographs

Tracking Number: nOY1801255310 – Closure Report
Chevron USA, Inc., NWAUB
February 8, 2022

1.0 INTRODUCTION

Larson & Associates, Inc. (LAI), has prepared this closure report on behalf of Chevron USA Inc. (Chevron) for submittal to the New Mexico Oil Conservation Division (NMOCD) District 1 for a crude oil and produced water release at the Northwest Abo Unit Battery (Site) located in Unit O (SW/4, SE/4), Section 21, Township 17 South, Range 35 East in Lea County, New Mexico. The geodetic position is North 32.81466° and West -103.56470°. Figure 1 presents a topographic map. Figure 2 presents an aerial map.

1.1 Background

The release occurred on December 28, 2017, due to a water pump failure. Approximately 1.52 barrels (bbls) of crude oil were released and approximately 1 bbl was recovered. Approximately 11.06 bbls of produced water were released and 10 bbls were recovered. The affected area measures approximately 4,342 square feet. Appendix A presents the Chevron spill volume calculation and documentation. The initial C-141 was submitted on January 11, 2018 and assigned incident number of nOY1801255310.

Between March 25 and 31, 2018, BBC International, Inc. (BBC) personnel collected soil samples in the spill area and in each cardinal direction outside of the spill for horizontal and vertical delineation. The soil samples were delivered to Cardinal Laboratories in Hobbs, New Mexico and were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) and total petroleum hydrocarbons (TPH), including gasoline range organics (C6-C12), diesel range organics (>C12-C28) and oil range organics (>C28-C35) by EPA SW-846 Methods 8021B and 8015M, respectively, and chloride by Method SM4500CL-B. Benzene and BTEX were reported below analytical method reporting limits (RL) in all samples. TPH was reported above the NMOCD delineation limit of 100 milligrams per kilogram (mg/Kg) in the following samples:

SP1, 1' (1,412 mg/Kg)	SP1, 2' (2,266 mg/Kg)
SP1, 3' (237 mg/Kg)	SP1, 4' (604 mg/Kg)
SP2, 1' (3,077 mg/Kg)	SP2, 2' (403.9 mg/Kg)
SP2, 3' (101.3 mg/Kg)	SP3, 1' (1,340 mg/Kg)
SP3, 2', (590 mg/Kg)	SP4, 1' (3,454 mg/Kg)
SP4, 2' (548 mg/Kg)	SP5, 1' (279.9 mg/Kg)
SP5, 2' (131.8 mg/Kg)	SP6, 1' (3,134 mg/Kg)
SP7, 1' (464.6 mg/Kg)	SP7, 2' (212.6 mg/Kg)
SP7, 5' (540 mg/Kg)	

Chloride was reported above the NMOCD delineation limit of 600 mg/Kg in samples SP-6, 1 foot below ground surface (bgs) (2,080 mg/Kg) and SP-6, 2 feet bgs (656 mg/Kg).

BBC submitted the data to NMOCD on June 20, 2018, in a report titled, "Delineation Workplan", which was denied on July 19, 2018, because of the following:

- TPH will remain in soil at concentrations above the NMOCD remediation limit of 100 mg/Kg
- TPH at sample location SP-7 was not delineated below the OCD delineation limit of 100 mg/Kg.

On July 19, 2018, NMOCD requested Chevron to complete the TPH delineation at SP-7 and submit an appropriate remediation plan for the release. Appendix B presents the BBC Delineation Workplan.

Tracking Number: nOY1801255310 – Closure Report
Chevron USA, Inc., NWAUB
February 8, 2022

1.2 Physical Setting

The physical setting is as follows:

- The surface elevation is approximately 4,073 feet above mean sea level (msl).
- The surface topography gradually decreases to the southeast.
- Surface water is present approximately 928 feet northwest of the Site.
- Karst data provided by the USGS describes the Site as “Low risk” potential.
- The soils are designated as “Kimbrough-Lea complex, dry, 0 to 3 percent slopes”, consisting of 0 to 3 inches of gravelly loam, underlain by 3 to 10 inches of loam, and 10 to 80 inches of cemented material (caliche).
- The geology consists of alluvial and eolian deposits of the Ogallala Formation (Lower Pliocene to middle Miocene).
- According to the New Mexico Office of the State Engineer (NMOSE) website the nearest freshwater well (L-03616-S6) is in Unit N (SE/4, SW/4) in Section 21, Township 17 South, Range 34 East approximately 0.12 miles or 608 feet southwest of the Site with depth to groundwater reported at approximately 105 feet below ground surface (1974).

Appendix C presents the Karst Risk Potential.

1.3 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.

2.0 DELINEATION

On February 10, 2020, LAI personnel used direct push technology (DPT) to collect additional soil samples from SP-7 to complete the TPH delineation. Samples were collected at 6, 10, 15, and 20 feet bgs. The soil samples were delivered under chain of custody (COC) and preservation to Permian Basin Environmental Laboratory (PBEL) in Midland, Texas. The laboratory analyzed the samples for TPH, including gasoline range organics (C6-C12), diesel range organics (>C12-C28) and oil range organics (>C28-C35) by EPA SW-846 Method 8015M. Figure 2 presents an aerial map showing the delineation soil sample location. The laboratory reported TPH below the delineation limit of 100 mg/Kg all samples. Table 1 presents the soil sample analytical data summary. Appendix D presents the laboratory reports.

Tracking Number: nOY1801255310 – Closure Report

Chevron USA, Inc., NWAUB

February 8, 2022

3.0 REMEDIATION

On September 6, 2021, Bullseye Testing, LLC. (Bullseye) under supervision from LAI personnel excavated soil encompassing sample location SP-1 through SP-7 measuring approximately 4,342 square feet. Soil was excavated to a maximum of six (6) feet bgs. Approximately 560 cubic yards of contaminated soil was hauled to the Waste R360 Halfway Facility, located between Hobbs and Carlsbad, New Mexico.

On September 10 and 14 2021, LAI personnel collected twenty-three (23) composite soil samples from the bottom and sidewalls of the excavation. The samples were delivered under COC and preservation to Eurofins-Xenco Laboratories and were analyzed for BTEX, TPH, and chloride by EPA SW-846 Methods 8021B, 8015M, and 300E, respectively. All confirmation soil samples reported benzene and BTEX below the NMOCD closure limits. TPH and chloride reported above the NMOCD closure limits in the following sample:

Sample ID	Location	Depth (Feet)	TPH (mg/Kg)	Chloride (mg/Kg)
C-2	Bottom	4.1	230.2	--
C-3	Bottom	4.1	114	--
C-5	Sidewall	0 – 4.1	239.4	--
C-6	Sidewall	0 – 4.1	665	--
C-7	Sidewall	0 – 4.1	638	--
C-9	Sidewall	0 - 6	1,690	--
C-10	Bottom	3	428	--
C-14	Sidewall	0 - 3	423	--
C-19	Sidewall	0 - 3	252	--
C-22	Sidewall	0 - 4	324	--
C-23	Sidewall	0 - 4	132	609

On September 29, 2021, Bullseye excavated an additional one (1) foot from the bottom encompassing sample location C-10 and an additional one (1) foot encompassing sample locations C-5 through C-7, C-9, C-14, C-19, C-22, and C-23). Three (3) sidewall confirmation soil samples (C-24 through C-26) were collected from an area where excavation was not possible due to presence of underground utility lines and an electrical junction box. An additional one (1) bottom confirmation soil sample was collected where the sidewalls between C-14 and C-19 was extended. Laboratory analysis reported three (3) sidewall confirmation soil samples C-5 and C-7 above the NMOCD closure limits for TPH.

On October 20, 2021, Bullseye excavated an additional one (1) foot from the bottom and sidewalls encompassing sample locations C-2, C-3, C-5, and C-7. Laboratory analysis indicated two (2) sidewall confirmation soil samples (C-7 and C-22) remained above the NMOCD closure criteria for TPH of 100 mg/Kg.

On November 15, 2021, Bullseye excavated an additional one (1) foot from the sidewalls encompassing sample locations C-7 and C-22. Analytical data demonstrated sidewall confirmation soil sample C-7 remained above the NMOCD closure criteria for TPH of 100 mg/Kg.

On December 8, 2021, Bullseye excavated an additional one (1) foot from the sidewall encompassing sample location C-7. Subsequent laboratory analysis reported BTEX, TPH, and chloride below the NMOCD remediation requirements.

Tracking Number: nOY1801255310 – Closure Report

Chevron USA, Inc., NWAUB

February 8, 2022

LAI personnel collected three (3) composite samples of caliche from a nearby borrow pit. Benzene, BTEX, and TPH were below the analytical method reporting limits. Chloride was below the NMOCD limit of 600 mg/Kg. On December 16, 2021, the excavation was backfilled to ground surface with caliche. Appendix E presents the photographic documentation.

4.0 DEFERRAL REQUEST

Chevron requests a deferral for TPH at sidewall sample location C-26 where underground lines and above ground electrical junction box are located until abandonment. Figure 4 presents an aerial map showing the proposed deferral area.

BBC Tables

Laboratory Analytical Results Summary
North Vacuum Abo West Battery

		Sample ID	SP1 @ 1'	SP1 @ 2'	SP1 @ 3'	SP1 @ 4'	SP1 @ 5'
Analyte	Method	Date	5/25/18	5/25/18	5/25/18	5/25/18	5/25/18
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300	<0.300
Chloride	SM4500Cl-B		64	32	16	16	64
GRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		1120	1810	174	451	11.8
EXT DRO	TPH 8015M		292	456	63	153	<10.0

		Sample ID	SP2 @ 1'	SP2 @ 2'	SP2 @ 3'	SP2 @ 4'	SP2 @ 5'
Analyte	Method	Date	5/25/18	5/25/18	5/25/18	5/25/18	5/25/18
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300	<0.300
Chloride	SM4500Cl-B		144	16	48	16	80
GRO	TPH 8015M		<50.0	<10.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		2490	310	69.1	<10.0	16.4
EXT DRO	TPH 8015M		587	93.9	32.2	<10.0	<10.0

		Sample ID	SP3 @ 1'	SP3 @ 2'	SP3 @ 3'	SP3 @ 4'
Analyte	Method	Date	5/29/18	5/29/18	5/29/18	5/29/18
			mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300
Chloride	SM4500Cl-B		32	48	48	64
GRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		1060	473	24.6	16.7
EXT DRO	TPH 8015M		280	117	<10.0	<10.0

		Sample ID	SP4 @ 1'	SP4 @ 2'	SP4 @ 3'	SP4 @ 4'
Analyte	Method	Date	5/29/18	5/29/18	5/29/18	5/29/18
			mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300
Chloride	SM4500Cl-B		144	64	48	48
GRO	TPH 8015M		<50.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		2780	466	<10.0	<10.0
EXT DRO	TPH 8015M		674	82	<10.0	<10.0

		Sample ID	SP5 @ 1'	SP5 @ 2'	SP5 @ 3'
Analyte	Method	Date	5/29/18	5/30/18	5/30/18
			mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300
Chloride	SM4500Cl-B		112	528	480
GRO	TPH 8015M		<10.0	<10.0	<10.0
DRO	TPH 8015M		183	101	21.6
EXT DRO	TPH 8015M		96.9	30.8	<10.0

		Sample ID	SP6 @ 1'	SP6 @ 2'	SP6 @ 3'	SP6 @ 4'
Analyte	Method	Date	5/30/18	5/30/18	5/30/18	5/30/18
			mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300
Chloride	SM4500Cl-B		2080	656	576	160
GRO	TPH 8015M		<50.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		2460	12.1	<10.0	<10.0
EXT DRO	TPH 8015M		674	<10.0	<10.0	<10.0

		Sample ID	SP7 @ 1'	SP7 @ 2'	SP7 @ 3'	SP7 @ 4'	SP7 @ 5'
Analyte	Method	Date	5/31/18	5/31/18	5/31/18	5/31/18	5/31/18
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300	<0.300
Chloride	SM4500Cl-B		32	64	32	64	368
GRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		411	182	<10.0	38.9	421
EXT DRO	TPH 8015M		53.6	30.6	<10.0	<10.0	119

Cardinal		Sample ID	NORTH	EAST	WEST	SOUTH
Analyte	Method	Date	5/31/18	5/31/18	5/31/18	5/31/18
			mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300
Chloride	SM4500Cl-B		32	80	64	48
GRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		14.2	11.8	<10.0	<10.0
EXT DRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0

LAI Tables

Table 1
Soil Sample Analytical Data Summary
NWAUB
Lea County, New Mexico
North 32°48'52.78", West 103°33'52.84"

Page 1 of 1

Sample	Depth (Feet)	Collection Date	Status	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)
Remediation Level:							100
SP-7	6	2/10/2020	In-Situ	<50.0	<50.0	<50.0	<50.0
	10	2/10/2020	In-Situ	<49.9	<49.9	<49.9	<49.9
	15	2/10/2020	In-Situ	<49.9	<49.9	<49.9	<49.9
	20	2/10/2020	In-Situ	<49.9	<49.9	<49.9	<49.9

Notes: Analysis performed by Xenco Laboratories

Depth in feet below ground surface (bgs)

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

<: denotes concentration less than analytical method reporting limit

Bold and Highlighted exceeds OCD remediation action limits

Table 2
Confirmation Soil Sample Analytical Data Summary
Chevron USA, NWAUB
Lea County, New Mexico
North 32°48'52.78", West 103°33'52.84"

Sample ID	Location	Depth (feet)	Collection Date	Status	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C10 (mg/Kg)	C10 - C28 (mg/Kg)	C28 - C36 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
RAL:					10	50	100			600	
C-1	Bottom	4.1	9/10/2021	In-Situ	<0.00200	<0.00400	<49.8	<49.8	<49.8	<49.8	17.3
C-2	Bottom	4.1	9/10/2021	Excavated	<0.00199	<0.00398	<50.0	180.0	50.2	230.2	17.3
		5	10/20/2021	In-Situ	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	109
C-3	Bottom	4.1	9/10/2021	Excavated	<0.00200	<0.00399	<49.9	114	<49.9	114	16.7
		5	10/20/2021	In-Situ	<0.00201	<0.00402	<50.0	50.6	<50.0	50.6	12.4
C-4	Sidewall	0 - 4.1	9/10/2021	In-Situ	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	27.6
C-5	Sidewall	0 - 4.1	9/10/2021	Excavated	<0.00199	<0.00398	<49.8	185	54.4	239.4	42.3
			9/29/2021	Excavated	<0.00199	<0.00200	<49.9	102	<49.9	102	16.4
			10/20/2021	In-Situ	<0.00200	<0.00401	<49.8	<49.8	<49.8	<49.8	9.6
C-6	Sidewall	0 - 4.1	9/10/2021	Excavated	<0.00199	<0.00398	<50.0	489	176	665	19.5
			9/29/2021	In-Situ	<0.00199	<0.00200	<49.9	<49.9	<49.9	<50.0	37.8
C-7	Sidewall	0 - 4.1	9/10/2021	Excavated	<0.00202	<0.00403	<49.9	486	152	638	24.5
			9/29/2021	Excavated	<0.00198	<0.00200	<50.0	234	94.7	329	24.3
			10/20/2021	Excavated	<0.00200	<0.00400	<49.9	106	<49.9	106	133
			11/15/2021	Excavated	<0.00199	<0.00398	<49.9	133	<49.9	133	0.576
			12/8/2021	In-Situ	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	51.7
C-8	Bottom	6	9/14/2021	In-Situ	<0.00199	<0.00398	<49.9	60.1	<49.9	60.1	80.2
C-9	Sidewall	0 - 6	9/14/2021	Excavated	<0.00200	<0.00401	<49.9	1,690	<49.9	1,690	90.2
			9/29/2021	In-Situ	<0.00199	<0.00200	<49.8	<49.8	<49.8	<50.0	224
C-10	Bottom	3	9/14/2021	Excavated	<0.00199	<0.00398	<49.9	428	<49.9	428	27.7
		4.1	9/29/2021	In-Situ	<0.00200	<0.00200	<49.9	88.9	<49.9	88.9	16.0
C-11	Bottom	3	9/14/2021	In-Situ	<0.00201	<0.00402	<50.0	85.7	<50.0	85.7	59.1
C-12	Bottom	3	9/14/2021	In-Situ	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	56.2
C-13	Bottom	3	9/14/2021	In-Situ	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	34.4
C-14	Sidewall	0 - 3	9/14/2021	Excavated	<0.00200	<0.00399	<49.8	423	<49.8	423	60.9
			9/29/2021	Excavated	<0.00202	<0.00200	<49.8	168	64.2	232	621
			10/20/2021	In-Situ	<0.00199	<0.00398	<49.9	71.8	<49.9	71.8	237
C-15	Bottom	3	9/14/2021	In-Situ	<0.00202	<0.00403	<50.0	<50.0	<50.0	<50.0	44.7
C-16	Bottom	3	9/14/2021	In-Situ	<0.00199	<0.00398	<49.9	75.9	<49.9	75.9	80.9
C-17	Bottom	3	9/14/2021	In-Situ	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	113

Table 2
Confirmation Soil Sample Analytical Data Summary
Chevron USA, NWAUB
Lea County, New Mexico
North 32°48'52.78", West 103°33'52.84"

C-18	Bottom	3	9/14/2021	In-Situ	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	36.9
C-19	Sidewall	0 - 3	9/14/2021	Excavated	<0.00200	<0.00401	<49.8	252	<49.8	252	270
			9/29/2021	In-Situ	<0.00201	<0.00200	<49.9	56.0	<49.9	56.0	263
C-20	Bottom	3	9/14/2021	In-Situ	<0.00199	<0.00398	<50.0	51.2	<50.0	51.2	146
C-21	Bottom	4.1	9/14/2021	In-Situ	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	580
C-22	Sidewall	0 - 3	9/14/2021	Excavated	<0.00198	<0.00396	<49.8	324	<49.8	324	337
			10/20/2021	Excavated	<0.00201	<0.00402	<49.9	129	<49.9	129	261
			11/15/2021	In-Situ	<0.00198	<0.00397	<49.8	<49.8	<49.8	<49.8	178
C-23	Sidewall	0 - 4.1	9/14/2021	Excavated	<0.00200	<0.00400	<50.0	132	<50.0	132	609
			9/29/2021	In-Situ	<0.00199	<0.00200	<49.9	65.9	<49.9	65.9	338
C-24	Sidewall	0 - 3	9/29/2021	In-Situ	<0.00200	<0.00200	<49.9	<49.9	<49.9	<50.0	75.6
C-25	Sidewall	0 - 3	9/29/2021	In-Situ	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	439
C-26	Sidewall	0 - 3	9/29/2021	In-Situ	<0.00201	<0.00200	<50.0	92.8	51.6	144	238
Backfill-1	--	--	9/29/2021	In-Situ	<0.00201	<0.00200	<49.8	<49.8	<49.8	<50.0	25.6
Backfill-2	--	--	9/29/2021	In-Situ	<0.00202	<0.00200	<50.0	<50.0	<50.0	<50.0	45.0
Backfill-3	--	--	9/29/2021	In-Situ	<0.00202	<0.00200	<49.9	<49.9	<49.9	<50.0	23.2

Notes: analysis performed by Xenco Laboratories (Xenco), Midland, Texas by EPA SW-846 Methods 8021B (BTEX) and 8015M (TPH), and Method 300 (chloride)

Depth in feet below ground surface (bgs)

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

Bold and Highlighted Denotes Concentrations Above OCD Closure Criteria

Figures

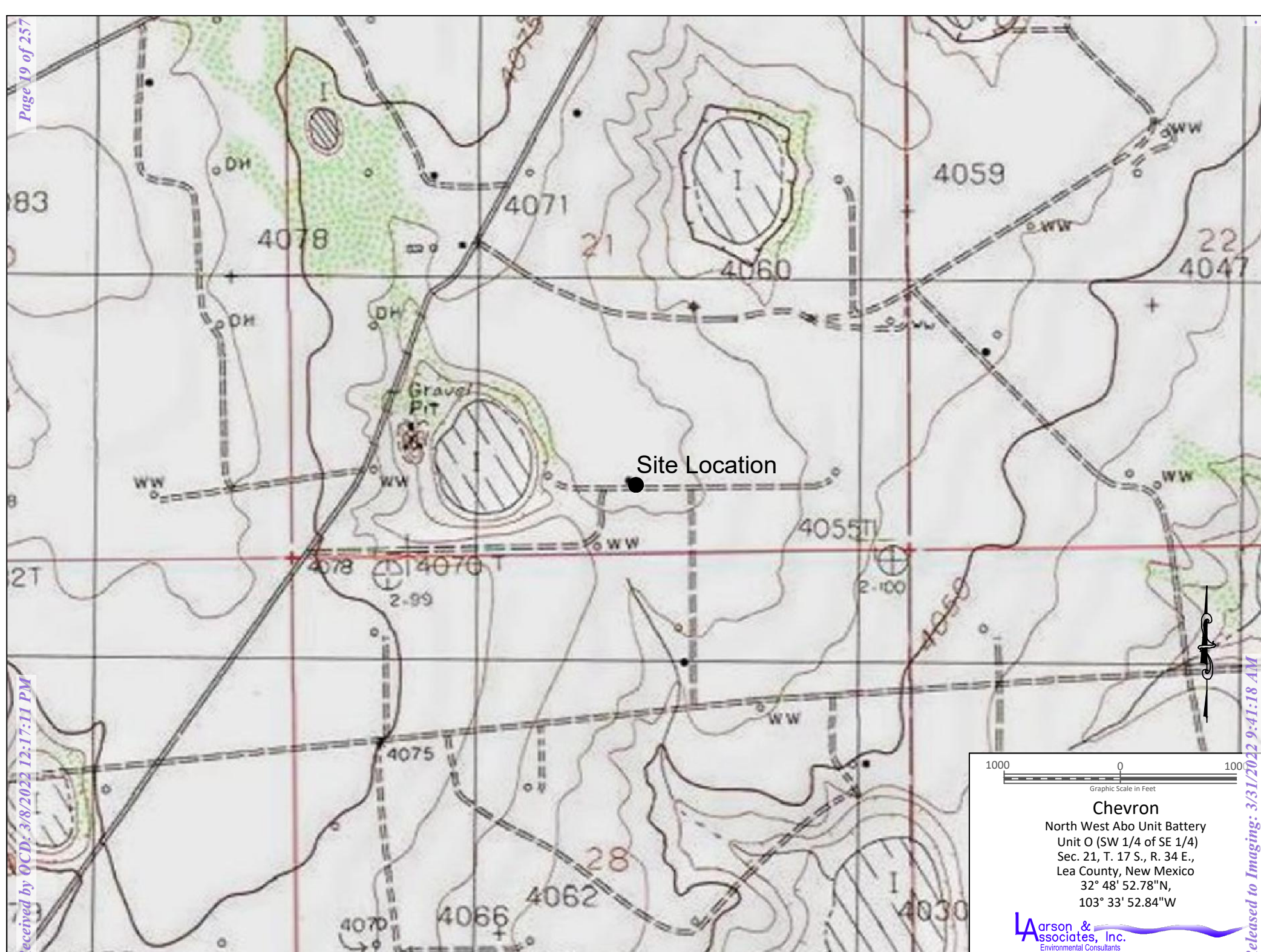
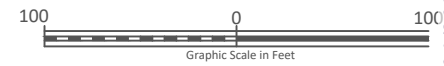


Figure 1 - Topographic Map



Chevron
North West Abo Unit Battery
Unit O (SW 1/4 of SE 1/4)
Sec. 21, T. 17 S., R. 34 E.,
Lea County, New Mexico
32° 48' 52.78"N,
103° 33' 52.84"W

Figure 2 - Aerial Map

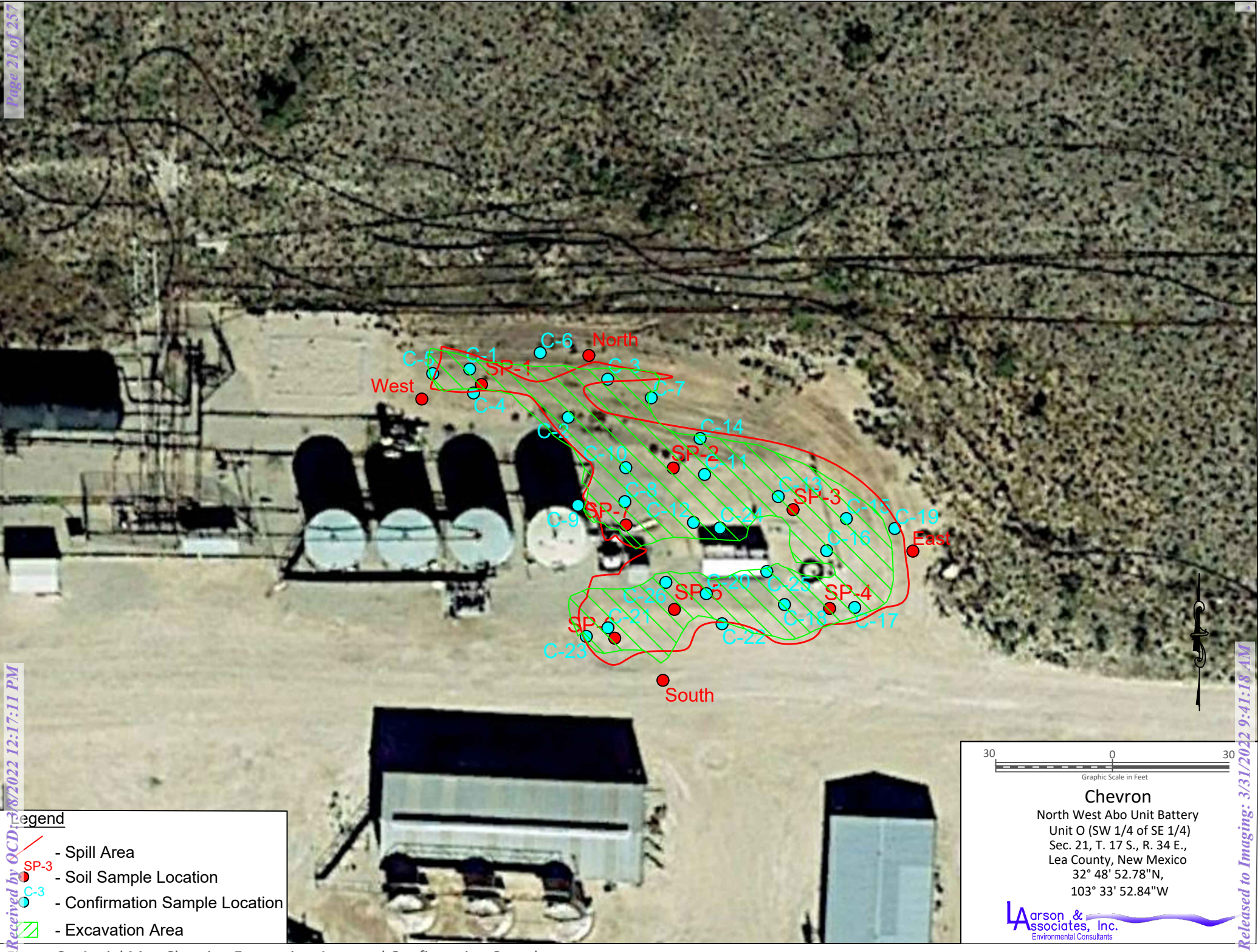
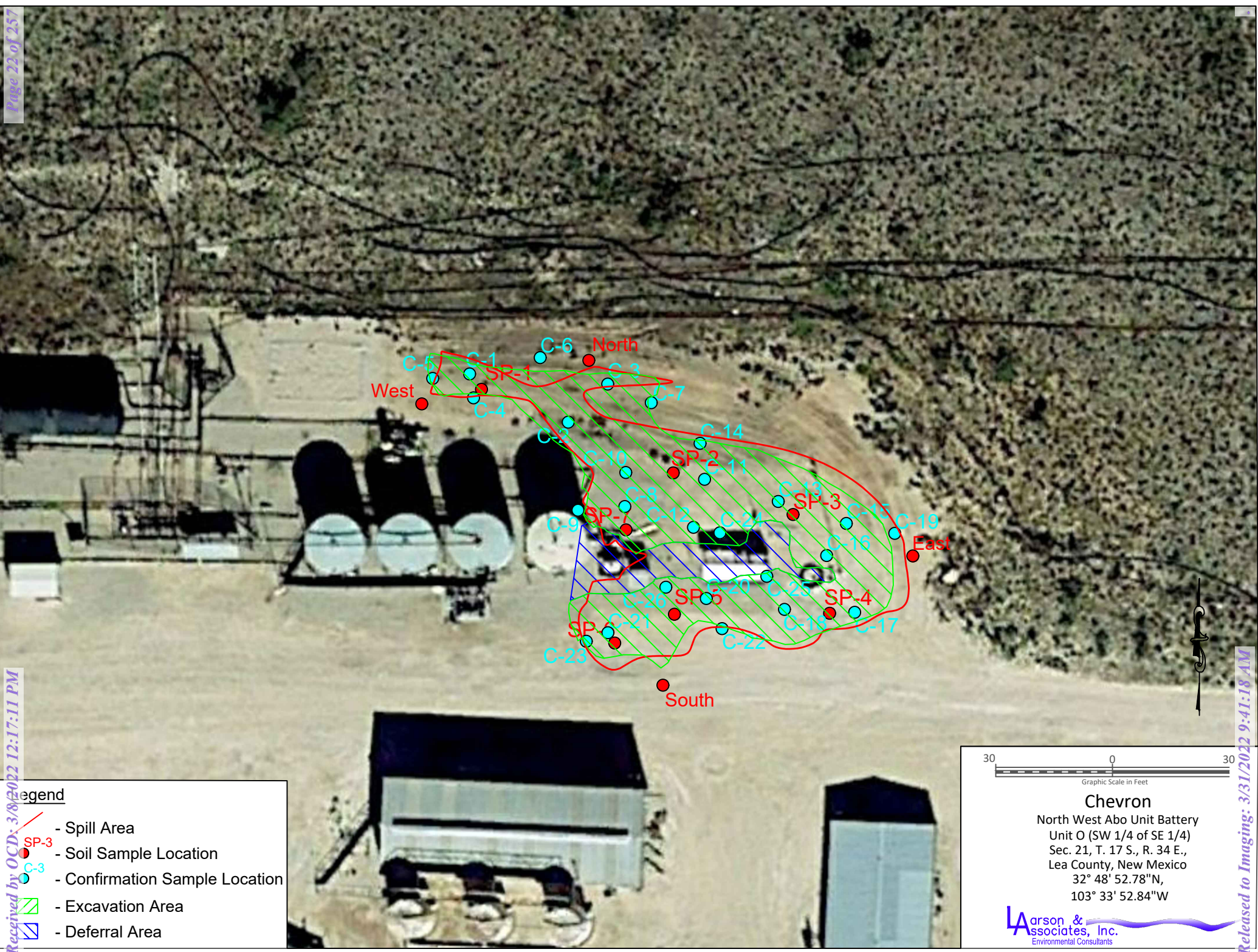


Figure 3 - Aerial Map Showing Excavation Area and Confirmation Samples



Legend

- Spill Area
- Soil Sample Location
- Confirmation Sample Location
- Excavation Area
- Deferral Area

Graphic Scale in Feet

30 0 30

Chevron
North West Abo Unit Battery
Unit O (SW 1/4 of SE 1/4)
Sec. 21, T. 17 S., R. 34 E.,
Lea County, New Mexico
32° 48' 52.78"N,
103° 33' 52.84"W

Larson & Associates, Inc.
Environmental Consultants

Figure 4 - Aerial Map Showing Deferral Area

Appendix A
Chevron Initial C-141

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	Chevron USA Inc.	Contact	Josepha DeLeon
Address	6301 Deauville Blvd., Midland, TX 79706	Telephone No.	wk: 575-263-0424 cell: 432-425-1528
Facility Name	North West Abo Unit Battery	Facility Type:	Battery
Surface Owner	State	Mineral Owner	State of New Mexico
		API No.	See attached

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	21	17S	34E					Lea

Latitude 32.814740 Longitude; -103.564660

NATURE OF RELEASE

Type of Release	Spill	Volume of Release:	1.52 barrels oil; 11.06 barrels produced water	Volume Recovered:	1 barrels oil 10 barrels produced water
Source of Release	Water pump failure	Date and Hour of Occurrence	12/28/2017; 05:12 AM	Date and Hour of Discovery	12/28/2017; 08:00 AM
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Olivia Yu / Maxey Brown - email		
By Whom?	Josepha DeLeon	Date and Hour:	12/28/2017; 10:08 AM		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.*

N/A

RECEIVED

By Olivia Yu at 3:16 pm, Jan 12, 2018



Describe Cause of Problem and Remedial Action Taken.*

Loss of power causing an interruption in instrument air supply, water pump failure and resulting in a release of 1.52 barrels oil and 11.06 barrels produced water to caliche pad. Recovered 1 barrel of oil and 10 barrels produced water.

Describe Area Affected and Cleanup Action Taken.*

Spill within Tank Battery's caliche pad. None of the material went off the pad. Remediation to follow. Shut lease in. Vacuum truck extracted liquid. Manually opened valve to equalize to other tanks.

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:				<u>OIL CONSERVATION DIVISION</u>	
Printed Name:	Josepha DeLeon			Approved by Environmental Specialist: 	
Title:	HES Compliance Support - Environmental			Approval Date:	1/12/2018
E-mail Address:	jdx@chevron.com			Expiration Date:	
Date	01/11/2018			Conditions of Approval:	Attached <input checked="" type="checkbox"/>
Phone:	432-425-1528			see attached directive	

* Attach Additional Sheets If Necessary

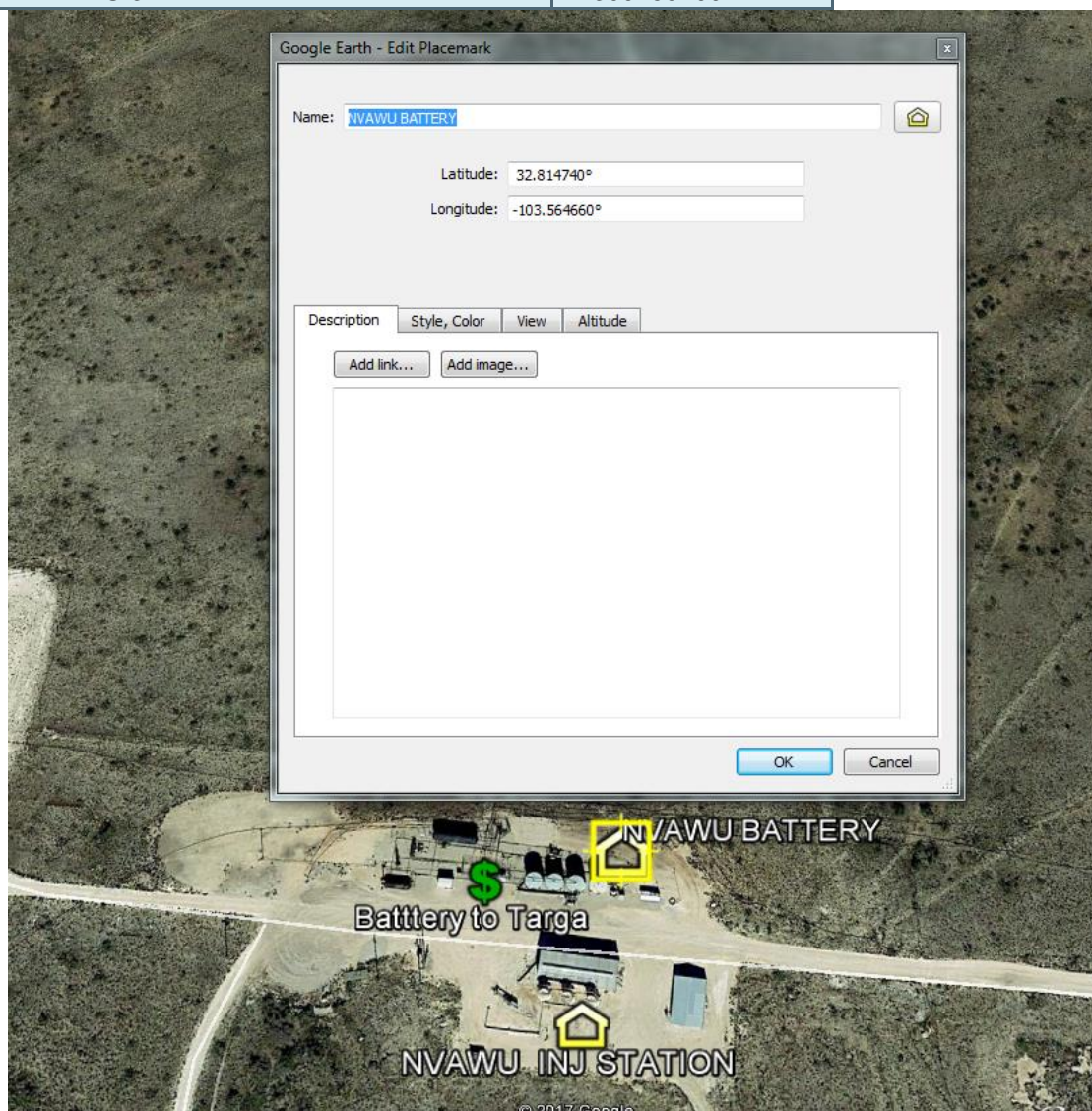
1FOY1801255161

1RP-4930

nOY1801255310

pOY1801255305

NVAWU 01	3002525652
NVAWU 11 2	3002524019
NVAWU 30	3002533987
NVAWU 31	3002533988
NVAWU 06 H	3002524026
NVAWU 08	3002524061
NVAWU 09	3002524064
NVAWU 10H	3002524062
NVAWU 13	3002524046
NVAWU 14	3002523944
NVAWU 19	3002523880
NVAWU 29H	3002534668
NVAWU 20H	3002523915
NVAWU 23	3002524050
NVAWU 24H	3002524087
NVAWU 26	3002533637
NVAWU 27	3002533638
NVAWU 28H	3002533926
NVAWU 32	3002534094



Operator/Responsible Party,

The OCD has received the form C-141 you provided on 1/11/2018 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 1RP-4930 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 2/12/2018. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

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

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; 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
BBC Delineation Workplan



PHONE (575) 397-6388 • FAX (575) 397- 0397 • 1324 W. MARLAND • P.O. BOX 805 • HOBBS, NM 88241-0805
E-MAIL: cbrunson@bbcinternational.com

DELINEATION WORKPLAN

CHEVRON – NORTH WEST ABO UNIT BATTERY

(Leak Date: 12/28/17)

RP # 1RP-4930

This delineation workplan and remediation proposal addresses the release associated with RP # 1RP-4930.

The following information includes:

1. Scaled digital site map with spill area demarcated and leak point identified along with sample point locations and areas of remediation at appropriate depths.
2. GPS information for sample points and sample methodology
3. Depth to groundwater information (i.e., pdf of OSE search results and/or copy of Chevron groundwater trend map).
4. Laboratory analysis results summary table and original laboratory analysis reports
5. A copy of the initial C-141
6. Potentially other pertinent information as necessary for site specific purposes.

Based on the information included in this package and the NMOCD guidelines, the following remediation is proposed:

Chevron will remediate the spill area as depicted on the following site diagram. The leak area near SP1 – SP5 and SP7 (pink shade on diagram) will be excavated to a depth of 6 inches. The leak area near SP6 (green shade on diagram) will be excavated to a depth of 2 feet.

The entire site will then be backfilled with clean soil and revegetated (if warranted) to the standards of the appropriate regulatory agency or private surface owner.

All excavated materials will be disposed of at an NMOCD-approved disposal facility.

Chevron, North West Abo Unit Battery

Leak date: 12/28/2017
Lea County, NM
API# see attached C-141
1RP-4930

Legend

2 ft Excavation

6 in Scrape

Cardinal sample points

Leak Area

Sample points



Chevron, North West Abo Unit Battery

Sample points

SP1, N 32.81484 W-103.56479

SP2, N 32.81478 W-103.56463

SP3, N 32.81475 W-103.56453

SP4, N 32.81468 W-103.56450

SP5, N 32.81468 W-103.56463

SP6, N 32.81466 W-103.56468

SP7, N 32.81474 W-103.56467

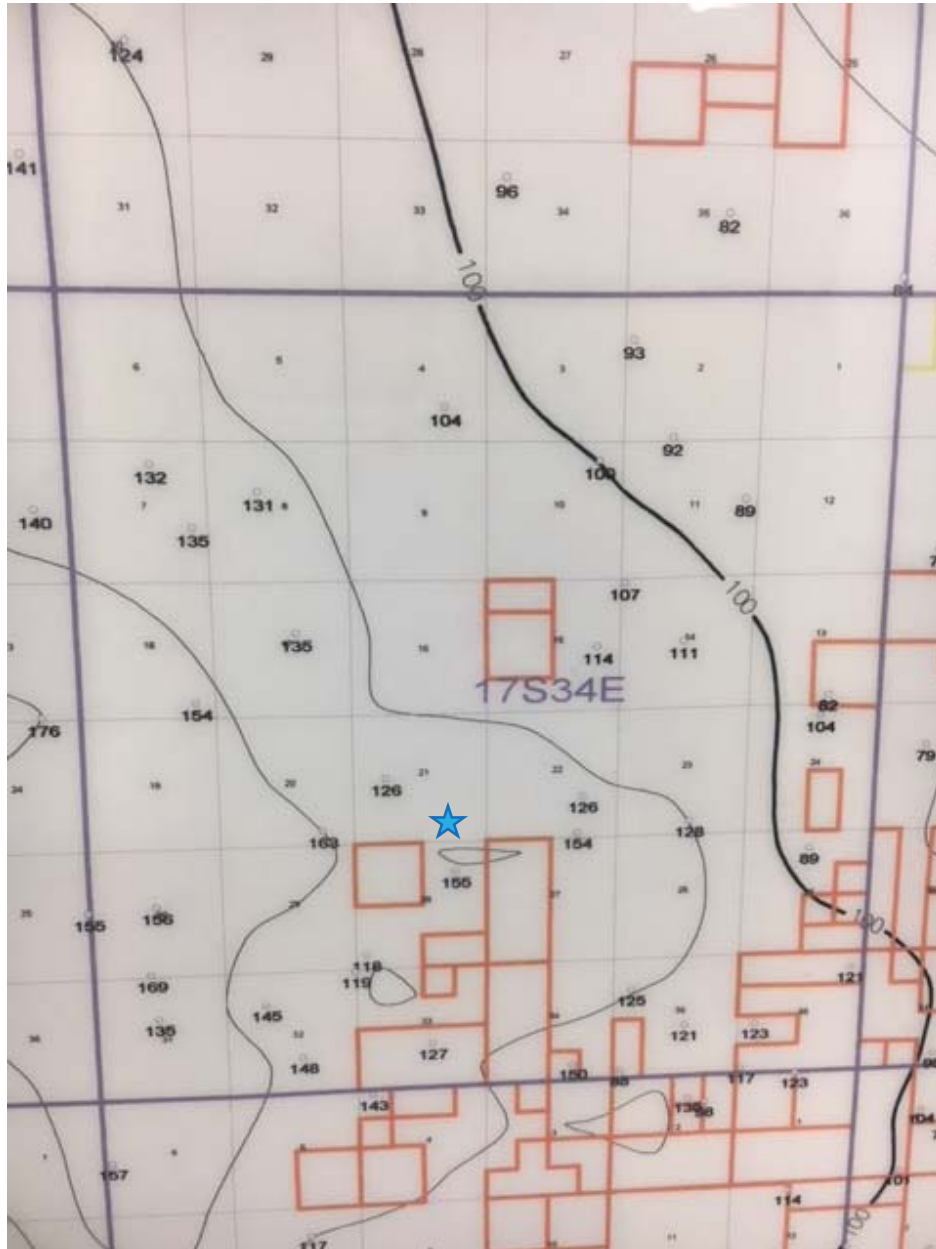
NORTH, N 32.81486 W-103.56470

SOUTH, N 32.81463 W-103.56464

EAST, N 32.81472 W-103.56443

WEST, N 32.81483 W-103.56484

**Chevron N Vacuum Abo W TB
U/L O, Section 21, T17S, R34E
Lea County, NM
Groundwater: 50'-75'**





New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
L 03616 S6	L	LE		4	4	3	21	17S	34E	634177	3631573*	321	232	105	127
L 03398	L	LE		2	2	28	17S	34E	634888	3631285*	568	242	125	117	
L 03616 S3	L	LE		2	2	4	21	17S	34E	634974	3632189*	708	242	121	121
L 06897	L	LE		3	4	2	21	17S	34E	634768	3632392*	767	176	118	58
L 03616 S5	L	LE		4	3	1	22	17S	34E	635370	3632398*	1142	245	138	107
L 02724 S	L	LE		4	4	3	22	17S	34E	635739	3631673	1258	242	110	132
L 02724 POD9	L	LE		4	4	3	22	17S	34E	635785	3631601*	1307	240	170	70
L 04624	L	LE		1	1	21	17S	34E	633659	3632876*	1449	186	170	16	
L 03616 S4	L	LE		4	1	22	17S	34E	635674	3632507*	1451	244	105	139	
L 06760	L	LE		1	1	1	22	17S	34E	635163	3633000*	1485	162	98	64
L 02724 POD10	L	LE		1	4	4	27	17S	34E	635884	3630725	1698	250	164	86

Average Depth to Water: **129 feet**

Minimum Depth: **98 feet**

Maximum Depth: **170 feet**

Record Count: 11

UTMNAD83 Radius Search (in meters):

Easting (X): 634480

Northing (Y): 3631681

Radius: 1700

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

1/17/18 11:27 AM

Page 1 of 1

WATER COLUMN/ AVERAGE
DEPTH TO WATER

Public Land Survey System (PLSS)

☒ Q64: Q16: SW Q4: SE Sec: 21 Tws: 17S Rng: 34E

State Plane Coordinate System - NAD27

☐ X: 0 ft Y: 0 ft Zone:

State Plane Coordinate System - NAD83

☐ X: 0 ft Y: 0 ft Zone:

Degrees/Minutes/Seconds

☐ Longitude (X): Degrees: 0 ° Minutes: 0 ' Seconds: 0 "

Latitude (Y): Degrees: 0 ° Minutes: 0 ' Seconds: 0 "

UTM - NAD27

☐ Easting (X): 0 mtrs Northing (Y): 0 mtrs Zone:

SUBMIT**All Conversion Results are displayed as NAD 1983 UTM Zone 13**

Easting (X): 634480.0 mtrs Northing (Y): 3631681.0 mtrs

~~ Please keep screen open to copy UTM values for Reports. ~~

Laboratory Analytical Results Summary
North Vacuum Abo West Battery

		Sample ID	SP1 @ 1'	SP1 @ 2'	SP1 @ 3'	SP1 @ 4'	SP1 @ 5'
Analyte	Method	Date	5/25/18	5/25/18	5/25/18	5/25/18	5/25/18
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300	<0.300
Chloride	SM4500Cl-B		64	32	16	16	64
GRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		1120	1810	174	451	11.8
EXT DRO	TPH 8015M		292	456	63	153	<10.0

		Sample ID	SP2 @ 1'	SP2 @ 2'	SP2 @ 3'	SP2 @ 4'	SP2 @ 5'
Analyte	Method	Date	5/25/18	5/25/18	5/25/18	5/25/18	5/25/18
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300	<0.300
Chloride	SM4500Cl-B		144	16	48	16	80
GRO	TPH 8015M		<50.0	<10.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		2490	310	69.1	<10.0	16.4
EXT DRO	TPH 8015M		587	93.9	32.2	<10.0	<10.0

		Sample ID	SP3 @ 1'	SP3 @ 2'	SP3 @ 3'	SP3 @ 4'
Analyte	Method	Date	5/29/18	5/29/18	5/29/18	5/29/18
			mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300
Chloride	SM4500Cl-B		32	48	48	64
GRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		1060	473	24.6	16.7
EXT DRO	TPH 8015M		280	117	<10.0	<10.0

		Sample ID	SP4 @ 1'	SP4 @ 2'	SP4 @ 3'	SP4 @ 4'
Analyte	Method	Date	5/29/18	5/29/18	5/29/18	5/29/18
			mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300
Chloride	SM4500Cl-B		144	64	48	48
GRO	TPH 8015M		<50.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		2780	466	<10.0	<10.0
EXT DRO	TPH 8015M		674	82	<10.0	<10.0

		Sample ID	SP5 @ 1'	SP5 @ 2'	SP5 @ 3'
Analyte	Method	Date	5/29/18	5/30/18	5/30/18
			mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300
Chloride	SM4500Cl-B		112	528	480
GRO	TPH 8015M		<10.0	<10.0	<10.0
DRO	TPH 8015M		183	101	21.6
EXT DRO	TPH 8015M		96.9	30.8	<10.0

		Sample ID	SP6 @ 1'	SP6 @ 2'	SP6 @ 3'	SP6 @ 4'
Analyte	Method	Date	5/30/18	5/30/18	5/30/18	5/30/18
			mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300
Chloride	SM4500Cl-B		2080	656	576	160
GRO	TPH 8015M		<50.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		2460	12.1	<10.0	<10.0
EXT DRO	TPH 8015M		674	<10.0	<10.0	<10.0

		Sample ID	SP7 @ 1'	SP7 @ 2'	SP7 @ 3'	SP7 @ 4'	SP7 @ 5'
Analyte	Method	Date	5/31/18	5/31/18	5/31/18	5/31/18	5/31/18
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300	<0.300
Chloride	SM4500Cl-B		32	64	32	64	368
GRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		411	182	<10.0	38.9	421
EXT DRO	TPH 8015M		53.6	30.6	<10.0	<10.0	119

Cardinal		Sample ID	NORTH	EAST	WEST	SOUTH
Analyte	Method	Date	5/31/18	5/31/18	5/31/18	5/31/18
			mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300
Chloride	SM4500Cl-B		32	80	64	48
GRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		14.2	11.8	<10.0	<10.0
EXT DRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

June 11, 2018

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: NORTH VACUUM ABO

Enclosed are the results of analyses for samples received by the laboratory on 06/04/18 15:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

BBC International, Inc.
 Cliff Brunson
 P.O. Box 805
 Hobbs NM, 88241
 Fax To: (575) 397-0397

Received:	06/04/2018	Sampling Date:	05/25/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: 1 @ 1' (H801507-01)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74	
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32	
Total BTEX	<0.300	0.300	06/05/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	06/06/2018	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/04/2018	ND	187	93.3	200	2.57	
DRO >C10-C28*	1120	10.0	06/04/2018	ND	194	97.1	200	3.45	
EXT DRO >C28-C36	292	10.0	06/04/2018	ND					

Surrogate: 1-Chlorooctane 92.2 % 41-142

Surrogate: 1-Chlorooctadecane 156 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

BBC International, Inc.
 Cliff Brunson
 P.O. Box 805
 Hobbs NM, 88241
 Fax To: (575) 397-0397

Received:	06/04/2018	Sampling Date:	05/25/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: 1 @ 2' (H801507-02)

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74		
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11		
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67		
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32		
Total BTX	<0.300	0.300	06/05/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	06/06/2018	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/04/2018	ND	187	93.3	200	2.57	
DRO >C10-C28*	1810	10.0	06/04/2018	ND	194	97.1	200	3.45	
EXT DRO >C28-C36	456	10.0	06/04/2018	ND					

Surrogate: 1-Chlorooctane 91.0 % 41-142

Surrogate: 1-Chlorooctadecane 210 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

BBC International, Inc.
 Cliff Brunson
 P.O. Box 805
 Hobbs NM, 88241
 Fax To: (575) 397-0397

Received:	06/04/2018	Sampling Date:	05/25/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: 1 @ 3' (H801507-03)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74	
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32	
Total BTX	<0.300	0.300	06/05/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	06/06/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/04/2018	ND	187	93.3	200	2.57	
DRO >C10-C28*	174	10.0	06/04/2018	ND	194	97.1	200	3.45	
EXT DRO >C28-C36	63.0	10.0	06/04/2018	ND					

Surrogate: 1-Chlorooctane 95.8 % 41-142

Surrogate: 1-Chlorooctadecane 103 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

BBC International, Inc.
 Cliff Brunson
 P.O. Box 805
 Hobbs NM, 88241
 Fax To: (575) 397-0397

Received:	06/04/2018	Sampling Date:	05/25/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: 1 @ 4' (H801507-04)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74	
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32	
Total BTX	<0.300	0.300	06/05/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	06/06/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/04/2018	ND	187	93.3	200	2.57	
DRO >C10-C28*	451	10.0	06/04/2018	ND	194	97.1	200	3.45	
EXT DRO >C28-C36	153	10.0	06/04/2018	ND					

Surrogate: 1-Chlorooctane 85.3 % 41-142

Surrogate: 1-Chlorooctadecane 109 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

BBC International, Inc.
 Cliff Brunson
 P.O. Box 805
 Hobbs NM, 88241
 Fax To: (575) 397-0397

Received:	06/04/2018	Sampling Date:	05/25/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: 1 @ 5' (H801507-05)

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74		
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11		
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67		
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32		
Total BTX	<0.300	0.300	06/05/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 115 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	06/06/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/04/2018	ND	187	93.3	200	2.57	
DRO >C10-C28*	11.8	10.0	06/04/2018	ND	194	97.1	200	3.45	
EXT DRO >C28-C36	<10.0	10.0	06/04/2018	ND					

Surrogate: 1-Chlorooctane 79.9 % 41-142

Surrogate: 1-Chlorooctadecane 76.7 % 37.6-147

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PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

BBC International, Inc.
 Cliff Brunson
 P.O. Box 805
 Hobbs NM, 88241
 Fax To: (575) 397-0397

Received:	06/04/2018	Sampling Date:	05/25/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: 2 @ 1' (H801507-06)

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74		
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11		
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67		
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32		
Total BTX	<0.300	0.300	06/05/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	06/06/2018	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<50.0	50.0	06/04/2018	ND	187	93.3	200	2.57		
DRO >C10-C28*	2490	50.0	06/04/2018	ND	194	97.1	200	3.45		
EXT DRO >C28-C36	587	50.0	06/04/2018	ND						

Surrogate: 1-Chlorooctane 69.2 % 41-142

Surrogate: 1-Chlorooctadecane 201 % 37.6-147

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Analytical Results For:

BBC International, Inc.
 Cliff Brunson
 P.O. Box 805
 Hobbs NM, 88241
 Fax To: (575) 397-0397

Received:	06/04/2018	Sampling Date:	05/25/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: 2 @ 2' (H801507-07)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74	
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32	
Total BTX	<0.300	0.300	06/05/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	06/06/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/04/2018	ND	187	93.3	200	2.57	
DRO >C10-C28*	310	10.0	06/04/2018	ND	194	97.1	200	3.45	
EXT DRO >C28-C36	93.9	10.0	06/04/2018	ND					

Surrogate: 1-Chlorooctane 93.9 % 41-142

Surrogate: 1-Chlorooctadecane 107 % 37.6-147

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Analytical Results For:

BBC International, Inc.
 Cliff Brunson
 P.O. Box 805
 Hobbs NM, 88241
 Fax To: (575) 397-0397

Received:	06/04/2018	Sampling Date:	05/25/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: 2 @ 3' (H801507-08)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74	
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32	
Total BTX	<0.300	0.300	06/05/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 118 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	06/06/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/04/2018	ND	187	93.3	200	2.57	
DRO >C10-C28*	69.1	10.0	06/04/2018	ND	194	97.1	200	3.45	
EXT DRO >C28-C36	32.2	10.0	06/04/2018	ND					

Surrogate: 1-Chlorooctane 88.5 % 41-142

Surrogate: 1-Chlorooctadecane 88.4 % 37.6-147

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Analytical Results For:

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 Cliff Brunson
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 Hobbs NM, 88241
 Fax To: (575) 397-0397

Received:	06/04/2018	Sampling Date:	05/25/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: 2 @ 4' (H801507-09)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74	
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32	
Total BTX	<0.300	0.300	06/05/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 118 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	06/06/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/04/2018	ND	187	93.3	200	2.57	
DRO >C10-C28*	<10.0	10.0	06/04/2018	ND	194	97.1	200	3.45	
EXT DRO >C28-C36	<10.0	10.0	06/04/2018	ND					

Surrogate: 1-Chlorooctane 86.5 % 41-142

Surrogate: 1-Chlorooctadecane 83.3 % 37.6-147

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Analytical Results For:

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 Cliff Brunson
 P.O. Box 805
 Hobbs NM, 88241
 Fax To: (575) 397-0397

Received:	06/04/2018	Sampling Date:	05/25/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: 2 @ 5' (H801507-10)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74	
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32	
Total BTX	<0.300	0.300	06/05/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	06/06/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/04/2018	ND	187	93.3	200	2.57	
DRO >C10-C28*	16.4	10.0	06/04/2018	ND	194	97.1	200	3.45	
EXT DRO >C28-C36	<10.0	10.0	06/04/2018	ND					

Surrogate: 1-Chlorooctane 87.3 % 41-142

Surrogate: 1-Chlorooctadecane 82.0 % 37.6-147

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Analytical Results For:

BBC International, Inc.
 Cliff Brunson
 P.O. Box 805
 Hobbs NM, 88241
 Fax To: (575) 397-0397

Received:	06/04/2018	Sampling Date:	05/29/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: 3 @ 1' (H801507-11)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74	
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32	
Total BTX	<0.300	0.300	06/05/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/06/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/04/2018	ND	187	93.3	200	2.57	
DRO >C10-C28*	1060	10.0	06/04/2018	ND	194	97.1	200	3.45	
EXT DRO >C28-C36	280	10.0	06/04/2018	ND					

Surrogate: 1-Chlorooctane 89.2 % 41-142

Surrogate: 1-Chlorooctadecane 147 % 37.6-147

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Analytical Results For:

BBC International, Inc.
 Cliff Brunson
 P.O. Box 805
 Hobbs NM, 88241
 Fax To: (575) 397-0397

Received:	06/04/2018	Sampling Date:	05/29/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: 3 @ 2' (H801507-12)

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74		
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11		
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67		
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32		
Total BTX	<0.300	0.300	06/05/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	06/06/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/04/2018	ND	187	93.3	200	2.57	
DRO >C10-C28*	473	10.0	06/04/2018	ND	194	97.1	200	3.45	
EXT DRO >C28-C36	117	10.0	06/04/2018	ND					

Surrogate: 1-Chlorooctane 85.2 % 41-142

Surrogate: 1-Chlorooctadecane 113 % 37.6-147

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Analytical Results For:

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 Fax To: (575) 397-0397

Received:	06/04/2018	Sampling Date:	05/29/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: 3 @ 3' (H801507-13)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74		
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11		
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67		
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32		
Total BTEx	<0.300	0.300	06/05/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	06/06/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/04/2018	ND	187	93.3	200	2.57	
DRO >C10-C28*	24.6	10.0	06/04/2018	ND	194	97.1	200	3.45	
EXT DRO >C28-C36	<10.0	10.0	06/04/2018	ND					

Surrogate: 1-Chlorooctane 83.5 % 41-142

Surrogate: 1-Chlorooctadecane 80.0 % 37.6-147

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Analytical Results For:

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 Hobbs NM, 88241
 Fax To: (575) 397-0397

Received:	06/04/2018	Sampling Date:	05/29/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: 3 @ 4' (H801507-14)

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74		
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11		
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67		
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32		
Total BTX	<0.300	0.300	06/05/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 116 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	06/06/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	16.7	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	<10.0	10.0	06/05/2018	ND					

Surrogate: 1-Chlorooctane 95.5 % 41-142

Surrogate: 1-Chlorooctadecane 92.7 % 37.6-147

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PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

BBC International, Inc.
 Cliff Brunson
 P.O. Box 805
 Hobbs NM, 88241
 Fax To: (575) 397-0397

Received:	06/04/2018	Sampling Date:	05/29/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: 4 @ 1' (H801507-15)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74	
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32	
Total BTX	<0.300	0.300	06/05/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	06/06/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	2780	50.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	674	50.0	06/05/2018	ND					

Surrogate: 1-Chlorooctane 92.0 % 41-142

Surrogate: 1-Chlorooctadecane 246 % 37.6-147

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Analytical Results For:

BBC International, Inc.
 Cliff Brunson
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 Hobbs NM, 88241
 Fax To: (575) 397-0397

Received:	06/04/2018	Sampling Date:	05/29/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: 4 @ 2' (H801507-16)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74	
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32	
Total BTX	<0.300	0.300	06/05/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	06/06/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	466	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	82.0	10.0	06/05/2018	ND					

Surrogate: 1-Chlorooctane 94.8 % 41-142

Surrogate: 1-Chlorooctadecane 120 % 37.6-147

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Analytical Results For:

BBC International, Inc.
 Cliff Brunson
 P.O. Box 805
 Hobbs NM, 88241
 Fax To: (575) 397-0397

Received:	06/04/2018	Sampling Date:	05/29/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: 4 @ 3' (H801507-17)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74	
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32	
Total BTEX	<0.300	0.300	06/05/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 116 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	06/06/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	<10.0	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	<10.0	10.0	06/05/2018	ND					

Surrogate: 1-Chlorooctane 82.9 % 41-142

Surrogate: 1-Chlorooctadecane 79.5 % 37.6-147

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Analytical Results For:

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 Fax To: (575) 397-0397

Received:	06/04/2018	Sampling Date:	05/29/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: 4 @ 4' (H801507-18)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47		
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67		
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98		
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50		
Total BTEx	<0.300	0.300	06/05/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 114 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	06/06/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	<10.0	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	<10.0	10.0	06/05/2018	ND					

Surrogate: 1-Chlorooctane 87.9 % 41-142

Surrogate: 1-Chlorooctadecane 84.6 % 37.6-147

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Analytical Results For:

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Received:	06/04/2018	Sampling Date:	05/29/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: 5 @ 1' (H801507-19)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47	
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50	
Total BTEx	<0.300	0.300	06/05/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	06/06/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	183	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	96.9	10.0	06/05/2018	ND					

Surrogate: 1-Chlorooctane 90.9 % 41-142

Surrogate: 1-Chlorooctadecane 95.0 % 37.6-147

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Analytical Results For:

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 Cliff Brunson
 P.O. Box 805
 Hobbs NM, 88241
 Fax To: (575) 397-0397

Received:	06/04/2018	Sampling Date:	05/30/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: 5 @ 2' (H801507-20)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47		
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67		
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98		
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50		
Total BTEx	<0.300	0.300	06/05/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 110 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	528	16.0	06/06/2018	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	101	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	30.8	10.0	06/05/2018	ND					

Surrogate: 1-Chlorooctane 80.5 % 41-142

Surrogate: 1-Chlorooctadecane 85.1 % 37.6-147

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Analytical Results For:

BBC International, Inc.
 Cliff Brunson
 P.O. Box 805
 Hobbs NM, 88241
 Fax To: (575) 397-0397

Received:	06/04/2018	Sampling Date:	05/30/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: 5 @ 3' (H801507-21)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47		
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67		
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98		
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50		
Total BTEx	<0.300	0.300	06/05/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	480	16.0	06/06/2018	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	21.6	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	<10.0	10.0	06/05/2018	ND					

Surrogate: 1-Chlorooctane 78.9 % 41-142

Surrogate: 1-Chlorooctadecane 78.2 % 37.6-147

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Analytical Results For:

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 Cliff Brunson
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 Fax To: (575) 397-0397

Received:	06/04/2018	Sampling Date:	05/30/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: 6 @ 1' (H801507-22)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47		
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67		
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98		
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50		
Total BTEx	<0.300	0.300	06/05/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2080	16.0	06/06/2018	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	2460	50.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	674	50.0	06/05/2018	ND					

Surrogate: 1-Chlorooctane 92.5 % 41-142

Surrogate: 1-Chlorooctadecane 243 % 37.6-147

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Received:	06/04/2018	Sampling Date:	05/30/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: 6 @ 2' (H801507-23)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47		
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67		
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98		
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50		
Total BTEx	<0.300	0.300	06/05/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 110 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	656	16.0	06/06/2018	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	12.1	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	<10.0	10.0	06/05/2018	ND					

Surrogate: 1-Chlorooctane 88.4 % 41-142

Surrogate: 1-Chlorooctadecane 86.0 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

BBC International, Inc.
 Cliff Brunson
 P.O. Box 805
 Hobbs NM, 88241
 Fax To: (575) 397-0397

Received:	06/04/2018	Sampling Date:	05/30/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: 6 @ 3' (H801507-24)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47		
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67		
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98		
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50		
Total BTEx	<0.300	0.300	06/05/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 110 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	576	16.0	06/06/2018	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	<10.0	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	<10.0	10.0	06/05/2018	ND					

Surrogate: 1-Chlorooctane 86.3 % 41-142

Surrogate: 1-Chlorooctadecane 83.3 % 37.6-147

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Analytical Results For:

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 Fax To: (575) 397-0397

Received:	06/04/2018	Sampling Date:	05/30/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: 6 @ 4' (H801507-25)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47	
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50	
Total BTEx	<0.300	0.300	06/05/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	06/06/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	<10.0	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	<10.0	10.0	06/05/2018	ND					

Surrogate: 1-Chlorooctane 90.6 % 41-142

Surrogate: 1-Chlorooctadecane 87.1 % 37.6-147

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Analytical Results For:

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 Fax To: (575) 397-0397

Received:	06/04/2018	Sampling Date:	05/31/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: 7 @ 1' (H801507-26)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47		
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67		
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98		
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50		
Total BTEx	<0.300	0.300	06/05/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	06/06/2018	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	411	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	53.6	10.0	06/05/2018	ND					

Surrogate: 1-Chlorooctane 90.0 % 41-142

Surrogate: 1-Chlorooctadecane 111 % 37.6-147

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Analytical Results For:

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Received:	06/04/2018	Sampling Date:	05/31/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: 7 @ 2' (H801507-27)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47	
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50	
Total BTX	<0.300	0.300	06/05/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	06/06/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	182	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	30.6	10.0	06/05/2018	ND					

Surrogate: 1-Chlorooctane 95.3 % 41-142

Surrogate: 1-Chlorooctadecane 105 % 37.6-147

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Analytical Results For:

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 Fax To: (575) 397-0397

Received:	06/04/2018	Sampling Date:	05/31/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: 7 @ 3' (H801507-28)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47	
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50	
Total BTX	<0.300	0.300	06/05/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/06/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	<10.0	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	<10.0	10.0	06/05/2018	ND					

Surrogate: 1-Chlorooctane 85.5 % 41-142

Surrogate: 1-Chlorooctadecane 82.2 % 37.6-147

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Analytical Results For:

BBC International, Inc.
 Cliff Brunson
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 Hobbs NM, 88241
 Fax To: (575) 397-0397

Received:	06/04/2018	Sampling Date:	05/31/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: 7 @ 4' (H801507-29)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47		
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67		
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98		
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50		
Total BTEx	<0.300	0.300	06/05/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 110 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	06/06/2018	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	38.9	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	<10.0	10.0	06/05/2018	ND					

Surrogate: 1-Chlorooctane 88.4 % 41-142

Surrogate: 1-Chlorooctadecane 88.6 % 37.6-147

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Analytical Results For:

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 Hobbs NM, 88241
 Fax To: (575) 397-0397

Received:	06/04/2018	Sampling Date:	05/31/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: 7 @ 5' (H801507-30)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47		
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67		
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98		
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50		
Total BTEx	<0.300	0.300	06/05/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	368	16.0	06/06/2018	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	421	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	119	10.0	06/05/2018	ND					

Surrogate: 1-Chlorooctane 71.9 % 41-142

Surrogate: 1-Chlorooctadecane 95.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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 Hobbs NM, 88241
 Fax To: (575) 397-0397

Received:	06/04/2018	Sampling Date:	05/31/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: NORTH (H801507-31)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47		
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67		
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98		
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50		
Total BTEx	<0.300	0.300	06/05/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 109 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	06/06/2018	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	14.2	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	<10.0	10.0	06/05/2018	ND					

Surrogate: 1-Chlorooctane 80.7 % 41-142

Surrogate: 1-Chlorooctadecane 79.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

BBC International, Inc.
 Cliff Brunson
 P.O. Box 805
 Hobbs NM, 88241
 Fax To: (575) 397-0397

Received:	06/04/2018	Sampling Date:	05/31/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: EAST (H801507-32)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47	
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50	
Total BTEx	<0.300	0.300	06/05/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	06/06/2018	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	11.8	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	<10.0	10.0	06/05/2018	ND					

Surrogate: 1-Chlorooctane 78.5 % 41-142

Surrogate: 1-Chlorooctadecane 75.1 % 37.6-147

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Analytical Results For:

BBC International, Inc.
 Cliff Brunson
 P.O. Box 805
 Hobbs NM, 88241
 Fax To: (575) 397-0397

Received:	06/04/2018	Sampling Date:	05/31/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: WEST (H801507-33)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47	
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50	
Total BTEx	<0.300	0.300	06/05/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	06/06/2018	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	<10.0	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	<10.0	10.0	06/05/2018	ND					

Surrogate: 1-Chlorooctane 73.7 % 41-142

Surrogate: 1-Chlorooctadecane 71.2 % 37.6-147

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Analytical Results For:

BBC International, Inc.
 Cliff Brunson
 P.O. Box 805
 Hobbs NM, 88241
 Fax To: (575) 397-0397

Received:	06/04/2018	Sampling Date:	05/31/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

Sample ID: SOUTH (H801507-34)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47	
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50	
Total BTEx	<0.300	0.300	06/05/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	06/06/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	209	105	200	0.669	
DRO >C10-C28*	<10.0	10.0	06/05/2018	ND	226	113	200	0.0120	
EXT DRO >C28-C36	<10.0	10.0	06/05/2018	ND					

Surrogate: 1-Chlorooctane 65.1 % 41-142

Surrogate: 1-Chlorooctadecane 70.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



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(505) 393-2326 FAX (505) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: BBC International, Inc.				BILL TO				ANALYSIS REQUEST																			
Project Manager: Cliff Brunson				P.O. #:																							
Address: P.O. Box 805				Company:																							
City: Hobbs State: NM Zip: 88241				Attn:																							
Phone #: 575-397-6388 Fax #: 575-397-0397				Address:																							
Project #: Project Owner: <i>Cherron</i>				City:																							
Project Name: <i>North Vacuum Abo</i>				State: Zip:																							
Project Location:				Phone #:																							
Sampler Name: <i>Jeff Omelas</i>				Fax #:																							
FOR LAB USE ONLY				MATRIX		PRESERV.		SAMPLING																			
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME													
<i>H801507</i>																											
<i>1 101</i>		<i>6</i>	<i>1</i>										<i>5/25/18</i>	<i>1015</i>	<i>TPA EXT</i>	<i>BTEX</i>	<i>CL</i>										
<i>2 102</i>		<i>6</i>	<i>1</i>										<i>5/25/18</i>	<i>1038</i>													
<i>3 103</i>		<i>6</i>	<i>1</i>										<i>5/25/18</i>	<i>1050</i>													
<i>4 104</i>		<i>6</i>	<i>1</i>										<i>5/25/18</i>	<i>1111</i>													
<i>5 105</i>		<i>6</i>	<i>1</i>										<i>5/25/18</i>	<i>1145</i>													
<i>6 201</i>		<i>6</i>	<i>1</i>										<i>5/25/18</i>	<i>1212</i>													
<i>7 202</i>		<i>6</i>	<i>1</i>										<i>5/25/18</i>	<i>1250</i>													
<i>8 203</i>		<i>6</i>	<i>1</i>										<i>5/25/18</i>	<i>139</i>													
<i>9 204</i>		<i>6</i>	<i>1</i>										<i>5/25/18</i>	<i>211</i>													
<i>10 205</i>		<i>6</i>	<i>1</i>										<i>5/25/18</i>	<i>249</i>													

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Relinquished By:	Date: <i>6/1/18</i>	Received By:	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:
<i>Jeff Omelas</i>	Time: <i>4:00</i>	<i>Samara Roldan</i>	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Fax #:
Relinquished By:	Date: <i>6-4-18</i>	Received By:	REMARKS:
<i>Jeff Omelas</i>	Time: <i>3:10</i>		
Delivered By: (Circle One)	Sample Condition	CHECKED BY:	
Sampler - UPS - Bus - Other: <i>-3.1c</i>	Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No	(Initials) <i>TD-#75</i>	
<i>Corrected -3.15c</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No		<i>Has some head space</i>

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: BBC International, Inc.				BILL TO				ANALYSIS REQUEST																		
Project Manager: Cliff Brunson				P.O. #:																						
Address: P.O. Box 805				Company:																						
City: Hobbs State: NM Zip: 88241				Attn:																						
Phone #: 575-397-6388 Fax #: 575-397-0397				Address:																						
Project #: Project Owner: <i>Chevron</i>				City:																						
Project Name: <i>North Vacuum Abo</i>				State: Zip:																						
Project Location:				Phone #:																						
Sampler Name: <i>Jeff Omelas</i>				Fax #:																						
FOR LAB USE ONLY						MATRIX		PRESERV.		SAMPLING																
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME												
<i>H801507</i>																										
<i>11 3 @ 1'</i>		<i>6</i>	<i>1</i>										<i>5/29/18</i>	<i>930</i>	<i>TPH</i>	<i>EXT</i>										
<i>12 3 @ 2'</i>		<i>6</i>	<i>1</i>										<i>5/29/18</i>	<i>952</i>	<i>BTEX</i>	<i>CL-</i>										
<i>13 3 @ 3'</i>		<i>6</i>	<i>1</i>										<i>5/29/18</i>	<i>1030</i>												
<i>14 3 @ 4'</i>		<i>6</i>	<i>1</i>										<i>5/29/18</i>	<i>1050</i>												
<i>15 4 @ 1'</i>		<i>6</i>	<i>1</i>										<i>5/29/18</i>	<i>1130</i>												
<i>16 4 @ 2'</i>		<i>6</i>	<i>1</i>										<i>5/29/18</i>	<i>1149</i>												
<i>17 4 @ 3'</i>		<i>6</i>	<i>1</i>										<i>5/29/18</i>	<i>1248</i>												
<i>18 4 @ 4'</i>		<i>6</i>	<i>1</i>										<i>5/29/18</i>	<i>122</i>												
<i>19 5 @ 1'</i>		<i>6</i>	<i>1</i>										<i>5/29/18</i>	<i>215</i>												
<i>20 5 @ 2'</i>		<i>6</i>	<i>1</i>										<i>5/30/18</i>	<i>833</i>												

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Relinquished By:	Date: <i>6/1/18</i>	Received By:	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
<i>Jeff Omelas</i>	Time: <i>4:00</i>		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Relinquished By:	Date: <i>6-4-18</i>	Received By:	REMARKS:	
	Time: <i>3:10</i>	<i>Jamara Olatunji</i>		
Delivered By: (Circle One) <i>-3.1c</i>	Sample Condition	CHECKED BY:		
Sampler - UPS - Bus - Other: <i>Corrected -3.1c</i>	Cool <input type="checkbox"/> Yes <input type="checkbox"/> No Intact <input type="checkbox"/> Yes <input type="checkbox"/> No	(Initials) <i>10-#15</i>	<i>Has some head space</i>	

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: BBC International, Inc.				BILL TO				ANALYSIS REQUEST																													
Project Manager: Cliff Brunson				P.O. #:																																	
Address: P.O. Box 805				Company:																																	
City: Hobbs		State: NM		Zip: 88241		Attn:																															
Phone #: 575-397-6388		Fax #: 575-397-0397		Address:		City:																															
Project #:		Project Owner: Cherron		State:		Zip:																															
Project Name: North Vacuum H2O				Phone #:																																	
Project Location: Jeff Ornelas				Fax #:																																	
Sampler Name: Jeff Ornelas																																					
FOR LAB USE ONLY																																					
Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP.		# CONTAINERS		MATRIX		PRESERV.		SAMPLING																									
				GROUNDWATER		WASTEWATER		SOIL		OIL		SLUDGE		OTHER :		ACID/BASE:		ICE / COOL		OTHER :		DATE		TIME													
H801507				G		1																5/30/18		922		TBA EXT											
21 5 @ 3'				G		1																5/30/18		938		BTX											
22 6 @ 1'				G		1																5/30/18		959		CL											
23 6 @ 2'				G		1																5/30/18		1144													
24 6 @ 3'				G		1																5/30/18		111													
25 6 @ 4'				G		1																5/31/18		850													
26 7 @ 1'				G		1																5/31/18		940													
27 7 @ 2'				G		1																5/31/18		1059													
28 7 @ 3'				G		1																5/31/18		1148													
29 7 @ 4'				G		1																5/31/18		111													
30 7 @ 5'				G		1																															

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Relinquished By:		Date: 6/1/18		Received By:		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:	
Jeff Ornelas		Time: 4:00				Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Fax #:	
Relinquished By:		Date: 6-4-18		Received By:		REMARKS:			
		Time: 3:10		Jenvera Odeh					
Delivered By: (Circle One)		-3.1c		Sample Condition					
Sampler - UPS - Bus - Other:		Corrected -3.15c		Cool Intact		CHECKED BY:		T.O. #15	
				<input type="checkbox"/> Yes <input type="checkbox"/> No		(Initials)		Has some head space	

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Appendix C
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

✓

Karst or No Karst

✓

High

✓

Low

✓

Medium

✓

✓

Bing Satellite



Appendix D
Laboratory Reports



Certificate of Analysis Summary 651946

Larson and Associates, Inc., Midland, TX

Project Name: Chevron NWAUB



Project Id:

Contact: Mark Larson

Project Location:

Date Received in Lab: Tue Feb-11-20 10:44 am

Report Date: 13-FEB-20

Project Manager: Holly Taylor

<i>Analysis Requested</i>	<i>Lab Id:</i>	651946-001		651946-002		651946-003		651946-004			
	<i>Field Id:</i>	SP-7 (6')		SP-7 (10')		SP-7 (15')		SP-7 (20')			
	<i>Depth:</i>	6- ft		10- ft		15- ft		20- ft			
	<i>Matrix:</i>	SOIL		SOIL		SOIL		SOIL			
	<i>Sampled:</i>	Feb-10-20 12:31		Feb-10-20 12:32		Feb-10-20 12:36		Feb-10-20 12:41			
TPH by SW8015 Mod	<i>Extracted:</i>	Feb-11-20 14:00		Feb-11-20 14:00		Feb-11-20 14:00		Feb-11-20 14:00			
	<i>Analyzed:</i>	Feb-12-20 00:42		Feb-12-20 01:03		Feb-12-20 01:24		Feb-12-20 01:46			
	<i>Units/RL:</i>	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<49.9	49.9	<49.9	49.9	<49.9	49.9		
Diesel Range Organics (DRO)		<50.0	50.0	<49.9	49.9	<49.9	49.9	<49.9	49.9		
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.9	49.9	<49.9	49.9	<49.9	49.9		
Total TPH		<50.0	50.0	<49.9	49.9	<49.9	49.9	<49.9	49.9		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.
XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented.
Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Holly Taylor
Project Manager

Analytical Report 651946

for
Larson and Associates, Inc.

Project Manager: Mark Larson

Chevron NWAUB

13-FEB-20

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)

Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)

Xenco-Carlsbad (LELAP): Louisiana (05092)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Tampa: Florida (E87429), North Carolina (483)



13-FEB-20

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

Reference: XENCO Report No(s): **651946**
Chevron NWAUB
Project Address:

Mark Larson :

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 651946. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 651946 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

A handwritten signature in black ink that reads 'Holly Taylor'.

Holly Taylor
Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

**Sample Cross Reference 651946****Larson and Associates, Inc., Midland, TX**

Chevron NWAUB

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP-7 (6')	S	02-10-20 12:31	6 ft	651946-001
SP-7 (10')	S	02-10-20 12:32	10 ft	651946-002
SP-7 (15')	S	02-10-20 12:36	15 ft	651946-003
SP-7 (20')	S	02-10-20 12:41	20 ft	651946-004



CASE NARRATIVE

Client Name: *Larson and Associates, Inc.*

Project Name: *Chevron NWAUB*

Project ID:

Work Order Number(s): 651946

Report Date: 13-FEB-20

Date Received: 02/11/2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3116240 TPH by SW8015 Mod

Motor Oil Range Hydrocarbons (MRO) recovered below QC limits in the Blank Spike and Duplicate indicating bias low results. Samples in the analytical batch are: 651946-001, -002, -003, -004.



Certificate of Analytical Results 651946



Larson and Associates, Inc., Midland, TX

Chevron NWAUB

Sample Id: **SP-7 (6')**
Lab Sample Id: 651946-001

Matrix: Soil
Date Collected: 02.10.20 12.31

Date Received: 02.11.20 10.44
Sample Depth: 6 ft

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 02.11.20 14.00

Basis: Wet Weight

Seq Number: 3116240

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.12.20 00.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.12.20 00.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.12.20 00.42	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.12.20 00.42	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	88	%	70-135	02.12.20 00.42		
o-Terphenyl	84-15-1	88	%	70-135	02.12.20 00.42		



Certificate of Analytical Results 651946



Larson and Associates, Inc., Midland, TX Chevron NWAUB

Sample Id: **SP-7 (10')**

Matrix: Soil

Date Received: 02.11.20 10.44

Lab Sample Id: 651946-002

Date Collected: 02.10.20 12.32

Sample Depth: 10 ft

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 02.11.20 14.00

Basis: Wet Weight

Seq Number: 3116240

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.12.20 01.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.12.20 01.03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.12.20 01.03	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.12.20 01.03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	86	%	70-135	02.12.20 01.03		
o-Terphenyl	84-15-1	87	%	70-135	02.12.20 01.03		



Certificate of Analytical Results 651946

Larson and Associates, Inc., Midland, TX Chevron NWAUB

Sample Id: **SP-7 (15')**

Matrix: Soil

Date Received: 02.11.20 10.44

Lab Sample Id: 651946-003

Date Collected: 02.10.20 12.36

Sample Depth: 15 ft

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 02.11.20 14.00

Basis: Wet Weight

Seq Number: 3116240

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.12.20 01.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.12.20 01.24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.12.20 01.24	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.12.20 01.24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	86	%	70-135	02.12.20 01.24		
o-Terphenyl	84-15-1	86	%	70-135	02.12.20 01.24		



Certificate of Analytical Results 651946

Larson and Associates, Inc., Midland, TX Chevron NWAUB

Sample Id: **SP-7 (20')**

Matrix: Soil

Date Received: 02.11.20 10.44

Lab Sample Id: 651946-004

Date Collected: 02.10.20 12.41

Sample Depth: 20 ft

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 02.11.20 14.00

Basis: Wet Weight

Seq Number: 3116240

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.12.20 01.46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.12.20 01.46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.12.20 01.46	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.12.20 01.46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	82	%	70-135	02.12.20 01.46		
o-Terphenyl	84-15-1	82	%	70-135	02.12.20 01.46		



Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



Larson and Associates, Inc.
Chevron NWAUB

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116240

MB Sample Id: 7696418-1-BLK

Matrix: Solid

LCS Sample Id: 7696418-1-BKS

Prep Method: SW8015P

Date Prep: 02.11.20

LCSD Sample Id: 7696418-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	901	90	896	90	70-135	1	20	mg/kg	02.11.20 17:56	
Diesel Range Organics (DRO)	<15.0	1000	974	97	948	95	70-135	3	20	mg/kg	02.11.20 17:56	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	88		102		102		70-135	%	02.11.20 17:56
o-Terphenyl	86		101		97		70-135	%	02.11.20 17:56

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116240

Matrix: Solid

Prep Method: SW8015P

Date Prep: 02.11.20

MB Sample Id: 7696418-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.11.20 17:34	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116240

Matrix: Soil

Prep Method: SW8015P

Date Prep: 02.11.20

Parent Sample Id: 651910-001

MS Sample Id: 651910-001 S

MSD Sample Id: 651910-001 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)	<15.0	997	920	92	907	91	70-135	1	20	mg/kg	02.11.20 19:00	
Diesel Range Organics (DRO)	<15.0	997	985	99	978	98	70-135	1	20	mg/kg	02.11.20 19:00	
Motor Oil Range Hydrocarbons (MRO)	<15.0	997	<49.9	0	<49.9	0	70-135	NC	20	mg/kg	02.11.20 19:00	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	97		94		70-135	%	02.11.20 19:00
o-Terphenyl	91		92		70-135	%	02.11.20 19:00

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

Marion & Associates, Inc.
Environmental Consultants

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

Data Reported to:

DATE: 2/11/2020 PAGE 1 OF 1
PO#: LAB WORK ORDER#
PROJECT LOCATION OR NAME: CHEMUN NWTAUB
LAI PROJECT #: COLLECTOR: DS/EC

TRRP report?
☐ Yes ☒ No

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

TIME ZONE:
Time zone/State:

WEST

Field
Sample I.D.

Lab #

Date

Time

Matrix

of Containers

HCl

HNO₃

H₂SO₄ ☐ NaOH ☐

ICE

UNPRESSERVED

ANALYSES

BTEX ☐ MTBE ☐
TRPH 418.1 ☐ TPH 1005 ☒ TPH 1006 ☒
GASOLINE MOD 8015 ☒
DIESEL - MOD 8015 ☒
OIL - MOD 8015 ☒
VOC 8260 ☒
SVOC 8270 ☒
8081 PESTICIDES ☐ PAH 8270 ☐ HOLDPAH ☐
8082 PESTICIDES ☐ 8151 HERBICIDES ☐
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 ☐ PENTACHLORATE ☐
CHLORIDE ☐ ANIONS ☐ ALKALINITY ☐

FIELD NOTES

SR-7 (10')
SP-7 (10')
SP-7 (15')
SP-7 (20')

2/10/2020 2:31
2:32
2:34
2:41

S

1

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

TOTAL

4

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

TURN AROUND TIME

LABORATORY USE ONLY:

RECEIVING TEMP:

THERM#:

CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED

CARRIER BILL #

HAND DELIVERED

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

TURN AROUND TIME

LABORATORY USE ONLY:

RECEIVING TEMP:

THERM#:

CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED

CARRIER BILL #

HAND DELIVERED

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

TURN AROUND TIME

LABORATORY USE ONLY:

RECEIVING TEMP:

THERM#:

CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED

CARRIER BILL #

HAND DELIVERED

LABORATORY:

YENCO

DATE/TIME

RECEIVED BY: (Signature)

TURN AROUND TIME

LABORATORY USE ONLY:

RECEIVING TEMP:

THERM#:

CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED

CARRIER BILL #

HAND DELIVERED

651946

Nº 0976

CHAIN-OF-CUSTODY

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Larson and Associates, Inc.

Date/ Time Received: 02.11.2020 10.44.00 AM

Work Order #: 651946

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist

Comments

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

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

Analyst:

PH Device/Lot#: r8

Checklist completed by:



Allison Johnson

Date: 02.11.2020

Checklist reviewed by:



Jessica Kramer

Date: 02.12.2020



Environment Testing America

ANALYTICAL REPORT

Eurofins Xenco, Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-6057-1

Laboratory Sample Delivery Group: 20-0107-02

Client Project/Site: NWAUO

For:

Larson & Associates, Inc.
507 N Marienfeld
Suite 202
Midland, Texas 79701

Attn: Mr. Mark J Larson

A handwritten signature in cursive script that reads "Holly Taylor".

Authorized for release by:
9/16/2021 9:05:05 AM

Holly Taylor, Project Manager
(806)794-1296
holly.taylor@eurofinset.com

LINKS

Review your project
results through

TotalAccess

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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: NWAUO

Laboratory Job ID: 880-6057-1
SDG: 20-0107-02

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	10
QC Sample Results	11
QC Association Summary	15
Lab Chronicle	17
Certification Summary	19
Method Summary	20
Sample Summary	21
Chain of Custody	22
Receipt Checklists	23

1
2
3
4
5
6
7
8
9
10
11
12
13
14

Definitions/Glossary

Client: Larson & Associates, Inc.
Project/Site: NWAUO

Job ID: 880-6057-1
SDG: 20-0107-02

Qualifiers

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
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

Case Narrative

Client: Larson & Associates, Inc.
Project/Site: NWAUO

Job ID: 880-6057-1
SDG: 20-0107-02

Job ID: 880-6057-1

Laboratory: Eurofins Xenco, Midland

Narrative

Job Narrative
880-6057-1

Receipt

The samples were received on 9/14/2021 10:18 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 0.5°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

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-7879 and analytical batch 880-7924 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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: NWAUO

Job ID: 880-6057-1
SDG: 20-0107-02

Client Sample ID: C-1 , 4'

Lab Sample ID: 880-6057-1

Date Collected: 09/10/21 08:30

Matrix: Solid

Date Received: 09/14/21 10:18

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/14/21 12:00	09/14/21 23:35	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/14/21 12:00	09/14/21 23:35	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/14/21 12:00	09/14/21 23:35	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		09/14/21 12:00	09/14/21 23:35	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/14/21 12:00	09/14/21 23:35	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		09/14/21 12:00	09/14/21 23:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130	09/14/21 12:00	09/14/21 23:35	1
1,4-Difluorobenzene (Surr)	83		70 - 130	09/14/21 12:00	09/14/21 23:35	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	<49.8	U	49.8	mg/Kg		09/14/21 12:00	09/14/21 13:48	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		09/14/21 12:00	09/14/21 13:48	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		09/14/21 12:00	09/14/21 13:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	118		70 - 130	09/14/21 12:00	09/14/21 13:48	1
o-Terphenyl (Surr)	121		70 - 130	09/14/21 12:00	09/14/21 13:48	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	17.3	F1	4.95	mg/Kg			09/15/21 22:42	1

Client Sample ID: C-2 , 4'

Lab Sample ID: 880-6057-2

Date Collected: 09/10/21 08:31

Matrix: Solid

Date Received: 09/14/21 10:18

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		09/14/21 12:00	09/14/21 23:56	1
Toluene	<0.00199	U	0.00199	mg/Kg		09/14/21 12:00	09/14/21 23:56	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		09/14/21 12:00	09/14/21 23:56	1
m,p-Xylenes	<0.00398	U	0.00398	mg/Kg		09/14/21 12:00	09/14/21 23:56	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		09/14/21 12:00	09/14/21 23:56	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		09/14/21 12:00	09/14/21 23:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	118		70 - 130	09/14/21 12:00	09/14/21 23:56	1
1,4-Difluorobenzene (Surr)	87		70 - 130	09/14/21 12:00	09/14/21 23:56	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		09/14/21 12:00	09/14/21 14:09	1
Diesel Range Organics (Over C10-C28)	180		50.0	mg/Kg		09/14/21 12:00	09/14/21 14:09	1
Oil Range Organics (Over C28-C36)	50.2		50.0	mg/Kg		09/14/21 12:00	09/14/21 14:09	1

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUO

Job ID: 880-6057-1
SDG: 20-0107-02

Client Sample ID: C-2, 4'

Lab Sample ID: 880-6057-2

Date Collected: 09/10/21 08:31

Matrix: Solid

Date Received: 09/14/21 10:18

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	123		70 - 130	09/14/21 12:00	09/14/21 14:09	1
o-Terphenyl (Surr)	128		70 - 130	09/14/21 12:00	09/14/21 14:09	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	17.3		5.04	mg/Kg			09/15/21 22:59	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Client Sample ID: C-3, 4'

Lab Sample ID: 880-6057-3

Date Collected: 09/10/21 08:32

Matrix: Solid

Date Received: 09/14/21 10:18

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/14/21 12:00	09/15/21 00:16	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/14/21 12:00	09/15/21 00:16	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/14/21 12:00	09/15/21 00:16	1
m,p-Xylenes	<0.00399	U	0.00399	mg/Kg		09/14/21 12:00	09/15/21 00:16	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/14/21 12:00	09/15/21 00:16	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		09/14/21 12:00	09/15/21 00:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130	09/14/21 12:00	09/15/21 00:16	1
1,4-Difluorobenzene (Surr)	84		70 - 130	09/14/21 12:00	09/15/21 00:16	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		09/14/21 12:00	09/14/21 16:27	1
Diesel Range Organics (Over C10-C28)	114		49.9	mg/Kg		09/14/21 12:00	09/14/21 16:27	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		09/14/21 12:00	09/14/21 16:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	128		70 - 130	09/14/21 12:00	09/14/21 16:27	1
o-Terphenyl (Surr)	135	S1+	70 - 130	09/14/21 12:00	09/14/21 16:27	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	16.7		4.98	mg/Kg			09/15/21 23:05	1

Client Sample ID: C-4, 0-4'

Lab Sample ID: 880-6057-4

Date Collected: 09/10/21 08:33

Matrix: Solid

Date Received: 09/14/21 10:18

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/14/21 12:00	09/15/21 00:37	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/14/21 12:00	09/15/21 00:37	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/14/21 12:00	09/15/21 00:37	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		09/14/21 12:00	09/15/21 00:37	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/14/21 12:00	09/15/21 00:37	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		09/14/21 12:00	09/15/21 00:37	1

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUO

Job ID: 880-6057-1
SDG: 20-0107-02

Client Sample ID: C-4, 0-4'

Lab Sample ID: 880-6057-4

Date Collected: 09/10/21 08:33

Matrix: Solid

Date Received: 09/14/21 10:18

Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	126		70 - 130			09/14/21 12:00	09/15/21 00:37	1
1,4-Difluorobenzene (Surr)	76		70 - 130			09/14/21 12:00	09/15/21 00:37	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		09/14/21 12:00	09/14/21 16:48	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		09/14/21 12:00	09/14/21 16:48	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		09/14/21 12:00	09/14/21 16:48	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	120		70 - 130			09/14/21 12:00	09/14/21 16:48	1
o-Terphenyl (Surr)	124		70 - 130			09/14/21 12:00	09/14/21 16:48	1
Method: 300.0 - Anions, Ion Chromatography - Soluble								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	27.6		4.96	mg/Kg			09/15/21 23:10	1

Client Sample ID: C-5, 0-4'

Lab Sample ID: 880-6057-5

Date Collected: 09/10/21 08:34

Matrix: Solid

Date Received: 09/14/21 10:18

Method: 8021B - Volatile Organic Compounds (GC)								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		09/14/21 12:00	09/15/21 00:57	1
Toluene	<0.00199	U	0.00199	mg/Kg		09/14/21 12:00	09/15/21 00:57	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		09/14/21 12:00	09/15/21 00:57	1
m,p-Xylenes	<0.00398	U	0.00398	mg/Kg		09/14/21 12:00	09/15/21 00:57	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		09/14/21 12:00	09/15/21 00:57	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		09/14/21 12:00	09/15/21 00:57	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130			09/14/21 12:00	09/15/21 00:57	1
1,4-Difluorobenzene (Surr)	79		70 - 130			09/14/21 12:00	09/15/21 00:57	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	<49.8	U	49.8	mg/Kg		09/14/21 12:00	09/14/21 17:09	1
Diesel Range Organics (Over C10-C28)	185		49.8	mg/Kg		09/14/21 12:00	09/14/21 17:09	1
Oil Range Organics (Over C28-C36)	54.4		49.8	mg/Kg		09/14/21 12:00	09/14/21 17:09	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	115		70 - 130			09/14/21 12:00	09/14/21 17:09	1
o-Terphenyl (Surr)	114		70 - 130			09/14/21 12:00	09/14/21 17:09	1
Method: 300.0 - Anions, Ion Chromatography - Soluble								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	42.3		5.02	mg/Kg			09/15/21 23:16	1

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Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUO

Job ID: 880-6057-1
SDG: 20-0107-02

Client Sample ID: C-6, 0-4'

Lab Sample ID: 880-6057-6

Date Collected: 09/10/21 09:35

Matrix: Solid

Date Received: 09/14/21 10:18

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		09/14/21 12:00	09/15/21 01:18	1
Toluene	<0.00199	U	0.00199	mg/Kg		09/14/21 12:00	09/15/21 01:18	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		09/14/21 12:00	09/15/21 01:18	1
m,p-Xylenes	<0.00398	U	0.00398	mg/Kg		09/14/21 12:00	09/15/21 01:18	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		09/14/21 12:00	09/15/21 01:18	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		09/14/21 12:00	09/15/21 01:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130	09/14/21 12:00	09/15/21 01:18	1
1,4-Difluorobenzene (Surr)	84		70 - 130	09/14/21 12:00	09/15/21 01:18	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		09/14/21 12:00	09/14/21 17:45	1
Diesel Range Organics (Over C10-C28)	489		50.0	mg/Kg		09/14/21 12:00	09/14/21 17:45	1
Oil Range Organics (Over C28-C36)	176		50.0	mg/Kg		09/14/21 12:00	09/14/21 17:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	124		70 - 130	09/14/21 12:00	09/14/21 17:45	1
o-Terphenyl (Surr)	122		70 - 130	09/14/21 12:00	09/14/21 17:45	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	19.5		4.98	mg/Kg			09/15/21 23:33	1

Client Sample ID: C-7, 0-4'

Lab Sample ID: 880-6057-7

Date Collected: 09/10/21 08:36

Matrix: Solid

Date Received: 09/14/21 10:18

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		09/14/21 12:00	09/15/21 01:39	1
Toluene	<0.00202	U	0.00202	mg/Kg		09/14/21 12:00	09/15/21 01:39	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		09/14/21 12:00	09/15/21 01:39	1
m,p-Xylenes	<0.00403	U	0.00403	mg/Kg		09/14/21 12:00	09/15/21 01:39	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		09/14/21 12:00	09/15/21 01:39	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		09/14/21 12:00	09/15/21 01:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130	09/14/21 12:00	09/15/21 01:39	1
1,4-Difluorobenzene (Surr)	80		70 - 130	09/14/21 12:00	09/15/21 01:39	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		09/14/21 12:00	09/14/21 18:05	1
Diesel Range Organics (Over C10-C28)	486		49.9	mg/Kg		09/14/21 12:00	09/14/21 18:05	1
Oil Range Organics (Over C28-C36)	152		49.9	mg/Kg		09/14/21 12:00	09/14/21 18:05	1

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Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUO

Job ID: 880-6057-1
SDG: 20-0107-02

Client Sample ID: C-7, 0-4'
Date Collected: 09/10/21 08:36
Date Received: 09/14/21 10:18

Lab Sample ID: 880-6057-7
Matrix: Solid

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	123		70 - 130	09/14/21 12:00	09/14/21 18:05	1
o-Terphenyl (Surr)	121		70 - 130	09/14/21 12:00	09/14/21 18:05	1

Method: 300.0 - Anions, Ion Chromatography - Soluble								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	24.5		5.00	mg/Kg			09/15/21 23:39	1

Surrogate Summary

Client: Larson & Associates, Inc.
Project/Site: NWAUO

Job ID: 880-6057-1
SDG: 20-0107-02

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	BFB1	DFBZ1				
		(70-130)	(70-130)				
880-6057-1	C-1 , 4'	114	83				
880-6057-1 MS	C-1 , 4'	119	87				
880-6057-1 MSD	C-1 , 4'	113	87				
880-6057-2	C-2 , 4'	118	87				
880-6057-3	C-3, 4'	115	84				
880-6057-4	C-4, 0-4'	126	76				
880-6057-5	C-5, 0-4'	109	79				
880-6057-6	C-6, 0-4'	109	84				
880-6057-7	C-7, 0-4'	107	80				
LCS 880-7874/1-A	Lab Control Sample	109	88				
LCSD 880-7874/2-A	Lab Control Sample Dup	107	89				
MB 880-7758/5-A	Method Blank	113	77				
MB 880-7874/5-A	Method Blank	108	77				
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	OTPH1								
		(70-130)	(70-130)								
880-6052-A-1-B MS	Matrix Spike	105	99								
880-6052-A-1-C MSD	Matrix Spike Duplicate	105	100								
880-6057-1	C-1 , 4'	118	121								
880-6057-2	C-2 , 4'	123	128								
880-6057-3	C-3, 4'	128	135 S1+								
880-6057-4	C-4, 0-4'	120	124								
880-6057-5	C-5, 0-4'	115	114								
880-6057-6	C-6, 0-4'	124	122								
880-6057-7	C-7, 0-4'	123	121								
LCS 880-7855/2-A	Lab Control Sample	103	99								
LCSD 880-7855/3-A	Lab Control Sample Dup	103	100								
MB 880-7855/1-A	Method Blank	110	119								
Surrogate Legend											
1CO = 1-Chlorooctane (Surr)											
OTPH = o-Terphenyl (Surr)											

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUO

Job ID: 880-6057-1
SDG: 20-0107-02

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-7758/5-A

Matrix: Solid

Analysis Batch: 7857

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 7758

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/14/21 09:00	09/14/21 12:20	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/14/21 09:00	09/14/21 12:20	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/14/21 09:00	09/14/21 12:20	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		09/14/21 09:00	09/14/21 12:20	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/14/21 09:00	09/14/21 12:20	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		09/14/21 09:00	09/14/21 12:20	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130	09/14/21 09:00	09/14/21 12:20	1
1,4-Difluorobenzene (Surr)	77		70 - 130	09/14/21 09:00	09/14/21 12:20	1

Lab Sample ID: MB 880-7874/5-A

Matrix: Solid

Analysis Batch: 7857

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 7874

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/14/21 12:00	09/14/21 23:14	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/14/21 12:00	09/14/21 23:14	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/14/21 12:00	09/14/21 23:14	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		09/14/21 12:00	09/14/21 23:14	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/14/21 12:00	09/14/21 23:14	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		09/14/21 12:00	09/14/21 23:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130	09/14/21 12:00	09/14/21 23:14	1
1,4-Difluorobenzene (Surr)	77		70 - 130	09/14/21 12:00	09/14/21 23:14	1

Lab Sample ID: LCS 880-7874/1-A

Matrix: Solid

Analysis Batch: 7857

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 7874

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.09076		mg/Kg		91	70 - 130
Toluene	0.100	0.08237		mg/Kg		82	70 - 130
Ethylbenzene	0.100	0.08102		mg/Kg		81	70 - 130
m,p-Xylenes	0.200	0.1707		mg/Kg		85	70 - 130
o-Xylene	0.100	0.08631		mg/Kg		86	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	109		70 - 130
1,4-Difluorobenzene (Surr)	88		70 - 130

Lab Sample ID: LCSD 880-7874/2-A

Matrix: Solid

Analysis Batch: 7857

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 7874

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.100	0.1012		mg/Kg		101	70 - 130	11	35

Eurofins Xenco, Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUO

Job ID: 880-6057-1
SDG: 20-0107-02

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-7874/2-A

Matrix: Solid

Analysis Batch: 7857

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 7874

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toluene	0.100	0.09352		mg/Kg		94	70 - 130	13	35
Ethylbenzene	0.100	0.09545		mg/Kg		95	70 - 130	16	35
m,p-Xylenes	0.200	0.1928		mg/Kg		96	70 - 130	12	35
o-Xylene	0.100	0.09783		mg/Kg		98	70 - 130	13	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		70 - 130
1,4-Difluorobenzene (Surr)	89		70 - 130

Lab Sample ID: 880-6057-1 MS

Matrix: Solid

Analysis Batch: 7857

Client Sample ID: C-1 , 4'

Prep Type: Total/NA

Prep Batch: 7874

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00200	U	0.0998	0.08191		mg/Kg		82	70 - 130
Toluene	<0.00200	U	0.0998	0.07653		mg/Kg		77	70 - 130
Ethylbenzene	<0.00200	U	0.0998	0.07815		mg/Kg		78	70 - 130
m,p-Xylenes	<0.00400	U	0.200	0.1600		mg/Kg		80	70 - 130
o-Xylene	<0.00200	U	0.0998	0.08061		mg/Kg		81	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	119		70 - 130
1,4-Difluorobenzene (Surr)	87		70 - 130

Lab Sample ID: 880-6057-1 MSD

Matrix: Solid

Analysis Batch: 7857

Client Sample ID: C-1 , 4'

Prep Type: Total/NA

Prep Batch: 7874

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0996	0.07848		mg/Kg		79	70 - 130	4	35
Toluene	<0.00200	U	0.0996	0.07395		mg/Kg		74	70 - 130	3	35
Ethylbenzene	<0.00200	U	0.0996	0.07503		mg/Kg		75	70 - 130	4	35
m,p-Xylenes	<0.00400	U	0.199	0.1542		mg/Kg		77	70 - 130	4	35
o-Xylene	<0.00200	U	0.0996	0.07891		mg/Kg		79	70 - 130	2	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	113		70 - 130
1,4-Difluorobenzene (Surr)	87		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-7855/1-A

Matrix: Solid

Analysis Batch: 7858

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 7855

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		09/14/21 08:40	09/14/21 10:34	1

Eurofins Xenco, Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUO

Job ID: 880-6057-1
SDG: 20-0107-02

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-7855/1-A

Matrix: Solid

Analysis Batch: 7858

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 7855

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		09/14/21 08:40	09/14/21 10:34	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		09/14/21 08:40	09/14/21 10:34	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	110		70 - 130			09/14/21 08:40	09/14/21 10:34	1
o-Terphenyl (Surr)	119		70 - 130			09/14/21 08:40	09/14/21 10:34	1

Lab Sample ID: LCS 880-7855/2-A

Matrix: Solid

Analysis Batch: 7858

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 7855

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	876.5		mg/Kg		88	70 - 130
Diesel Range Organics (Over C10-C28)	1000	856.9		mg/Kg		86	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1-Chlorooctane (Surr)	103		70 - 130				
o-Terphenyl (Surr)	99		70 - 130				

Lab Sample ID: LCSD 880-7855/3-A

Matrix: Solid

Analysis Batch: 7858

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 7855

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	810.7		mg/Kg		81	70 - 130	8	20
Diesel Range Organics (Over C10-C28)	1000	760.2		mg/Kg		76	70 - 130	12	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane (Surr)	103		70 - 130						
o-Terphenyl (Surr)	100		70 - 130						

Lab Sample ID: 880-6052-A-1-B MS

Matrix: Solid

Analysis Batch: 7858

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 7855

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	997	927.2		mg/Kg		88	70 - 130
Diesel Range Organics (Over C10-C28)	<49.8	U	997	878.8		mg/Kg		84	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
1-Chlorooctane (Surr)	105		70 - 130						
o-Terphenyl (Surr)	99		70 - 130						

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUO

Job ID: 880-6057-1
SDG: 20-0107-02

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 880-6052-A-1-C MSD

Matrix: Solid

Analysis Batch: 7858

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 7855

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	<49.8	U	999	914.4		mg/Kg		87	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<49.8	U	999	886.8		mg/Kg		84	70 - 130	1	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane (Surr)	105		70 - 130								
o-Terphenyl (Surr)	100		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-7879/1-A

Matrix: Solid

Analysis Batch: 7924

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			09/15/21 22:25	1

Lab Sample ID: LCS 880-7879/2-A

Matrix: Solid

Analysis Batch: 7924

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	274.4		mg/Kg		110	90 - 110

Lab Sample ID: LCSD 880-7879/3-A

Matrix: Solid

Analysis Batch: 7924

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	274.7		mg/Kg		110	90 - 110	0	20

Lab Sample ID: 880-6057-1 MS

Matrix: Solid

Analysis Batch: 7924

Client Sample ID: C-1 , 4'

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	17.3	F1	248	305.1	F1	mg/Kg		116	90 - 110

Lab Sample ID: 880-6057-1 MSD

Matrix: Solid

Analysis Batch: 7924

Client Sample ID: C-1 , 4'

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	17.3	F1	248	306.2	F1	mg/Kg		117	90 - 110	0	20

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QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: NWAUO

Job ID: 880-6057-1
SDG: 20-0107-02

GC VOA

Prep Batch: 7758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-7758/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 7857

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-6057-1	C-1 , 4'	Total/NA	Solid	8021B	7874
880-6057-2	C-2 , 4'	Total/NA	Solid	8021B	7874
880-6057-3	C-3, 4'	Total/NA	Solid	8021B	7874
880-6057-4	C-4, 0-4'	Total/NA	Solid	8021B	7874
880-6057-5	C-5, 0-4'	Total/NA	Solid	8021B	7874
880-6057-6	C-6, 0-4'	Total/NA	Solid	8021B	7874
880-6057-7	C-7, 0-4'	Total/NA	Solid	8021B	7874
MB 880-7758/5-A	Method Blank	Total/NA	Solid	8021B	7758
MB 880-7874/5-A	Method Blank	Total/NA	Solid	8021B	7874
LCS 880-7874/1-A	Lab Control Sample	Total/NA	Solid	8021B	7874
LCSD 880-7874/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	7874
880-6057-1 MS	C-1 , 4'	Total/NA	Solid	8021B	7874
880-6057-1 MSD	C-1 , 4'	Total/NA	Solid	8021B	7874

Prep Batch: 7874

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-6057-1	C-1 , 4'	Total/NA	Solid	5035	
880-6057-2	C-2 , 4'	Total/NA	Solid	5035	
880-6057-3	C-3, 4'	Total/NA	Solid	5035	
880-6057-4	C-4, 0-4'	Total/NA	Solid	5035	
880-6057-5	C-5, 0-4'	Total/NA	Solid	5035	
880-6057-6	C-6, 0-4'	Total/NA	Solid	5035	
880-6057-7	C-7, 0-4'	Total/NA	Solid	5035	
MB 880-7874/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-7874/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-7874/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-6057-1 MS	C-1 , 4'	Total/NA	Solid	5035	
880-6057-1 MSD	C-1 , 4'	Total/NA	Solid	5035	

GC Semi VOA

Prep Batch: 7855

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-6057-1	C-1 , 4'	Total/NA	Solid	8015NM Prep	
880-6057-2	C-2 , 4'	Total/NA	Solid	8015NM Prep	
880-6057-3	C-3, 4'	Total/NA	Solid	8015NM Prep	
880-6057-4	C-4, 0-4'	Total/NA	Solid	8015NM Prep	
880-6057-5	C-5, 0-4'	Total/NA	Solid	8015NM Prep	
880-6057-6	C-6, 0-4'	Total/NA	Solid	8015NM Prep	
880-6057-7	C-7, 0-4'	Total/NA	Solid	8015NM Prep	
MB 880-7855/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-7855/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-7855/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-6052-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-6052-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Eurofins Xenco, Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: NWAUO

Job ID: 880-6057-1
SDG: 20-0107-02

GC Semi VOA

Analysis Batch: 7858

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-6057-1	C-1 , 4'	Total/NA	Solid	8015B NM	7855
880-6057-2	C-2 , 4'	Total/NA	Solid	8015B NM	7855
880-6057-3	C-3, 4'	Total/NA	Solid	8015B NM	7855
880-6057-4	C-4, 0-4'	Total/NA	Solid	8015B NM	7855
880-6057-5	C-5, 0-4'	Total/NA	Solid	8015B NM	7855
880-6057-6	C-6, 0-4'	Total/NA	Solid	8015B NM	7855
880-6057-7	C-7, 0-4'	Total/NA	Solid	8015B NM	7855
MB 880-7855/1-A	Method Blank	Total/NA	Solid	8015B NM	7855
LCS 880-7855/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	7855
LCSD 880-7855/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	7855
880-6052-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	7855
880-6052-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	7855

HPLC/IC

Leach Batch: 7879

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-6057-1	C-1 , 4'	Soluble	Solid	DI Leach	
880-6057-2	C-2 , 4'	Soluble	Solid	DI Leach	
880-6057-3	C-3, 4'	Soluble	Solid	DI Leach	
880-6057-4	C-4, 0-4'	Soluble	Solid	DI Leach	
880-6057-5	C-5, 0-4'	Soluble	Solid	DI Leach	
880-6057-6	C-6, 0-4'	Soluble	Solid	DI Leach	
880-6057-7	C-7, 0-4'	Soluble	Solid	DI Leach	
MB 880-7879/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-7879/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-7879/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-6057-1 MS	C-1 , 4'	Soluble	Solid	DI Leach	
880-6057-1 MSD	C-1 , 4'	Soluble	Solid	DI Leach	

Analysis Batch: 7924

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-6057-1	C-1 , 4'	Soluble	Solid	300.0	7879
880-6057-2	C-2 , 4'	Soluble	Solid	300.0	7879
880-6057-3	C-3, 4'	Soluble	Solid	300.0	7879
880-6057-4	C-4, 0-4'	Soluble	Solid	300.0	7879
880-6057-5	C-5, 0-4'	Soluble	Solid	300.0	7879
880-6057-6	C-6, 0-4'	Soluble	Solid	300.0	7879
880-6057-7	C-7, 0-4'	Soluble	Solid	300.0	7879
MB 880-7879/1-A	Method Blank	Soluble	Solid	300.0	7879
LCS 880-7879/2-A	Lab Control Sample	Soluble	Solid	300.0	7879
LCSD 880-7879/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	7879
880-6057-1 MS	C-1 , 4'	Soluble	Solid	300.0	7879
880-6057-1 MSD	C-1 , 4'	Soluble	Solid	300.0	7879

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Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: NWAUO

Job ID: 880-6057-1
SDG: 20-0107-02

Client Sample ID: C-1 , 4'

Lab Sample ID: 880-6057-1

Date Collected: 09/10/21 08:30

Matrix: Solid

Date Received: 09/14/21 10:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	7874	09/14/21 12:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	7857	09/14/21 23:35	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	7855	09/14/21 12:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1			7858	09/14/21 13:48	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	7879	09/14/21 11:22	CH	XEN MID
Soluble	Analysis	300.0		1			7924	09/15/21 22:42	CH	XEN MID

Client Sample ID: C-2 , 4'

Lab Sample ID: 880-6057-2

Date Collected: 09/10/21 08:31

Matrix: Solid

Date Received: 09/14/21 10:18

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	7874	09/14/21 12:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	7857	09/14/21 23:56	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	7855	09/14/21 12:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1			7858	09/14/21 14:09	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	7879	09/14/21 11:22	CH	XEN MID
Soluble	Analysis	300.0		1			7924	09/15/21 22:59	CH	XEN MID

Client Sample ID: C-3, 4'

Lab Sample ID: 880-6057-3

Date Collected: 09/10/21 08:32

Matrix: Solid

Date Received: 09/14/21 10:18

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	7874	09/14/21 12:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	7857	09/15/21 00:16	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	7855	09/14/21 12:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1			7858	09/14/21 16:27	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	7879	09/14/21 11:22	CH	XEN MID
Soluble	Analysis	300.0		1			7924	09/15/21 23:05	CH	XEN MID

Client Sample ID: C-4, 0-4'

Lab Sample ID: 880-6057-4

Date Collected: 09/10/21 08:33

Matrix: Solid

Date Received: 09/14/21 10:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	7874	09/14/21 12:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	7857	09/15/21 00:37	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	7855	09/14/21 12:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1			7858	09/14/21 16:48	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	7879	09/14/21 11:22	CH	XEN MID
Soluble	Analysis	300.0		1			7924	09/15/21 23:10	CH	XEN MID

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Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: NWAUO

Job ID: 880-6057-1
SDG: 20-0107-02

Client Sample ID: C-5, 0-4'

Lab Sample ID: 880-6057-5

Date Collected: 09/10/21 08:34

Matrix: Solid

Date Received: 09/14/21 10:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	7874	09/14/21 12:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	7857	09/15/21 00:57	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	7855	09/14/21 12:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1			7858	09/14/21 17:09	AJ	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	7879	09/14/21 11:22	CH	XEN MID
Soluble	Analysis	300.0		1			7924	09/15/21 23:16	CH	XEN MID

Client Sample ID: C-6, 0-4'

Lab Sample ID: 880-6057-6

Date Collected: 09/10/21 09:35

Matrix: Solid

Date Received: 09/14/21 10:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	7874	09/14/21 12:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	7857	09/15/21 01:18	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	7855	09/14/21 12:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1			7858	09/14/21 17:45	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	7879	09/14/21 11:22	CH	XEN MID
Soluble	Analysis	300.0		1			7924	09/15/21 23:33	CH	XEN MID

Client Sample ID: C-7, 0-4'

Lab Sample ID: 880-6057-7

Date Collected: 09/10/21 08:36

Matrix: Solid

Date Received: 09/14/21 10:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	7874	09/14/21 12:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	7857	09/15/21 01:39	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	7855	09/14/21 12:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1			7858	09/14/21 18:05	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	7879	09/14/21 11:22	CH	XEN MID
Soluble	Analysis	300.0		1			7924	09/15/21 23:39	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: NWAUO

Job ID: 880-6057-1
SDG: 20-0107-02

Laboratory: Eurofins Xenco, Midland

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-21-22	06-30-22

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Method Summary

Client: Larson & Associates, Inc.
Project/Site: NWAUO

Job ID: 880-6057-1
SDG: 20-0107-02

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: NWAUO

Job ID: 880-6057-1
SDG: 20-0107-02

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-6057-1	C-1 , 4'	Solid	09/10/21 08:30	09/14/21 10:18
880-6057-2	C-2 , 4'	Solid	09/10/21 08:31	09/14/21 10:18
880-6057-3	C-3, 4'	Solid	09/10/21 08:32	09/14/21 10:18
880-6057-4	C-4, 0-4'	Solid	09/10/21 08:33	09/14/21 10:18
880-6057-5	C-5, 0-4'	Solid	09/10/21 08:34	09/14/21 10:18
880-6057-6	C-6, 0-4'	Solid	09/10/21 09:35	09/14/21 10:18
880-6057-7	C-7, 0-4'	Solid	09/10/21 08:36	09/14/21 10:18

Varson & Associates, Inc.
Environmental Consultants

880-6057 Chain of Custody

INITIALS LA / 9/01

432-687 0901

Date Reported to

DATE 9/13/2021 PAGE 1 OF 1
PO# _____ LAB WORK ORDER# 880-1057
PROJECT LOCATION OR NAME NW4UB
LAI PROJECT # 20-0107-01 COLLECTOR NB

TRRP report?
☐ Yes ☒ No

TIME ZONE
Time zone/State

LST/Tx

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

Field
Sample ID

Lab #

Date

Time

Matrix

of Containers

HCl

HNO₃

H₂SO₄ ☐ NaOH ☐

ICE

UNPRESSERVED

PRESERVATION

ANALYSES

BTX ☐ MTBE ☐
TPH 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 ☐
TCLP PCBs ☐
TCLP METALS (RCRA) ☐ TCLP VOC ☐
TCLP PEST ☐ HERB ☐ Semi-VOC ☐
TOTAL METALS (RCRA) ☐ OTHER LIST ☐
LEAD - TOTAL ☐ DW 200 8 ☐ TCLP ☐
RCI ☐ TOX ☐ FLASHPOINT ☐
TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐
PH ☐ HEXAVALENT CHROMIUM ☐
EXPLOSIVES ☐ PETCHLORATE ☐
CHLORIDE ☒ ANIONS ☐ ALKALINITY ☐

FIELD NOTES

L-1, y'
L-2, y'
L-3, y'
L-4, 0-y'
L-5, 0-y'
L-6, 0-y'
L-7, 0-y'

9/10/21

0630

S

1

X

X

X

X

X

X

X

X

X

X

X

X

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X

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0652

0653

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0656

0657

0658

0659

Login Sample Receipt Checklist

Client: Larson & Associates, Inc.

Job Number: 880-6057-1

SDG Number: 20-0107-02

Login Number: 6057

List Number: 1

Creator: Teel, Brianna

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.	N/A	
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	



Environment Testing America

ANALYTICAL REPORT

Eurofins Xenco, Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-6276-1

Laboratory Sample Delivery Group: 20-0107-02

Client Project/Site: Chevron NWAUB

For:

Larson & Associates, Inc.
507 N Marienfeld
Suite 202
Midland, Texas 79701

Attn: Mr. Mark J Larson

Holly Taylor

Authorized for release by:
9/24/2021 3:28:51 PM

Holly Taylor, Project Manager
(806)794-1296
holly.taylor@eurofinset.com

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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: Chevron NWAUB

Laboratory Job ID: 880-6276-1
SDG: 20-0107-02

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	16
QC Sample Results	18
QC Association Summary	25
Lab Chronicle	29
Certification Summary	33
Method Summary	34
Sample Summary	35
Chain of Custody	36
Receipt Checklists	38

1
2
3
4
5
6
7
8
9
10
11
12
13
14

Definitions/Glossary

Client: Larson & Associates, Inc.
Project/Site: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
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.
α	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

Case Narrative

Client: Larson & Associates, Inc.
Project/Site: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

Job ID: 880-6276-1**Laboratory: Eurofins Xenco, Midland****Narrative****Job Narrative
880-6276-1****Receipt**

The samples were received on 9/20/2021 12:57 PM. 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 0.9°C

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-8133 and analytical batch 880-8143 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8021B: Surrogate recovery for the following samples were outside control limits: C-9 (880-6276-2), C-11 (880-6276-4), C-12 (880-6276-5), C-13 (880-6276-6), C-14 (880-6276-7), C-15 (880-6276-8) and (880-6276-A-1-B MSD). Evidence of matrix interferences is not obvious.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-8132 and analytical batch 880-8212 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: Surrogate recovery for the following samples were outside control limits: C-18 (880-6276-11), C-19 (880-6276-12), C-20 (880-6276-13), C-21 (880-6276-14), C-22 (880-6276-15) and C-23 (880-6276-16). Evidence of matrix interferences is not obvious.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: C-18 (880-6276-11) and C-20 (880-6276-13). Evidence of matrix interferences is not obvious.

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: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

Client Sample ID: C-8

Lab Sample ID: 880-6276-1

Date Collected: 09/14/21 10:45

Matrix: Solid

Date Received: 09/20/21 12:57

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U F1	0.00199	mg/Kg		09/20/21 13:33	09/21/21 05:12	1
Toluene	<0.00199	U F1	0.00199	mg/Kg		09/20/21 13:33	09/21/21 05:12	1
Ethylbenzene	<0.00199	U F1	0.00199	mg/Kg		09/20/21 13:33	09/21/21 05:12	1
m,p-Xylenes	<0.00398	U F1	0.00398	mg/Kg		09/20/21 13:33	09/21/21 05:12	1
o-Xylene	<0.00199	U F2 F1	0.00199	mg/Kg		09/20/21 13:33	09/21/21 05:12	1
Xylenes, Total	<0.00398	U F2 F1	0.00398	mg/Kg		09/20/21 13:33	09/21/21 05:12	1
Total BTEX	<0.00398	U F2 F1	0.00398	mg/Kg		09/20/21 13:33	09/21/21 05:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	125		70 - 130	09/20/21 13:33	09/21/21 05:12	1
1,4-Difluorobenzene (Surr)	77		70 - 130	09/20/21 13:33	09/21/21 05:12	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		09/21/21 14:36	09/21/21 22:42	1
Diesel Range Organics (Over C10-C28)	60.1		49.9	mg/Kg		09/21/21 14:36	09/21/21 22:42	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		09/21/21 14:36	09/21/21 22:42	1
Total TPH	60.1		49.9	mg/Kg		09/21/21 14:36	09/21/21 22:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	99		70 - 130	09/21/21 14:36	09/21/21 22:42	1
o-Terphenyl (Surr)	113		70 - 130	09/21/21 14:36	09/21/21 22:42	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	80.2		4.98	mg/Kg			09/24/21 02:01	1

Client Sample ID: C-9

Lab Sample ID: 880-6276-2

Date Collected: 09/14/21 10:46

Matrix: Solid

Date Received: 09/20/21 12:57

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/20/21 13:33	09/21/21 05:33	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/20/21 13:33	09/21/21 05:33	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/20/21 13:33	09/21/21 05:33	1
m,p-Xylenes	<0.00401	U	0.00401	mg/Kg		09/20/21 13:33	09/21/21 05:33	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/20/21 13:33	09/21/21 05:33	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		09/20/21 13:33	09/21/21 05:33	1
Total BTEX	<0.00401	U	0.00401	mg/Kg		09/20/21 13:33	09/21/21 05:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130	09/20/21 13:33	09/21/21 05:33	1
1,4-Difluorobenzene (Surr)	62	S1-	70 - 130	09/20/21 13:33	09/21/21 05:33	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		09/21/21 14:36	09/22/21 08:07	1

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

Client Sample ID: C-9

Lab Sample ID: 880-6276-2

Date Collected: 09/14/21 10:46

Matrix: Solid

Date Received: 09/20/21 12:57

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)	1690		49.9	mg/Kg		09/21/21 14:36	09/22/21 08:07	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		09/21/21 14:36	09/22/21 08:07	1
Total TPH	1690		49.9	mg/Kg		09/21/21 14:36	09/22/21 08:07	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	101		70 - 130			09/21/21 14:36	09/22/21 08:07	1
o-Terphenyl (Surr)	117		70 - 130			09/21/21 14:36	09/22/21 08:07	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	90.2		4.99	mg/Kg			09/24/21 02:18	1

Client Sample ID: C-10

Lab Sample ID: 880-6276-3

Date Collected: 09/15/21 09:55

Matrix: Solid

Date Received: 09/20/21 12:57

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		09/20/21 13:33	09/21/21 05:53	1
Toluene	<0.00199	U	0.00199	mg/Kg		09/20/21 13:33	09/21/21 05:53	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		09/20/21 13:33	09/21/21 05:53	1
m,p-Xylenes	<0.00398	U	0.00398	mg/Kg		09/20/21 13:33	09/21/21 05:53	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		09/20/21 13:33	09/21/21 05:53	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		09/20/21 13:33	09/21/21 05:53	1
Total BTEX	<0.00398	U	0.00398	mg/Kg		09/20/21 13:33	09/21/21 05:53	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	128		70 - 130			09/20/21 13:33	09/21/21 05:53	1
1,4-Difluorobenzene (Surr)	79		70 - 130			09/20/21 13:33	09/21/21 05:53	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	<49.8	U	49.8	mg/Kg		09/21/21 14:36	09/22/21 08:26	1
Diesel Range Organics (Over C10-C28)	428		49.8	mg/Kg		09/21/21 14:36	09/22/21 08:26	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		09/21/21 14:36	09/22/21 08:26	1
Total TPH	428		49.8	mg/Kg		09/21/21 14:36	09/22/21 08:26	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	106		70 - 130			09/21/21 14:36	09/22/21 08:26	1
o-Terphenyl (Surr)	111		70 - 130			09/21/21 14:36	09/22/21 08:26	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	27.7		5.00	mg/Kg			09/24/21 02:23	1

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

Client Sample ID: C-11

Lab Sample ID: 880-6276-4

Date Collected: 09/15/21 09:56

Matrix: Solid

Date Received: 09/20/21 12:57

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		09/20/21 13:33	09/21/21 06:13	1
Toluene	<0.00201	U	0.00201	mg/Kg		09/20/21 13:33	09/21/21 06:13	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		09/20/21 13:33	09/21/21 06:13	1
m,p-Xylenes	<0.00402	U	0.00402	mg/Kg		09/20/21 13:33	09/21/21 06:13	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		09/20/21 13:33	09/21/21 06:13	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		09/20/21 13:33	09/21/21 06:13	1
Total BTEX	<0.00402	U	0.00402	mg/Kg		09/20/21 13:33	09/21/21 06:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	134	S1+	70 - 130	09/20/21 13:33	09/21/21 06:13	1
1,4-Difluorobenzene (Surr)	81		70 - 130	09/20/21 13:33	09/21/21 06:13	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		09/21/21 14:36	09/21/21 23:42	1
Diesel Range Organics (Over C10-C28)	85.7		50.0	mg/Kg		09/21/21 14:36	09/21/21 23:42	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		09/21/21 14:36	09/21/21 23:42	1
Total TPH	85.7		50.0	mg/Kg		09/21/21 14:36	09/21/21 23:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	100		70 - 130	09/21/21 14:36	09/21/21 23:42	1
o-Terphenyl (Surr)	109		70 - 130	09/21/21 14:36	09/21/21 23:42	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	59.1		5.04	mg/Kg			09/24/21 02:29	1

Client Sample ID: C-12

Lab Sample ID: 880-6276-5

Date Collected: 09/15/21 09:57

Matrix: Solid

Date Received: 09/20/21 12:57

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/20/21 13:33	09/21/21 06:34	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/20/21 13:33	09/21/21 06:34	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/20/21 13:33	09/21/21 06:34	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		09/20/21 13:33	09/21/21 06:34	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/20/21 13:33	09/21/21 06:34	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		09/20/21 13:33	09/21/21 06:34	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		09/20/21 13:33	09/21/21 06:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	141	S1+	70 - 130	09/20/21 13:33	09/21/21 06:34	1
1,4-Difluorobenzene (Surr)	82		70 - 130	09/20/21 13:33	09/21/21 06:34	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		09/21/21 14:36	09/22/21 00:03	1

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

Client Sample ID: C-12

Lab Sample ID: 880-6276-5

Date Collected: 09/15/21 09:57

Matrix: Solid

Date Received: 09/20/21 12:57

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)	<49.9	U	49.9	mg/Kg		09/21/21 14:36	09/22/21 00:03	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		09/21/21 14:36	09/22/21 00:03	1
Total TPH	<49.9	U	49.9	mg/Kg		09/21/21 14:36	09/22/21 00:03	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	91		70 - 130			09/21/21 14:36	09/22/21 00:03	1
o-Terphenyl (Surr)	101		70 - 130			09/21/21 14:36	09/22/21 00:03	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	56.2		4.95	mg/Kg			09/24/21 02:35	1

Client Sample ID: C-13

Lab Sample ID: 880-6276-6

Date Collected: 09/15/21 09:58

Matrix: Solid

Date Received: 09/20/21 12:57

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/20/21 13:33	09/21/21 06:54	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/20/21 13:33	09/21/21 06:54	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/20/21 13:33	09/21/21 06:54	1
m,p-Xylenes	<0.00399	U	0.00399	mg/Kg		09/20/21 13:33	09/21/21 06:54	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/20/21 13:33	09/21/21 06:54	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		09/20/21 13:33	09/21/21 06:54	1
Total BTEX	<0.00399	U	0.00399	mg/Kg		09/20/21 13:33	09/21/21 06:54	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	137	S1+	70 - 130			09/20/21 13:33	09/21/21 06:54	1
1,4-Difluorobenzene (Surr)	80		70 - 130			09/20/21 13:33	09/21/21 06:54	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		09/21/21 14:36	09/22/21 00:23	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		09/21/21 14:36	09/22/21 00:23	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		09/21/21 14:36	09/22/21 00:23	1
Total TPH	<49.9	U	49.9	mg/Kg		09/21/21 14:36	09/22/21 00:23	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	92		70 - 130			09/21/21 14:36	09/22/21 00:23	1
o-Terphenyl (Surr)	108		70 - 130			09/21/21 14:36	09/22/21 00:23	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	34.4		4.97	mg/Kg			09/24/21 02:51	1

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

Client Sample ID: C-14

Lab Sample ID: 880-6276-7

Date Collected: 09/15/21 09:59

Matrix: Solid

Date Received: 09/20/21 12:57

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/20/21 13:33	09/21/21 07:15	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/20/21 13:33	09/21/21 07:15	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/20/21 13:33	09/21/21 07:15	1
m,p-Xylenes	<0.00399	U	0.00399	mg/Kg		09/20/21 13:33	09/21/21 07:15	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/20/21 13:33	09/21/21 07:15	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		09/20/21 13:33	09/21/21 07:15	1
Total BTEX	<0.00399	U	0.00399	mg/Kg		09/20/21 13:33	09/21/21 07:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	129		70 - 130	09/20/21 13:33	09/21/21 07:15	1
1,4-Difluorobenzene (Surr)	59	S1-	70 - 130	09/20/21 13:33	09/21/21 07:15	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	<49.8	U	49.8	mg/Kg		09/21/21 14:36	09/22/21 08:46	1
Diesel Range Organics (Over C10-C28)	423		49.8	mg/Kg		09/21/21 14:36	09/22/21 08:46	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		09/21/21 14:36	09/22/21 08:46	1
Total TPH	423		49.8	mg/Kg		09/21/21 14:36	09/22/21 08:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	94		70 - 130	09/21/21 14:36	09/22/21 08:46	1
o-Terphenyl (Surr)	102		70 - 130	09/21/21 14:36	09/22/21 08:46	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	60.9		4.95	mg/Kg			09/24/21 02:57	1

Client Sample ID: C-15

Lab Sample ID: 880-6276-8

Date Collected: 09/15/21 14:20

Matrix: Solid

Date Received: 09/20/21 12:57

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		09/20/21 13:33	09/21/21 07:35	1
Toluene	<0.00202	U	0.00202	mg/Kg		09/20/21 13:33	09/21/21 07:35	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		09/20/21 13:33	09/21/21 07:35	1
m,p-Xylenes	<0.00403	U	0.00403	mg/Kg		09/20/21 13:33	09/21/21 07:35	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		09/20/21 13:33	09/21/21 07:35	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		09/20/21 13:33	09/21/21 07:35	1
Total BTEX	<0.00403	U	0.00403	mg/Kg		09/20/21 13:33	09/21/21 07:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	132	S1+	70 - 130	09/20/21 13:33	09/21/21 07:35	1
1,4-Difluorobenzene (Surr)	73		70 - 130	09/20/21 13:33	09/21/21 07:35	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		09/21/21 14:36	09/22/21 01:03	1

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

Client Sample ID: C-15

Lab Sample ID: 880-6276-8

Date Collected: 09/15/21 14:20

Matrix: Solid

Date Received: 09/20/21 12:57

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		09/21/21 14:36	09/22/21 01:03	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		09/21/21 14:36	09/22/21 01:03	1
Total TPH	<50.0	U	50.0	mg/Kg		09/21/21 14:36	09/22/21 01:03	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	103		70 - 130			09/21/21 14:36	09/22/21 01:03	1
o-Terphenyl (Surr)	123		70 - 130			09/21/21 14:36	09/22/21 01:03	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	44.7		4.96	mg/Kg			09/24/21 03:03	1

Client Sample ID: C-16

Lab Sample ID: 880-6276-9

Date Collected: 09/15/21 14:21

Matrix: Solid

Date Received: 09/20/21 12:57

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		09/20/21 13:33	09/21/21 07:55	1
Toluene	<0.00199	U	0.00199	mg/Kg		09/20/21 13:33	09/21/21 07:55	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		09/20/21 13:33	09/21/21 07:55	1
m,p-Xylenes	<0.00398	U	0.00398	mg/Kg		09/20/21 13:33	09/21/21 07:55	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		09/20/21 13:33	09/21/21 07:55	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		09/20/21 13:33	09/21/21 07:55	1
Total BTEX	<0.00398	U	0.00398	mg/Kg		09/20/21 13:33	09/21/21 07:55	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	124		70 - 130			09/20/21 13:33	09/21/21 07:55	1
1,4-Difluorobenzene (Surr)	73		70 - 130			09/20/21 13:33	09/21/21 07:55	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		09/21/21 14:36	09/22/21 01:43	1
Diesel Range Organics (Over C10-C28)	75.9		49.9	mg/Kg		09/21/21 14:36	09/22/21 01:43	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		09/21/21 14:36	09/22/21 01:43	1
Total TPH	75.9		49.9	mg/Kg		09/21/21 14:36	09/22/21 01:43	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	106		70 - 130			09/21/21 14:36	09/22/21 01:43	1
o-Terphenyl (Surr)	121		70 - 130			09/21/21 14:36	09/22/21 01:43	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	80.9		5.00	mg/Kg			09/24/21 03:08	1

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

Client Sample ID: C-17

Lab Sample ID: 880-6276-10

Date Collected: 09/15/21 14:22

Matrix: Solid

Date Received: 09/20/21 12:57

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/20/21 13:33	09/21/21 08:16	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/20/21 13:33	09/21/21 08:16	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/20/21 13:33	09/21/21 08:16	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		09/20/21 13:33	09/21/21 08:16	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/20/21 13:33	09/21/21 08:16	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		09/20/21 13:33	09/21/21 08:16	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		09/20/21 13:33	09/21/21 08:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	127		70 - 130	09/20/21 13:33	09/21/21 08:16	1
1,4-Difluorobenzene (Surr)	76		70 - 130	09/20/21 13:33	09/21/21 08:16	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		09/21/21 14:36	09/22/21 02:03	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		09/21/21 14:36	09/22/21 02:03	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		09/21/21 14:36	09/22/21 02:03	1
Total TPH	<49.9	U	49.9	mg/Kg		09/21/21 14:36	09/22/21 02:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	104		70 - 130	09/21/21 14:36	09/22/21 02:03	1
o-Terphenyl (Surr)	117		70 - 130	09/21/21 14:36	09/22/21 02:03	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	113		5.00	mg/Kg			09/24/21 03:14	1

Client Sample ID: C-18

Lab Sample ID: 880-6276-11

Date Collected: 09/15/21 14:23

Matrix: Solid

Date Received: 09/20/21 12:57

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U F1	0.00200	mg/Kg		09/21/21 09:30	09/22/21 05:15	1
Toluene	<0.00200	U F1	0.00200	mg/Kg		09/21/21 09:30	09/22/21 05:15	1
Ethylbenzene	<0.00200	U F1	0.00200	mg/Kg		09/21/21 09:30	09/22/21 05:15	1
m,p-Xylenes	<0.00399	U F1	0.00399	mg/Kg		09/21/21 09:30	09/22/21 05:15	1
o-Xylene	<0.00200	U F1	0.00200	mg/Kg		09/21/21 09:30	09/22/21 05:15	1
Xylenes, Total	<0.00399	U F1	0.00399	mg/Kg		09/21/21 09:30	09/22/21 05:15	1
Total BTEX	<0.00399	U F1	0.00399	mg/Kg		09/21/21 09:30	09/22/21 05:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	131	S1+	70 - 130	09/21/21 09:30	09/22/21 05:15	1
1,4-Difluorobenzene (Surr)	81		70 - 130	09/21/21 09:30	09/22/21 05:15	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		09/21/21 14:36	09/22/21 02:23	1

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

Client Sample ID: C-18

Lab Sample ID: 880-6276-11

Date Collected: 09/15/21 14:23

Matrix: Solid

Date Received: 09/20/21 12:57

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)	<49.9	U	49.9	mg/Kg		09/21/21 14:36	09/22/21 02:23	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		09/21/21 14:36	09/22/21 02:23	1
Total TPH	<49.9	U	49.9	mg/Kg		09/21/21 14:36	09/22/21 02:23	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	121		70 - 130			09/21/21 14:36	09/22/21 02:23	1
o-Terphenyl (Surr)	143	S1+	70 - 130			09/21/21 14:36	09/22/21 02:23	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	36.9		4.99	mg/Kg			09/24/21 03:19	1

Client Sample ID: C-19

Lab Sample ID: 880-6276-12

Date Collected: 09/15/21 14:24

Matrix: Solid

Date Received: 09/20/21 12:57

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/21/21 09:30	09/22/21 05:36	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/21/21 09:30	09/22/21 05:36	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/21/21 09:30	09/22/21 05:36	1
m,p-Xylenes	<0.00401	U	0.00401	mg/Kg		09/21/21 09:30	09/22/21 05:36	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/21/21 09:30	09/22/21 05:36	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		09/21/21 09:30	09/22/21 05:36	1
Total BTEX	<0.00401	U	0.00401	mg/Kg		09/21/21 09:30	09/22/21 05:36	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	131	S1+	70 - 130			09/21/21 09:30	09/22/21 05:36	1
1,4-Difluorobenzene (Surr)	83		70 - 130			09/21/21 09:30	09/22/21 05:36	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	<49.8	U	49.8	mg/Kg		09/21/21 14:36	09/22/21 02:43	1
Diesel Range Organics (Over C10-C28)	252		49.8	mg/Kg		09/21/21 14:36	09/22/21 02:43	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		09/21/21 14:36	09/22/21 02:43	1
Total TPH	252		49.8	mg/Kg		09/21/21 14:36	09/22/21 02:43	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	118		70 - 130			09/21/21 14:36	09/22/21 02:43	1
o-Terphenyl (Surr)	130		70 - 130			09/21/21 14:36	09/22/21 02:43	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	270		5.01	mg/Kg			09/24/21 03:36	1

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

Client Sample ID: C-20

Lab Sample ID: 880-6276-13

Date Collected: 09/15/21 14:52

Matrix: Solid

Date Received: 09/20/21 12:57

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		09/21/21 09:30	09/22/21 05:56	1
Toluene	<0.00199	U	0.00199	mg/Kg		09/21/21 09:30	09/22/21 05:56	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		09/21/21 09:30	09/22/21 05:56	1
m,p-Xylenes	<0.00398	U	0.00398	mg/Kg		09/21/21 09:30	09/22/21 05:56	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		09/21/21 09:30	09/22/21 05:56	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		09/21/21 09:30	09/22/21 05:56	1
Total BTEX	<0.00398	U	0.00398	mg/Kg		09/21/21 09:30	09/22/21 05:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	133	S1+	70 - 130	09/21/21 09:30	09/22/21 05:56	1
1,4-Difluorobenzene (Surr)	82		70 - 130	09/21/21 09:30	09/22/21 05:56	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		09/21/21 14:36	09/22/21 03:03	1
Diesel Range Organics (Over C10-C28)	51.2		50.0	mg/Kg		09/21/21 14:36	09/22/21 03:03	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		09/21/21 14:36	09/22/21 03:03	1
Total TPH	51.2		50.0	mg/Kg		09/21/21 14:36	09/22/21 03:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	113		70 - 130	09/21/21 14:36	09/22/21 03:03	1
o-Terphenyl (Surr)	134	S1+	70 - 130	09/21/21 14:36	09/22/21 03:03	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	146		5.05	mg/Kg			09/24/21 03:42	1

Client Sample ID: C-21

Lab Sample ID: 880-6276-14

Date Collected: 09/15/21 14:53

Matrix: Solid

Date Received: 09/20/21 12:57

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		09/21/21 09:30	09/22/21 06:17	1
Toluene	<0.00199	U	0.00199	mg/Kg		09/21/21 09:30	09/22/21 06:17	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		09/21/21 09:30	09/22/21 06:17	1
m,p-Xylenes	<0.00398	U	0.00398	mg/Kg		09/21/21 09:30	09/22/21 06:17	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		09/21/21 09:30	09/22/21 06:17	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		09/21/21 09:30	09/22/21 06:17	1
Total BTEX	<0.00398	U	0.00398	mg/Kg		09/21/21 09:30	09/22/21 06:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	154	S1+	70 - 130	09/21/21 09:30	09/22/21 06:17	1
1,4-Difluorobenzene (Surr)	79		70 - 130	09/21/21 09:30	09/22/21 06:17	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		09/21/21 14:36	09/22/21 03:23	1

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

Client Sample ID: C-21

Lab Sample ID: 880-6276-14

Date Collected: 09/15/21 14:53

Matrix: Solid

Date Received: 09/20/21 12:57

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		09/21/21 14:36	09/22/21 03:23	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		09/21/21 14:36	09/22/21 03:23	1
Total TPH	<50.0	U	50.0	mg/Kg		09/21/21 14:36	09/22/21 03:23	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	100		70 - 130			09/21/21 14:36	09/22/21 03:23	1
o-Terphenyl (Surr)	112		70 - 130			09/21/21 14:36	09/22/21 03:23	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	580		4.97	mg/Kg			09/24/21 03:59	1

Client Sample ID: C-22

Lab Sample ID: 880-6276-15

Date Collected: 09/15/21 14:54

Matrix: Solid

Date Received: 09/20/21 12:57

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		09/21/21 09:30	09/22/21 06:37	1
Toluene	<0.00198	U	0.00198	mg/Kg		09/21/21 09:30	09/22/21 06:37	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		09/21/21 09:30	09/22/21 06:37	1
m,p-Xylenes	<0.00396	U	0.00396	mg/Kg		09/21/21 09:30	09/22/21 06:37	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		09/21/21 09:30	09/22/21 06:37	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		09/21/21 09:30	09/22/21 06:37	1
Total BTEX	<0.00396	U	0.00396	mg/Kg		09/21/21 09:30	09/22/21 06:37	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	138	S1+	70 - 130			09/21/21 09:30	09/22/21 06:37	1
1,4-Difluorobenzene (Surr)	83		70 - 130			09/21/21 09:30	09/22/21 06:37	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	<49.8	U	49.8	mg/Kg		09/21/21 14:36	09/22/21 03:43	1
Diesel Range Organics (Over C10-C28)	324		49.8	mg/Kg		09/21/21 14:36	09/22/21 03:43	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		09/21/21 14:36	09/22/21 03:43	1
Total TPH	324		49.8	mg/Kg		09/21/21 14:36	09/22/21 03:43	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	94		70 - 130			09/21/21 14:36	09/22/21 03:43	1
o-Terphenyl (Surr)	103		70 - 130			09/21/21 14:36	09/22/21 03:43	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	337		4.95	mg/Kg			09/24/21 04:04	1

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

Client Sample ID: C-23

Lab Sample ID: 880-6276-16

Date Collected: 09/15/21 14:55

Matrix: Solid

Date Received: 09/20/21 12:57

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/21/21 09:30	09/22/21 06:58	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/21/21 09:30	09/22/21 06:58	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/21/21 09:30	09/22/21 06:58	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		09/21/21 09:30	09/22/21 06:58	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/21/21 09:30	09/22/21 06:58	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		09/21/21 09:30	09/22/21 06:58	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		09/21/21 09:30	09/22/21 06:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	140	S1+	70 - 130	09/21/21 09:30	09/22/21 06:58	1
1,4-Difluorobenzene (Surr)	81		70 - 130	09/21/21 09:30	09/22/21 06:58	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		09/21/21 14:36	09/22/21 04:04	1
Diesel Range Organics (Over C10-C28)	132		50.0	mg/Kg		09/21/21 14:36	09/22/21 04:04	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		09/21/21 14:36	09/22/21 04:04	1
Total TPH	132		50.0	mg/Kg		09/21/21 14:36	09/22/21 04:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	93		70 - 130	09/21/21 14:36	09/22/21 04:04	1
o-Terphenyl (Surr)	102		70 - 130	09/21/21 14:36	09/22/21 04:04	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	609		5.00	mg/Kg			09/24/21 04:10	1

Surrogate Summary

Client: Larson & Associates, Inc.
Project/Site: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

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)
880-6276-1	C-8	125	77
880-6276-1 MS	C-8	128	81
880-6276-1 MSD	C-8	141 S1+	78
880-6276-2	C-9	109	62 S1-
880-6276-3	C-10	128	79
880-6276-4	C-11	134 S1+	81
880-6276-5	C-12	141 S1+	82
880-6276-6	C-13	137 S1+	80
880-6276-7	C-14	129	59 S1-
880-6276-8	C-15	132 S1+	73
880-6276-9	C-16	124	73
880-6276-10	C-17	127	76
880-6276-11	C-18	131 S1+	81
880-6276-11 MS	C-18	119	79
880-6276-11 MSD	C-18	117	76
880-6276-12	C-19	131 S1+	83
880-6276-13	C-20	133 S1+	82
880-6276-14	C-21	154 S1+	79
880-6276-15	C-22	138 S1+	83
880-6276-16	C-23	140 S1+	81
LCS 880-8132/1-B	Lab Control Sample	112	73
LCS 880-8133/1-A	Lab Control Sample	121	80
LCSD 880-8132/2-B	Lab Control Sample Dup	111	81
LCSD 880-8133/2-A	Lab Control Sample Dup	121	78
MB 880-8102/5-B	Method Blank	109	75
MB 880-8129/5-A	Method Blank	101	74
MB 880-8132/5-B	Method Blank	119	78
MB 880-8133/5-A	Method Blank	104	77
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)
880-6276-1	C-8	99	113
880-6276-2	C-9	101	117
880-6276-3	C-10	106	111
880-6276-4	C-11	100	109
880-6276-5	C-12	91	101
880-6276-6	C-13	92	108
880-6276-7	C-14	94	102
880-6276-8	C-15	103	123
880-6276-9	C-16	106	121
880-6276-10	C-17	104	117
880-6276-11	C-18	121	143 S1+

Eurofins Xenco, Midland

Surrogate Summary

Client: Larson & Associates, Inc.

Job ID: 880-6276-1

Project/Site: Chevron NWAUB

SDG: 20-0107-02

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-6276-12	C-19	118	130
880-6276-13	C-20	113	134 S1+
880-6276-14	C-21	100	112
880-6276-15	C-22	94	103
880-6276-16	C-23	93	102
890-1285-A-1-B MS	Matrix Spike	100	100
890-1285-A-1-C MSD	Matrix Spike Duplicate	90	89
LCS 880-8211/2-A	Lab Control Sample	104	103
LCSD 880-8211/3-A	Lab Control Sample Dup	106	109
MB 880-8211/1-A	Method Blank	96	114
Surrogate Legend			
1CO = 1-Chlorooctane (Surr)			
OTPH = o-Terphenyl (Surr)			

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-8102/5-B

Matrix: Solid

Analysis Batch: 8212

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8102

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/21/21 09:40	09/21/21 18:03	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/21/21 09:40	09/21/21 18:03	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/21/21 09:40	09/21/21 18:03	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		09/21/21 09:40	09/21/21 18:03	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/21/21 09:40	09/21/21 18:03	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		09/21/21 09:40	09/21/21 18:03	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		09/21/21 09:40	09/21/21 18:03	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130	09/21/21 09:40	09/21/21 18:03	1
1,4-Difluorobenzene (Surr)	75		70 - 130	09/21/21 09:40	09/21/21 18:03	1

Lab Sample ID: MB 880-8129/5-A

Matrix: Solid

Analysis Batch: 8143

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8129

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/20/21 12:40	09/20/21 17:59	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/20/21 12:40	09/20/21 17:59	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/20/21 12:40	09/20/21 17:59	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		09/20/21 12:40	09/20/21 17:59	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/20/21 12:40	09/20/21 17:59	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		09/20/21 12:40	09/20/21 17:59	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		09/20/21 12:40	09/20/21 17:59	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	09/20/21 12:40	09/20/21 17:59	1
1,4-Difluorobenzene (Surr)	74		70 - 130	09/20/21 12:40	09/20/21 17:59	1

Lab Sample ID: MB 880-8132/5-B

Matrix: Solid

Analysis Batch: 8212

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8132

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/21/21 09:30	09/22/21 04:54	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/21/21 09:30	09/22/21 04:54	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/21/21 09:30	09/22/21 04:54	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		09/21/21 09:30	09/22/21 04:54	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/21/21 09:30	09/22/21 04:54	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		09/21/21 09:30	09/22/21 04:54	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		09/21/21 09:30	09/22/21 04:54	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130	09/21/21 09:30	09/22/21 04:54	1
1,4-Difluorobenzene (Surr)	78		70 - 130	09/21/21 09:30	09/22/21 04:54	1

Eurofins Xenco, Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCS 880-8132/1-B

Matrix: Solid

Analysis Batch: 8212

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 8132

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.08695		mg/Kg		87	70 - 130
Toluene	0.100	0.08872		mg/Kg		89	70 - 130
Ethylbenzene	0.100	0.08942		mg/Kg		89	70 - 130
m,p-Xylenes	0.200	0.1865		mg/Kg		93	70 - 130
o-Xylene	0.100	0.09687		mg/Kg		97	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	112		70 - 130
1,4-Difluorobenzene (Surr)	73		70 - 130

Lab Sample ID: LCSD 880-8132/2-B

Matrix: Solid

Analysis Batch: 8212

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 8132

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.08927		mg/Kg		89	70 - 130	3	35
Toluene	0.100	0.09043		mg/Kg		90	70 - 130	2	35
Ethylbenzene	0.100	0.09260		mg/Kg		93	70 - 130	3	35
m,p-Xylenes	0.200	0.1933		mg/Kg		97	70 - 130	4	35
o-Xylene	0.100	0.1002		mg/Kg		100	70 - 130	3	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	111		70 - 130
1,4-Difluorobenzene (Surr)	81		70 - 130

Lab Sample ID: 880-6276-11 MS

Matrix: Solid

Analysis Batch: 8212

Client Sample ID: C-18

Prep Type: Total/NA

Prep Batch: 8132

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00200	U F1	0.0990	0.06772	F1	mg/Kg		68	70 - 130
Toluene	<0.00200	U F1	0.0990	0.06664	F1	mg/Kg		67	70 - 130
Ethylbenzene	<0.00200	U F1	0.0990	0.06261	F1	mg/Kg		63	70 - 130
m,p-Xylenes	<0.00399	U F1	0.198	0.1325	F1	mg/Kg		67	70 - 130
o-Xylene	<0.00200	U F1	0.0990	0.06732	F1	mg/Kg		68	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	119		70 - 130
1,4-Difluorobenzene (Surr)	79		70 - 130

Lab Sample ID: 880-6276-11 MSD

Matrix: Solid

Analysis Batch: 8212

Client Sample ID: C-18

Prep Type: Total/NA

Prep Batch: 8132

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U F1	0.0996	0.06978		mg/Kg		70	70 - 130	3	35
Toluene	<0.00200	U F1	0.0996	0.06999		mg/Kg		70	70 - 130	5	35
Ethylbenzene	<0.00200	U F1	0.0996	0.06560	F1	mg/Kg		66	70 - 130	5	35

Eurofins Xenco, Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 880-6276-11 MSD

Matrix: Solid

Analysis Batch: 8212

Client Sample ID: C-18

Prep Type: Total/NA

Prep Batch: 8132

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
m,p-Xylenes	<0.00399	U F1	0.199	0.1391		mg/Kg		70	70 - 130	5	35
o-Xylene	<0.00200	U F1	0.0996	0.07017		mg/Kg		70	70 - 130	4	35
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	117		70 - 130								
1,4-Difluorobenzene (Surr)	76		70 - 130								

Lab Sample ID: MB 880-8133/5-A

Matrix: Solid

Analysis Batch: 8143

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8133

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/20/21 13:33	09/21/21 04:51	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/20/21 13:33	09/21/21 04:51	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/20/21 13:33	09/21/21 04:51	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		09/20/21 13:33	09/21/21 04:51	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/20/21 13:33	09/21/21 04:51	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		09/20/21 13:33	09/21/21 04:51	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		09/20/21 13:33	09/21/21 04:51	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130			09/20/21 13:33	09/21/21 04:51	1
1,4-Difluorobenzene (Surr)	77		70 - 130			09/20/21 13:33	09/21/21 04:51	1

Lab Sample ID: LCS 880-8133/1-A

Matrix: Solid

Analysis Batch: 8143

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 8133

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Benzene	0.100	0.08782		mg/Kg		88	70 - 130	
Toluene	0.100	0.08735		mg/Kg		87	70 - 130	
Ethylbenzene	0.100	0.09217		mg/Kg		92	70 - 130	
m,p-Xylenes	0.200	0.2008		mg/Kg		100	70 - 130	
o-Xylene	0.100	0.1014		mg/Kg		101	70 - 130	
Surrogate	LCS %Recovery	LCS Qualifier	Limits					
4-Bromofluorobenzene (Surr)	121		70 - 130					
1,4-Difluorobenzene (Surr)	80		70 - 130					

Lab Sample ID: LCSD 880-8133/2-A

Matrix: Solid

Analysis Batch: 8143

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 8133

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.08765		mg/Kg		88	70 - 130	0	35
Toluene	0.100	0.09421		mg/Kg		94	70 - 130	8	35
Ethylbenzene	0.100	0.09780		mg/Kg		98	70 - 130	6	35
m,p-Xylenes	0.200	0.2059		mg/Kg		103	70 - 130	2	35

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-8133/2-A

Matrix: Solid

Analysis Batch: 8143

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 8133

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
o-Xylene	0.100	0.1032		mg/Kg		103	70 - 130	2	35
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	121		70 - 130						
1,4-Difluorobenzene (Surr)	78		70 - 130						

Lab Sample ID: 880-6276-1 MS

Matrix: Solid

Analysis Batch: 8143

Client Sample ID: C-8

Prep Type: Total/NA

Prep Batch: 8133

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00199	U F1	0.100	0.06497	F1	mg/Kg		65	70 - 130		
Toluene	<0.00199	U F1	0.100	0.06239	F1	mg/Kg		62	70 - 130		
Ethylbenzene	<0.00199	U F1	0.100	0.04140	F1	mg/Kg		41	70 - 130		
m,p-Xylenes	<0.00398	U F1	0.201	0.1183	F1	mg/Kg		59	70 - 130		
o-Xylene	<0.00199	U F2 F1	0.100	0.06152	F1	mg/Kg		61	70 - 130		
Surrogate	MS %Recovery	MS Qualifier	Limits								
4-Bromofluorobenzene (Surr)	128		70 - 130								
1,4-Difluorobenzene (Surr)	81		70 - 130								

Lab Sample ID: 880-6276-1 MSD

Matrix: Solid

Analysis Batch: 8143

Client Sample ID: C-8

Prep Type: Total/NA

Prep Batch: 8133

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00199	U F1	0.101	0.04773	F1	mg/Kg		47	70 - 130	31	35
Toluene	<0.00199	U F1	0.101	0.04866	F1	mg/Kg		48	70 - 130	25	35
Ethylbenzene	<0.00199	U F1	0.101	0.03262	F1	mg/Kg		32	70 - 130	24	35
m,p-Xylenes	<0.00398	U F1	0.202	0.1002	F1	mg/Kg		50	70 - 130	17	35
o-Xylene	<0.00199	U F2 F1	0.101	0.02204	F2 F1	mg/Kg		22	70 - 130	94	35
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	141	S1+	70 - 130								
1,4-Difluorobenzene (Surr)	78		70 - 130								

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-8211/1-A

Matrix: Solid

Analysis Batch: 8177

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8211

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		09/21/21 14:36	09/21/21 20:21	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		09/21/21 14:36	09/21/21 20:21	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		09/21/21 14:36	09/21/21 20:21	1
Total TPH	<50.0	U	50.0	mg/Kg		09/21/21 14:36	09/21/21 20:21	1

Eurofins Xenco, Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	96		70 - 130	09/21/21 14:36	09/21/21 20:21	1
o-Terphenyl (Surr)	114		70 - 130	09/21/21 14:36	09/21/21 20:21	1

Lab Sample ID: LCS 880-8211/2-A

Matrix: Solid

Analysis Batch: 8177

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 8211

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1046		mg/Kg		105	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1026		mg/Kg		103	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane (Surr)	104		70 - 130
o-Terphenyl (Surr)	103		70 - 130

Lab Sample ID: LCSD 880-8211/3-A

Matrix: Solid

Analysis Batch: 8177

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 8211

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1034		mg/Kg		103	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	1000	1071		mg/Kg		107	70 - 130	4	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane (Surr)	106		70 - 130
o-Terphenyl (Surr)	109		70 - 130

Lab Sample ID: 890-1285-A-1-B MS

Matrix: Solid

Analysis Batch: 8177

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 8211

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	997	905.8		mg/Kg		88	70 - 130
Diesel Range Organics (Over C10-C28)	<49.8	U	997	897.8		mg/Kg		88	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane (Surr)	100		70 - 130
o-Terphenyl (Surr)	100		70 - 130

Lab Sample ID: 890-1285-A-1-C MSD

Matrix: Solid

Analysis Batch: 8177

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 8211

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	<49.8	U	999	1026		mg/Kg		100	70 - 130	12	20

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 890-1285-A-1-C MSD

Matrix: Solid

Analysis Batch: 8177

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 8211

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics (Over C10-C28)	<49.8	U	999	807.2		mg/Kg		79	70 - 130	11	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane (Surr)	90		70 - 130								
o-Terphenyl (Surr)	89		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-8179/1-A

Matrix: Solid

Analysis Batch: 8332

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			09/24/21 01:44	1

Lab Sample ID: LCS 880-8179/2-A

Matrix: Solid

Analysis Batch: 8332

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	255.6		mg/Kg		102	90 - 110

Lab Sample ID: LCSD 880-8179/3-A

Matrix: Solid

Analysis Batch: 8332

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	256.3		mg/Kg		103	90 - 110	0	20

Lab Sample ID: 880-6276-1 MS

Matrix: Solid

Analysis Batch: 8332

Client Sample ID: C-8

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	80.2		249	347.2		mg/Kg		107	90 - 110

Lab Sample ID: 880-6276-1 MSD

Matrix: Solid

Analysis Batch: 8332

Client Sample ID: C-8

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	80.2		249	347.5		mg/Kg		107	90 - 110	0	20

Lab Sample ID: 880-6276-11 MS

Matrix: Solid

Analysis Batch: 8332

Client Sample ID: C-18

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	36.9		250	305.0		mg/Kg		107	90 - 110

Eurofins Xenco, Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 880-6276-11 MSD							Client Sample ID: C-18					
Matrix: Solid							Prep Type: Soluble					
Analysis Batch: 8332												
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit	
Chloride	36.9		250	305.4		mg/Kg		108	90 - 110	0	20	

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

GC VOA

Prep Batch: 8102

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-8102/5-B	Method Blank	Total/NA	Solid	5035	

Prep Batch: 8129

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-8129/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 8132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-6276-11	C-18	Total/NA	Solid	5035	
880-6276-12	C-19	Total/NA	Solid	5035	
880-6276-13	C-20	Total/NA	Solid	5035	
880-6276-14	C-21	Total/NA	Solid	5035	
880-6276-15	C-22	Total/NA	Solid	5035	
880-6276-16	C-23	Total/NA	Solid	5035	
MB 880-8132/5-B	Method Blank	Total/NA	Solid	5035	
LCS 880-8132/1-B	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-8132/2-B	Lab Control Sample Dup	Total/NA	Solid	5035	
880-6276-11 MS	C-18	Total/NA	Solid	5035	
880-6276-11 MSD	C-18	Total/NA	Solid	5035	

Prep Batch: 8133

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-6276-1	C-8	Total/NA	Solid	5035	
880-6276-2	C-9	Total/NA	Solid	5035	
880-6276-3	C-10	Total/NA	Solid	5035	
880-6276-4	C-11	Total/NA	Solid	5035	
880-6276-5	C-12	Total/NA	Solid	5035	
880-6276-6	C-13	Total/NA	Solid	5035	
880-6276-7	C-14	Total/NA	Solid	5035	
880-6276-8	C-15	Total/NA	Solid	5035	
880-6276-9	C-16	Total/NA	Solid	5035	
880-6276-10	C-17	Total/NA	Solid	5035	
MB 880-8133/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-8133/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-8133/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-6276-1 MS	C-8	Total/NA	Solid	5035	
880-6276-1 MSD	C-8	Total/NA	Solid	5035	

Analysis Batch: 8143

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-6276-1	C-8	Total/NA	Solid	8021B	8133
880-6276-2	C-9	Total/NA	Solid	8021B	8133
880-6276-3	C-10	Total/NA	Solid	8021B	8133
880-6276-4	C-11	Total/NA	Solid	8021B	8133
880-6276-5	C-12	Total/NA	Solid	8021B	8133
880-6276-6	C-13	Total/NA	Solid	8021B	8133
880-6276-7	C-14	Total/NA	Solid	8021B	8133
880-6276-8	C-15	Total/NA	Solid	8021B	8133
880-6276-9	C-16	Total/NA	Solid	8021B	8133
880-6276-10	C-17	Total/NA	Solid	8021B	8133
MB 880-8129/5-A	Method Blank	Total/NA	Solid	8021B	8129

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QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

GC VOA (Continued)

Analysis Batch: 8143 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-8133/5-A	Method Blank	Total/NA	Solid	8021B	8133
LCS 880-8133/1-A	Lab Control Sample	Total/NA	Solid	8021B	8133
LCSD 880-8133/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	8133
880-6276-1 MS	C-8	Total/NA	Solid	8021B	8133
880-6276-1 MSD	C-8	Total/NA	Solid	8021B	8133

Analysis Batch: 8212

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-6276-11	C-18	Total/NA	Solid	8021B	8132
880-6276-12	C-19	Total/NA	Solid	8021B	8132
880-6276-13	C-20	Total/NA	Solid	8021B	8132
880-6276-14	C-21	Total/NA	Solid	8021B	8132
880-6276-15	C-22	Total/NA	Solid	8021B	8132
880-6276-16	C-23	Total/NA	Solid	8021B	8132
MB 880-8102/5-B	Method Blank	Total/NA	Solid	8021B	8102
MB 880-8132/5-B	Method Blank	Total/NA	Solid	8021B	8132
LCS 880-8132/1-B	Lab Control Sample	Total/NA	Solid	8021B	8132
LCSD 880-8132/2-B	Lab Control Sample Dup	Total/NA	Solid	8021B	8132
880-6276-11 MS	C-18	Total/NA	Solid	8021B	8132
880-6276-11 MSD	C-18	Total/NA	Solid	8021B	8132

GC Semi VOA

Analysis Batch: 8177

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-6276-1	C-8	Total/NA	Solid	8015B NM	8211
880-6276-2	C-9	Total/NA	Solid	8015B NM	8211
880-6276-3	C-10	Total/NA	Solid	8015B NM	8211
880-6276-4	C-11	Total/NA	Solid	8015B NM	8211
880-6276-5	C-12	Total/NA	Solid	8015B NM	8211
880-6276-6	C-13	Total/NA	Solid	8015B NM	8211
880-6276-7	C-14	Total/NA	Solid	8015B NM	8211
880-6276-8	C-15	Total/NA	Solid	8015B NM	8211
880-6276-9	C-16	Total/NA	Solid	8015B NM	8211
880-6276-10	C-17	Total/NA	Solid	8015B NM	8211
880-6276-11	C-18	Total/NA	Solid	8015B NM	8211
880-6276-12	C-19	Total/NA	Solid	8015B NM	8211
880-6276-13	C-20	Total/NA	Solid	8015B NM	8211
880-6276-14	C-21	Total/NA	Solid	8015B NM	8211
880-6276-15	C-22	Total/NA	Solid	8015B NM	8211
880-6276-16	C-23	Total/NA	Solid	8015B NM	8211
MB 880-8211/1-A	Method Blank	Total/NA	Solid	8015B NM	8211
LCS 880-8211/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	8211
LCSD 880-8211/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	8211
890-1285-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	8211
890-1285-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	8211

Prep Batch: 8211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-6276-1	C-8	Total/NA	Solid	8015NM Prep	
880-6276-2	C-9	Total/NA	Solid	8015NM Prep	

Eurofins Xenco, Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

GC Semi VOA (Continued)

Prep Batch: 8211 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-6276-3	C-10	Total/NA	Solid	8015NM Prep	
880-6276-4	C-11	Total/NA	Solid	8015NM Prep	
880-6276-5	C-12	Total/NA	Solid	8015NM Prep	
880-6276-6	C-13	Total/NA	Solid	8015NM Prep	
880-6276-7	C-14	Total/NA	Solid	8015NM Prep	
880-6276-8	C-15	Total/NA	Solid	8015NM Prep	
880-6276-9	C-16	Total/NA	Solid	8015NM Prep	
880-6276-10	C-17	Total/NA	Solid	8015NM Prep	
880-6276-11	C-18	Total/NA	Solid	8015NM Prep	
880-6276-12	C-19	Total/NA	Solid	8015NM Prep	
880-6276-13	C-20	Total/NA	Solid	8015NM Prep	
880-6276-14	C-21	Total/NA	Solid	8015NM Prep	
880-6276-15	C-22	Total/NA	Solid	8015NM Prep	
880-6276-16	C-23	Total/NA	Solid	8015NM Prep	
MB 880-8211/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-8211/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-8211/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1285-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1285-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 8179

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-6276-1	C-8	Soluble	Solid	DI Leach	
880-6276-2	C-9	Soluble	Solid	DI Leach	
880-6276-3	C-10	Soluble	Solid	DI Leach	
880-6276-4	C-11	Soluble	Solid	DI Leach	
880-6276-5	C-12	Soluble	Solid	DI Leach	
880-6276-6	C-13	Soluble	Solid	DI Leach	
880-6276-7	C-14	Soluble	Solid	DI Leach	
880-6276-8	C-15	Soluble	Solid	DI Leach	
880-6276-9	C-16	Soluble	Solid	DI Leach	
880-6276-10	C-17	Soluble	Solid	DI Leach	
880-6276-11	C-18	Soluble	Solid	DI Leach	
880-6276-12	C-19	Soluble	Solid	DI Leach	
880-6276-13	C-20	Soluble	Solid	DI Leach	
880-6276-14	C-21	Soluble	Solid	DI Leach	
880-6276-15	C-22	Soluble	Solid	DI Leach	
880-6276-16	C-23	Soluble	Solid	DI Leach	
MB 880-8179/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-8179/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-8179/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-6276-1 MS	C-8	Soluble	Solid	DI Leach	
880-6276-1 MSD	C-8	Soluble	Solid	DI Leach	
880-6276-11 MS	C-18	Soluble	Solid	DI Leach	
880-6276-11 MSD	C-18	Soluble	Solid	DI Leach	

Analysis Batch: 8332

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-6276-1	C-8	Soluble	Solid	300.0	8179

Eurofins Xenco, Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

HPLC/IC (Continued)

Analysis Batch: 8332 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-6276-2	C-9	Soluble	Solid	300.0	8179
880-6276-3	C-10	Soluble	Solid	300.0	8179
880-6276-4	C-11	Soluble	Solid	300.0	8179
880-6276-5	C-12	Soluble	Solid	300.0	8179
880-6276-6	C-13	Soluble	Solid	300.0	8179
880-6276-7	C-14	Soluble	Solid	300.0	8179
880-6276-8	C-15	Soluble	Solid	300.0	8179
880-6276-9	C-16	Soluble	Solid	300.0	8179
880-6276-10	C-17	Soluble	Solid	300.0	8179
880-6276-11	C-18	Soluble	Solid	300.0	8179
880-6276-12	C-19	Soluble	Solid	300.0	8179
880-6276-13	C-20	Soluble	Solid	300.0	8179
880-6276-14	C-21	Soluble	Solid	300.0	8179
880-6276-15	C-22	Soluble	Solid	300.0	8179
880-6276-16	C-23	Soluble	Solid	300.0	8179
MB 880-8179/1-A	Method Blank	Soluble	Solid	300.0	8179
LCS 880-8179/2-A	Lab Control Sample	Soluble	Solid	300.0	8179
LCSD 880-8179/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	8179
880-6276-1 MS	C-8	Soluble	Solid	300.0	8179
880-6276-1 MSD	C-8	Soluble	Solid	300.0	8179
880-6276-11 MS	C-18	Soluble	Solid	300.0	8179
880-6276-11 MSD	C-18	Soluble	Solid	300.0	8179

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

Client Sample ID: C-8

Lab Sample ID: 880-6276-1

Date Collected: 09/14/21 10:45

Matrix: Solid

Date Received: 09/20/21 12:57

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	8133	09/20/21 13:33	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8143	09/21/21 05:12	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	8211	09/21/21 14:36	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8177	09/21/21 22:42	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	8179	09/21/21 09:26	CH	XEN MID
Soluble	Analysis	300.0		1			8332	09/24/21 02:01	CH	XEN MID

Client Sample ID: C-9

Lab Sample ID: 880-6276-2

Date Collected: 09/14/21 10:46

Matrix: Solid

Date Received: 09/20/21 12:57

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	8133	09/20/21 13:33	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8143	09/21/21 05:33	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	8211	09/21/21 14:36	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8177	09/22/21 08:07	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	8179	09/21/21 09:26	CH	XEN MID
Soluble	Analysis	300.0		1			8332	09/24/21 02:18	CH	XEN MID

Client Sample ID: C-10

Lab Sample ID: 880-6276-3

Date Collected: 09/15/21 09:55

Matrix: Solid

Date Received: 09/20/21 12:57

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	8133	09/20/21 13:33	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8143	09/21/21 05:53	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	8211	09/21/21 14:36	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8177	09/22/21 08:26	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	8179	09/21/21 09:26	CH	XEN MID
Soluble	Analysis	300.0		1			8332	09/24/21 02:23	CH	XEN MID

Client Sample ID: C-11

Lab Sample ID: 880-6276-4

Date Collected: 09/15/21 09:56

Matrix: Solid

Date Received: 09/20/21 12:57

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	8133	09/20/21 13:33	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8143	09/21/21 06:13	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	8211	09/21/21 14:36	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8177	09/21/21 23:42	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	8179	09/21/21 09:26	CH	XEN MID
Soluble	Analysis	300.0		1			8332	09/24/21 02:29	CH	XEN MID

Eurofins Xenco, Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

Client Sample ID: C-12

Lab Sample ID: 880-6276-5

Date Collected: 09/15/21 09:57

Matrix: Solid

Date Received: 09/20/21 12:57

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	8133	09/20/21 13:33	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8143	09/21/21 06:34	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	8211	09/21/21 14:36	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8177	09/22/21 00:03	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	8179	09/21/21 09:26	CH	XEN MID
Soluble	Analysis	300.0		1			8332	09/24/21 02:35	CH	XEN MID

Client Sample ID: C-13

Lab Sample ID: 880-6276-6

Date Collected: 09/15/21 09:58

Matrix: Solid

Date Received: 09/20/21 12:57

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	8133	09/20/21 13:33	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8143	09/21/21 06:54	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	8211	09/21/21 14:36	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8177	09/22/21 00:23	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	8179	09/21/21 09:26	CH	XEN MID
Soluble	Analysis	300.0		1			8332	09/24/21 02:51	CH	XEN MID

Client Sample ID: C-14

Lab Sample ID: 880-6276-7

Date Collected: 09/15/21 09:59

Matrix: Solid

Date Received: 09/20/21 12:57

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	8133	09/20/21 13:33	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8143	09/21/21 07:15	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	8211	09/21/21 14:36	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8177	09/22/21 08:46	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	8179	09/21/21 09:26	CH	XEN MID
Soluble	Analysis	300.0		1			8332	09/24/21 02:57	CH	XEN MID

Client Sample ID: C-15

Lab Sample ID: 880-6276-8

Date Collected: 09/15/21 14:20

Matrix: Solid

Date Received: 09/20/21 12:57

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	8133	09/20/21 13:33	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8143	09/21/21 07:35	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	8211	09/21/21 14:36	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8177	09/22/21 01:03	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	8179	09/21/21 09:26	CH	XEN MID
Soluble	Analysis	300.0		1			8332	09/24/21 03:03	CH	XEN MID

Eurofins Xenco, Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

Client Sample ID: C-16

Lab Sample ID: 880-6276-9

Date Collected: 09/15/21 14:21

Matrix: Solid

Date Received: 09/20/21 12:57

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	8133	09/20/21 13:33	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8143	09/21/21 07:55	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	8211	09/21/21 14:36	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8177	09/22/21 01:43	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	8179	09/21/21 09:26	CH	XEN MID
Soluble	Analysis	300.0		1			8332	09/24/21 03:08	CH	XEN MID

Client Sample ID: C-17

Lab Sample ID: 880-6276-10

Date Collected: 09/15/21 14:22

Matrix: Solid

Date Received: 09/20/21 12:57

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	8133	09/20/21 13:33	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8143	09/21/21 08:16	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	8211	09/21/21 14:36	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8177	09/22/21 02:03	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	8179	09/21/21 09:26	CH	XEN MID
Soluble	Analysis	300.0		1			8332	09/24/21 03:14	CH	XEN MID

Client Sample ID: C-18

Lab Sample ID: 880-6276-11

Date Collected: 09/15/21 14:23

Matrix: Solid

Date Received: 09/20/21 12:57

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	8132	09/21/21 09:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8212	09/22/21 05:15	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	8211	09/21/21 14:36	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8177	09/22/21 02:23	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	8179	09/21/21 09:26	CH	XEN MID
Soluble	Analysis	300.0		1			8332	09/24/21 03:19	CH	XEN MID

Client Sample ID: C-19

Lab Sample ID: 880-6276-12

Date Collected: 09/15/21 14:24

Matrix: Solid

Date Received: 09/20/21 12:57

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	8132	09/21/21 09:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8212	09/22/21 05:36	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	8211	09/21/21 14:36	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8177	09/22/21 02:43	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	8179	09/21/21 09:26	CH	XEN MID
Soluble	Analysis	300.0		1			8332	09/24/21 03:36	CH	XEN MID

Eurofins Xenco, Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

Client Sample ID: C-20

Lab Sample ID: 880-6276-13

Date Collected: 09/15/21 14:52

Matrix: Solid

Date Received: 09/20/21 12:57

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	8132	09/21/21 09:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8212	09/22/21 05:56	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	8211	09/21/21 14:36	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8177	09/22/21 03:03	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	8179	09/21/21 09:26	CH	XEN MID
Soluble	Analysis	300.0		1			8332	09/24/21 03:42	CH	XEN MID

Client Sample ID: C-21

Lab Sample ID: 880-6276-14

Date Collected: 09/15/21 14:53

Matrix: Solid

Date Received: 09/20/21 12:57

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	8132	09/21/21 09:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8212	09/22/21 06:17	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	8211	09/21/21 14:36	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8177	09/22/21 03:23	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	8179	09/21/21 09:26	CH	XEN MID
Soluble	Analysis	300.0		1			8332	09/24/21 03:59	CH	XEN MID

Client Sample ID: C-22

Lab Sample ID: 880-6276-15

Date Collected: 09/15/21 14:54

Matrix: Solid

Date Received: 09/20/21 12:57

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	8132	09/21/21 09:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8212	09/22/21 06:37	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	8211	09/21/21 14:36	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8177	09/22/21 03:43	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	8179	09/21/21 09:26	CH	XEN MID
Soluble	Analysis	300.0		1			8332	09/24/21 04:04	CH	XEN MID

Client Sample ID: C-23

Lab Sample ID: 880-6276-16

Date Collected: 09/15/21 14:55

Matrix: Solid

Date Received: 09/20/21 12:57

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	8132	09/21/21 09:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8212	09/22/21 06:58	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	8211	09/21/21 14:36	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8177	09/22/21 04:04	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	8179	09/21/21 09:26	CH	XEN MID
Soluble	Analysis	300.0		1			8332	09/24/21 04:10	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: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

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	T104704400-21-22	06-30-22

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: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

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: Chevron NWAUB

Job ID: 880-6276-1
SDG: 20-0107-02

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-6276-1	C-8	Solid	09/14/21 10:45	09/20/21 12:57
880-6276-2	C-9	Solid	09/14/21 10:46	09/20/21 12:57
880-6276-3	C-10	Solid	09/15/21 09:55	09/20/21 12:57
880-6276-4	C-11	Solid	09/15/21 09:56	09/20/21 12:57
880-6276-5	C-12	Solid	09/15/21 09:57	09/20/21 12:57
880-6276-6	C-13	Solid	09/15/21 09:58	09/20/21 12:57
880-6276-7	C-14	Solid	09/15/21 09:59	09/20/21 12:57
880-6276-8	C-15	Solid	09/15/21 14:20	09/20/21 12:57
880-6276-9	C-16	Solid	09/15/21 14:21	09/20/21 12:57
880-6276-10	C-17	Solid	09/15/21 14:22	09/20/21 12:57
880-6276-11	C-18	Solid	09/15/21 14:23	09/20/21 12:57
880-6276-12	C-19	Solid	09/15/21 14:24	09/20/21 12:57
880-6276-13	C-20	Solid	09/15/21 14:52	09/20/21 12:57
880-6276-14	C-21	Solid	09/15/21 14:53	09/20/21 12:57
880-6276-15	C-22	Solid	09/15/21 14:54	09/20/21 12:57
880-6276-16	C-23	Solid	09/15/21 14:55	09/20/21 12:57

Arson & Associates, Inc.
Environmental Consultants

507 N Mainfield Ste 202
Midland, TX 79701
432-687 0901

Data Reported to

DATE 9/16/21
PO#
PROJECT LOCATION OR NAME Chevron Nubaur
LAI PROJECT # 20-0107-02 COLLECTOR MB



880-6276 Chain of Custody

LAB WORK ORDER#

C. 2187
STODY
OF 2

9/24/2021

TIME ZONE Time zone/State	TRRP report? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	S=SOIL W=WATER A=AIR	P=PAINT SL=SLUDGE OT=OTHER	Matrix	# of Containers	PRESERVATION				ANALYSES	FIELD NOTES		
						HCl	HNO ₃	H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/>	ICE			UNPRESERVED	
C-8				9-14-21 10:45	S								
C-9				9-14-21 10:46									
C-10				9-15-21 9:55									
C-11				9:56									
C-12				9:57									
C-13				9:58									
C-14				9:59									
C-15				14:20									
C-16				14:21									
C-17				14:22									
C-18				14:23									
C-19				14:24									
C-20				14:52									
C-21				14:53									
C-22				14:54									
TOTAL	15												
RELINQUISHED BY (Signature)		DATE/TIME		RECEIVED BY (Signature)		DATE/TIME		TURN AROUND TIME		LABORATORY USE ONLY:			
<u>[Signature]</u>		9/20/2021 12:57		<u>[Signature]</u>		9/20/2021 12:57		NORMAL <input checked="" type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAY <input type="checkbox"/> OTHER <input type="checkbox"/>			RECEIVING TEMP <u>65/69</u> THERM# <u>128</u>		
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			CARRIER BILL # <u> </u>		
LABORATORY <u>Xenco</u>		DATE/TIME		RECEIVED BY (Signature)		DATE/TIME		HAND DELIVERED <input type="checkbox"/>			CARRIER BILL # <u> </u>		

9/24/2021

Login Sample Receipt Checklist

Client: Larson & Associates, Inc.

Job Number: 880-6276-1

SDG Number: 20-0107-02

Login Number: 6276

List Number: 1

Creator: Teel, Brianna

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.	N/A	
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	



Environment Testing America

ANALYTICAL REPORT

Eurofins Xenco, Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-6699-1

Laboratory Sample Delivery Group: 20-0107-02

Client Project/Site: NWAUB

Revision: 2

For:

Larson & Associates, Inc.
507 N Marienfeld
Suite 202
Midland, Texas 79701

Attn: Mr. Mark J Larson

A handwritten signature in black ink that reads "Holly Taylor".

Authorized for release by:
12/28/2021 5:24:45 PM

Holly Taylor, Project Manager
(806)794-1296
holly.taylor@eurofinset.com

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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: NWAUB

Laboratory Job ID: 880-6699-1
SDG: 20-0107-02

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	16
QC Sample Results	18
QC Association Summary	23
Lab Chronicle	27
Certification Summary	32
Method Summary	33
Sample Summary	34
Chain of Custody	35
Receipt Checklists	36

1
2
3
4
5
6
7
8
9
10
11
12
13
14

Definitions/Glossary

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
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.
α	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: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

Job ID: 880-6699-1

Laboratory: Eurofins Xenco, Midland

Narrative

Job Narrative 880-6699-1

Comments

No additional comments.

Revision

The report being provided is a revision of the original report sent on 10/7/2021. The report (revision 2) is being revised to remove C-27 per Robert Nelson (email)..

Report revision history

Revision 1 - 10/8/2021 - Reason - The report was revised to change the project number per Robert Nelson (email)..

Receipt

The samples were received on 9/30/2021 4:32 PM. 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 was 1.7° C.

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-8724 and analytical batch 880-8743 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: Surrogate recovery for the following samples were outside control limits: C-27, 3' (880-6699-15). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-8724 and analytical batch 880-8743 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method 8015B NM: The continuing calibration verifications were biased low in the gas range. It appears to have been related to the prep of the continuing calibration verification and not the instrumentation reading incorrectly since all other spikes and surrogates appear to be acceptable. The batch will be re-analyzed to confirm.

(CCV 880-8697/17), (CCV 880-8697/33) and (CCV 880-8697/44)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry

Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-8732 and 880-8732 and analytical batch 880-8982 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

Client Sample ID: Backfill-1

Lab Sample ID: 880-6699-1

Date Collected: 09/29/21 08:00

Matrix: Solid

Date Received: 09/30/21 16:32

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		10/01/21 10:40	10/03/21 15:31	1
Toluene	<0.00201	U	0.00201	mg/Kg		10/01/21 10:40	10/03/21 15:31	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		10/01/21 10:40	10/03/21 15:31	1
m,p-Xylenes	<0.00402	U	0.00402	mg/Kg		10/01/21 10:40	10/03/21 15:31	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		10/01/21 10:40	10/03/21 15:31	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		10/01/21 10:40	10/03/21 15:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	130		70 - 130	10/01/21 10:40	10/03/21 15:31	1
1,4-Difluorobenzene (Surr)	99		70 - 130	10/01/21 10:40	10/03/21 15:31	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200	mg/Kg			10/04/21 10:14	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			10/05/21 10:19	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	<49.8	U *	49.8	mg/Kg		10/01/21 09:56	10/01/21 16:23	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		10/01/21 09:56	10/01/21 16:23	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		10/01/21 09:56	10/01/21 16:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	97		70 - 130	10/01/21 09:56	10/01/21 16:23	1
o-Terphenyl (Surr)	106		70 - 130	10/01/21 09:56	10/01/21 16:23	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	25.6		4.97	mg/Kg			10/05/21 18:44	1

Client Sample ID: Backfill-2

Lab Sample ID: 880-6699-2

Date Collected: 09/29/21 08:17

Matrix: Solid

Date Received: 09/30/21 16:32

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		10/01/21 10:40	10/03/21 15:59	1
Toluene	<0.00202	U	0.00202	mg/Kg		10/01/21 10:40	10/03/21 15:59	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		10/01/21 10:40	10/03/21 15:59	1
m,p-Xylenes	<0.00403	U	0.00403	mg/Kg		10/01/21 10:40	10/03/21 15:59	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		10/01/21 10:40	10/03/21 15:59	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		10/01/21 10:40	10/03/21 15:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130	10/01/21 10:40	10/03/21 15:59	1
1,4-Difluorobenzene (Surr)	100		70 - 130	10/01/21 10:40	10/03/21 15:59	1

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

Client Sample ID: Backfill-2

Lab Sample ID: 880-6699-2

Date Collected: 09/29/21 08:17

Matrix: Solid

Date Received: 09/30/21 16:32

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200	mg/Kg			10/04/21 10:14	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			10/05/21 10:19	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		10/01/21 09:56	10/01/21 17:28	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/01/21 09:56	10/01/21 17:28	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/01/21 09:56	10/01/21 17:28	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	94		70 - 130			10/01/21 09:56	10/01/21 17:28	1
o-Terphenyl (Surr)	100		70 - 130			10/01/21 09:56	10/01/21 17:28	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	45.0		4.95	mg/Kg			10/05/21 18:49	1

Client Sample ID: Backfill-3

Lab Sample ID: 880-6699-3

Date Collected: 09/29/21 08:24

Matrix: Solid

Date Received: 09/30/21 16:32

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		10/01/21 10:40	10/03/21 16:26	1
Toluene	<0.00202	U	0.00202	mg/Kg		10/01/21 10:40	10/03/21 16:26	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		10/01/21 10:40	10/03/21 16:26	1
m,p-Xylenes	<0.00403	U	0.00403	mg/Kg		10/01/21 10:40	10/03/21 16:26	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		10/01/21 10:40	10/03/21 16:26	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		10/01/21 10:40	10/03/21 16:26	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	128		70 - 130			10/01/21 10:40	10/03/21 16:26	1
1,4-Difluorobenzene (Surr)	104		70 - 130			10/01/21 10:40	10/03/21 16:26	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200	mg/Kg			10/04/21 10:14	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			10/05/21 10:19	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		10/01/21 09:56	10/01/21 17:49	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		10/01/21 09:56	10/01/21 17:49	1

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

Client Sample ID: Backfill-3

Lab Sample ID: 880-6699-3

Date Collected: 09/29/21 08:24

Matrix: Solid

Date Received: 09/30/21 16:32

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/01/21 09:56	10/01/21 17:49	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	93		70 - 130			10/01/21 09:56	10/01/21 17:49	1
o-Terphenyl (Surr)	100		70 - 130			10/01/21 09:56	10/01/21 17:49	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	23.2		4.98	mg/Kg			10/05/21 18:55	1

Client Sample ID: C-24, 0-3'

Lab Sample ID: 880-6699-4

Date Collected: 09/29/21 10:06

Matrix: Solid

Date Received: 09/30/21 16:32

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/01/21 10:40	10/03/21 16:54	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/01/21 10:40	10/03/21 16:54	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/01/21 10:40	10/03/21 16:54	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		10/01/21 10:40	10/03/21 16:54	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/01/21 10:40	10/03/21 16:54	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/01/21 10:40	10/03/21 16:54	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130			10/01/21 10:40	10/03/21 16:54	1
1,4-Difluorobenzene (Surr)	104		70 - 130			10/01/21 10:40	10/03/21 16:54	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200	mg/Kg			10/04/21 10:14	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			10/05/21 10:19	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		10/01/21 09:56	10/01/21 18:10	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		10/01/21 09:56	10/01/21 18:10	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/01/21 09:56	10/01/21 18:10	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	91		70 - 130			10/01/21 09:56	10/01/21 18:10	1
o-Terphenyl (Surr)	101		70 - 130			10/01/21 09:56	10/01/21 18:10	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	75.6		4.95	mg/Kg			10/05/21 19:00	1

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

Client Sample ID: C-25, 0-3'

Lab Sample ID: 880-6699-5

Date Collected: 09/29/21 10:09

Matrix: Solid

Date Received: 09/30/21 16:32

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/01/21 10:40	10/03/21 17:23	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/01/21 10:40	10/03/21 17:23	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/01/21 10:40	10/03/21 17:23	1
m,p-Xylenes	<0.00399	U	0.00399	mg/Kg		10/01/21 10:40	10/03/21 17:23	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/01/21 10:40	10/03/21 17:23	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		10/01/21 10:40	10/03/21 17:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	10/01/21 10:40	10/03/21 17:23	1
1,4-Difluorobenzene (Surr)	102		70 - 130	10/01/21 10:40	10/03/21 17:23	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200	mg/Kg			10/04/21 10:14	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			10/05/21 10:19	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	<49.8	U *	49.8	mg/Kg		10/01/21 09:56	10/01/21 18:31	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		10/01/21 09:56	10/01/21 18:31	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		10/01/21 09:56	10/01/21 18:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	91		70 - 130	10/01/21 09:56	10/01/21 18:31	1
o-Terphenyl (Surr)	99		70 - 130	10/01/21 09:56	10/01/21 18:31	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	439		5.04	mg/Kg			10/05/21 19:06	1

Client Sample ID: C-26, 0-3'

Lab Sample ID: 880-6699-6

Date Collected: 09/29/21 10:13

Matrix: Solid

Date Received: 09/30/21 16:32

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		10/01/21 10:40	10/03/21 17:51	1
Toluene	<0.00201	U	0.00201	mg/Kg		10/01/21 10:40	10/03/21 17:51	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		10/01/21 10:40	10/03/21 17:51	1
m,p-Xylenes	<0.00402	U	0.00402	mg/Kg		10/01/21 10:40	10/03/21 17:51	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		10/01/21 10:40	10/03/21 17:51	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		10/01/21 10:40	10/03/21 17:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130	10/01/21 10:40	10/03/21 17:51	1
1,4-Difluorobenzene (Surr)	106		70 - 130	10/01/21 10:40	10/03/21 17:51	1

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

Client Sample ID: C-26, 0-3'

Lab Sample ID: 880-6699-6

Date Collected: 09/29/21 10:13

Matrix: Solid

Date Received: 09/30/21 16:32

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200	mg/Kg			10/04/21 10:14	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	144		50.0	mg/Kg			10/05/21 10:19	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		10/01/21 09:56	10/01/21 18:51	1
Diesel Range Organics (Over C10-C28)	92.8		50.0	mg/Kg		10/01/21 09:56	10/01/21 18:51	1
Oil Range Organics (Over C28-C36)	51.6		50.0	mg/Kg		10/01/21 09:56	10/01/21 18:51	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	90		70 - 130			10/01/21 09:56	10/01/21 18:51	1
o-Terphenyl (Surr)	96		70 - 130			10/01/21 09:56	10/01/21 18:51	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	238		5.01	mg/Kg			10/05/21 19:12	1

Client Sample ID: C-23, 0-4'

Lab Sample ID: 880-6699-7

Date Collected: 09/29/21 13:00

Matrix: Solid

Date Received: 09/30/21 16:32

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		10/01/21 10:40	10/03/21 18:20	1
Toluene	<0.00199	U	0.00199	mg/Kg		10/01/21 10:40	10/03/21 18:20	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		10/01/21 10:40	10/03/21 18:20	1
m,p-Xylenes	<0.00398	U	0.00398	mg/Kg		10/01/21 10:40	10/03/21 18:20	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		10/01/21 10:40	10/03/21 18:20	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		10/01/21 10:40	10/03/21 18:20	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130			10/01/21 10:40	10/03/21 18:20	1
1,4-Difluorobenzene (Surr)	102		70 - 130			10/01/21 10:40	10/03/21 18:20	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200	mg/Kg			10/04/21 10:16	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	65.9		50.0	mg/Kg			10/05/21 10:42	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		10/01/21 09:56	10/01/21 19:12	1

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

Client Sample ID: C-23, 0-4'

Lab Sample ID: 880-6699-7

Date Collected: 09/29/21 13:00

Matrix: Solid

Date Received: 09/30/21 16:32

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)	65.9		49.9	mg/Kg		10/01/21 09:56	10/01/21 19:12	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/01/21 09:56	10/01/21 19:12	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	95		70 - 130			10/01/21 09:56	10/01/21 19:12	1
o-Terphenyl (Surr)	103		70 - 130			10/01/21 09:56	10/01/21 19:12	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	338		4.99	mg/Kg			10/05/21 19:17	1

Client Sample ID: C-10, 0-4.1'

Lab Sample ID: 880-6699-8

Date Collected: 09/29/21 15:12

Matrix: Solid

Date Received: 09/30/21 16:32

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/01/21 10:40	10/03/21 18:48	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/01/21 10:40	10/03/21 18:48	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/01/21 10:40	10/03/21 18:48	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		10/01/21 10:40	10/03/21 18:48	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/01/21 10:40	10/03/21 18:48	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/01/21 10:40	10/03/21 18:48	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130			10/01/21 10:40	10/03/21 18:48	1
1,4-Difluorobenzene (Surr)	102		70 - 130			10/01/21 10:40	10/03/21 18:48	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200	mg/Kg			10/04/21 10:16	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	88.9		50.0	mg/Kg			10/05/21 10:42	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		10/01/21 09:56	10/01/21 19:33	1
Diesel Range Organics (Over C10-C28)	88.9		49.9	mg/Kg		10/01/21 09:56	10/01/21 19:33	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/01/21 09:56	10/01/21 19:33	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	93		70 - 130			10/01/21 09:56	10/01/21 19:33	1
o-Terphenyl (Surr)	104		70 - 130			10/01/21 09:56	10/01/21 19:33	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	16.0	F1	4.95	mg/Kg			10/06/21 15:56	1

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

Client Sample ID: C-9, 0-6'

Lab Sample ID: 880-6699-9

Date Collected: 09/29/21 15:16

Matrix: Solid

Date Received: 09/30/21 16:32

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		10/01/21 10:40	10/03/21 20:43	1
Toluene	<0.00199	U	0.00199	mg/Kg		10/01/21 10:40	10/03/21 20:43	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		10/01/21 10:40	10/03/21 20:43	1
m,p-Xylenes	<0.00398	U	0.00398	mg/Kg		10/01/21 10:40	10/03/21 20:43	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		10/01/21 10:40	10/03/21 20:43	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		10/01/21 10:40	10/03/21 20:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	117		70 - 130	10/01/21 10:40	10/03/21 20:43	1
1,4-Difluorobenzene (Surr)	94		70 - 130	10/01/21 10:40	10/03/21 20:43	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200	mg/Kg			10/04/21 10:16	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			10/05/21 10:42	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	<49.8	U *	49.8	mg/Kg		10/01/21 09:56	10/01/21 19:53	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		10/01/21 09:56	10/01/21 19:53	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		10/01/21 09:56	10/01/21 19:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	97		70 - 130	10/01/21 09:56	10/01/21 19:53	1
o-Terphenyl (Surr)	106		70 - 130	10/01/21 09:56	10/01/21 19:53	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	224		5.04	mg/Kg			10/07/21 11:50	1

Client Sample ID: C-7, 0-4.1'

Lab Sample ID: 880-6699-10

Date Collected: 09/29/21 15:23

Matrix: Solid

Date Received: 09/30/21 16:32

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		10/01/21 10:40	10/03/21 21:11	1
Toluene	<0.00198	U	0.00198	mg/Kg		10/01/21 10:40	10/03/21 21:11	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		10/01/21 10:40	10/03/21 21:11	1
m,p-Xylenes	<0.00397	U	0.00397	mg/Kg		10/01/21 10:40	10/03/21 21:11	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		10/01/21 10:40	10/03/21 21:11	1
Xylenes, Total	<0.00397	U	0.00397	mg/Kg		10/01/21 10:40	10/03/21 21:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130	10/01/21 10:40	10/03/21 21:11	1
1,4-Difluorobenzene (Surr)	104		70 - 130	10/01/21 10:40	10/03/21 21:11	1

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

Client Sample ID: C-7, 0-4.1'

Lab Sample ID: 880-6699-10

Date Collected: 09/29/21 15:23

Matrix: Solid

Date Received: 09/30/21 16:32

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200	mg/Kg			10/04/21 10:16	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	329		50.0	mg/Kg			10/05/21 10:42	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		10/01/21 09:56	10/01/21 20:13	1
Diesel Range Organics (Over C10-C28)	234		50.0	mg/Kg		10/01/21 09:56	10/01/21 20:13	1
Oil Range Organics (Over C28-C36)	94.7		50.0	mg/Kg		10/01/21 09:56	10/01/21 20:13	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	96		70 - 130			10/01/21 09:56	10/01/21 20:13	1
o-Terphenyl (Surr)	103		70 - 130			10/01/21 09:56	10/01/21 20:13	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	24.3		4.98	mg/Kg			10/07/21 11:56	1

Client Sample ID: C-5, 0-5'

Lab Sample ID: 880-6699-11

Date Collected: 09/29/21 16:01

Matrix: Solid

Date Received: 09/30/21 16:32

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		10/01/21 10:40	10/03/21 21:40	1
Toluene	<0.00199	U	0.00199	mg/Kg		10/01/21 10:40	10/03/21 21:40	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		10/01/21 10:40	10/03/21 21:40	1
m,p-Xylenes	<0.00398	U	0.00398	mg/Kg		10/01/21 10:40	10/03/21 21:40	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		10/01/21 10:40	10/03/21 21:40	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		10/01/21 10:40	10/03/21 21:40	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130			10/01/21 10:40	10/03/21 21:40	1
1,4-Difluorobenzene (Surr)	101		70 - 130			10/01/21 10:40	10/03/21 21:40	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200	mg/Kg			10/04/21 10:16	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	102		50.0	mg/Kg			10/05/21 10:42	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		10/01/21 09:56	10/01/21 20:55	1

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

Client Sample ID: C-5, 0-5'

Lab Sample ID: 880-6699-11

Date Collected: 09/29/21 16:01

Matrix: Solid

Date Received: 09/30/21 16:32

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)	102		49.9	mg/Kg		10/01/21 09:56	10/01/21 20:55	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/01/21 09:56	10/01/21 20:55	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	96		70 - 130			10/01/21 09:56	10/01/21 20:55	1
o-Terphenyl (Surr)	105		70 - 130			10/01/21 09:56	10/01/21 20:55	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	16.4		4.95	mg/Kg			10/07/21 12:02	1

Client Sample ID: C-6, 0-5'

Lab Sample ID: 880-6699-12

Date Collected: 09/29/21 16:02

Matrix: Solid

Date Received: 09/30/21 16:32

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		10/01/21 10:40	10/03/21 22:07	1
Toluene	<0.00199	U	0.00199	mg/Kg		10/01/21 10:40	10/03/21 22:07	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		10/01/21 10:40	10/03/21 22:07	1
m,p-Xylenes	<0.00398	U	0.00398	mg/Kg		10/01/21 10:40	10/03/21 22:07	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		10/01/21 10:40	10/03/21 22:07	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		10/01/21 10:40	10/03/21 22:07	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	130		70 - 130			10/01/21 10:40	10/03/21 22:07	1
1,4-Difluorobenzene (Surr)	104		70 - 130			10/01/21 10:40	10/03/21 22:07	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200	mg/Kg			10/04/21 10:16	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			10/05/21 10:42	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		10/01/21 09:56	10/01/21 21:15	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		10/01/21 09:56	10/01/21 21:15	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/01/21 09:56	10/01/21 21:15	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	96		70 - 130			10/01/21 09:56	10/01/21 21:15	1
o-Terphenyl (Surr)	105		70 - 130			10/01/21 09:56	10/01/21 21:15	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	37.8		4.97	mg/Kg			10/07/21 12:07	1

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

Client Sample ID: C-19, 0-3'

Lab Sample ID: 880-6699-13

Date Collected: 09/29/21 17:02

Matrix: Solid

Date Received: 09/30/21 16:32

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		10/01/21 10:40	10/03/21 22:34	1
Toluene	<0.00201	U	0.00201	mg/Kg		10/01/21 10:40	10/03/21 22:34	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		10/01/21 10:40	10/03/21 22:34	1
m,p-Xylenes	<0.00402	U	0.00402	mg/Kg		10/01/21 10:40	10/03/21 22:34	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		10/01/21 10:40	10/03/21 22:34	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		10/01/21 10:40	10/03/21 22:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	127		70 - 130	10/01/21 10:40	10/03/21 22:34	1
1,4-Difluorobenzene (Surr)	107		70 - 130	10/01/21 10:40	10/03/21 22:34	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200	mg/Kg			10/04/21 10:16	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	56.0		50.0	mg/Kg			10/05/21 10:42	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		10/01/21 09:56	10/01/21 21:35	1
Diesel Range Organics (Over C10-C28)	56.0		49.9	mg/Kg		10/01/21 09:56	10/01/21 21:35	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/01/21 09:56	10/01/21 21:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	97		70 - 130	10/01/21 09:56	10/01/21 21:35	1
o-Terphenyl (Surr)	105		70 - 130	10/01/21 09:56	10/01/21 21:35	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	263		4.99	mg/Kg			10/07/21 12:24	1

Client Sample ID: C-14, 0-3'

Lab Sample ID: 880-6699-14

Date Collected: 09/29/21 17:01

Matrix: Solid

Date Received: 09/30/21 16:32

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		10/01/21 10:40	10/03/21 22:59	1
Toluene	<0.00202	U	0.00202	mg/Kg		10/01/21 10:40	10/03/21 22:59	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		10/01/21 10:40	10/03/21 22:59	1
m,p-Xylenes	<0.00404	U	0.00404	mg/Kg		10/01/21 10:40	10/03/21 22:59	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		10/01/21 10:40	10/03/21 22:59	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		10/01/21 10:40	10/03/21 22:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	127		70 - 130	10/01/21 10:40	10/03/21 22:59	1
1,4-Difluorobenzene (Surr)	107		70 - 130	10/01/21 10:40	10/03/21 22:59	1

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

Client Sample ID: C-14, 0-3'

Lab Sample ID: 880-6699-14

Date Collected: 09/29/21 17:01

Matrix: Solid

Date Received: 09/30/21 16:32

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200	mg/Kg			10/04/21 10:16	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	232		50.0	mg/Kg			10/05/21 10:42	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	<49.8	U *-	49.8	mg/Kg		10/01/21 09:56	10/01/21 21:56	1
Diesel Range Organics (Over C10-C28)	168		49.8	mg/Kg		10/01/21 09:56	10/01/21 21:56	1
Oil Range Organics (Over C28-C36)	64.2		49.8	mg/Kg		10/01/21 09:56	10/01/21 21:56	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	94		70 - 130			10/01/21 09:56	10/01/21 21:56	1
o-Terphenyl (Surr)	100		70 - 130			10/01/21 09:56	10/01/21 21:56	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	621		4.98	mg/Kg			10/07/21 12:30	1

Eurofins Xenco, Midland

Surrogate Summary

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

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)
880-6699-1	Backfill-1	130	99
880-6699-2	Backfill-2	107	100
880-6699-3	Backfill-3	128	104
880-6699-4	C-24, 0-3'	113	104
880-6699-5	C-25, 0-3'	101	102
880-6699-6	C-26, 0-3'	100	106
880-6699-7	C-23, 0-4'	107	102
880-6699-8	C-10, 0-4.1'	104	102
880-6699-9	C-9, 0-6'	117	94
880-6699-10	C-7, 0-4.1'	106	104
880-6699-11	C-5, 0-5'	104	101
880-6699-12	C-6, 0-5'	130	104
880-6699-13	C-19, 0-3'	127	107
880-6699-14	C-14, 0-3'	127	107
890-1329-A-5-E MS	Matrix Spike	279 S1+	286 S1+
890-1329-A-5-F MSD	Matrix Spike Duplicate	101	103
LCS 880-8724/1-A	Lab Control Sample	102	103
LCSD 880-8724/2-A	Lab Control Sample Dup	99	104
MB 880-8654/5-A	Method Blank	70	94
MB 880-8724/5-A	Method Blank	70	97

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)
880-6699-1	Backfill-1	97	106
880-6699-1 MS	Backfill-1	110	110
880-6699-1 MSD	Backfill-1	106	104
880-6699-2	Backfill-2	94	100
880-6699-3	Backfill-3	93	100
880-6699-4	C-24, 0-3'	91	101
880-6699-5	C-25, 0-3'	91	99
880-6699-6	C-26, 0-3'	90	96
880-6699-7	C-23, 0-4'	95	103
880-6699-8	C-10, 0-4.1'	93	104
880-6699-9	C-9, 0-6'	97	106
880-6699-10	C-7, 0-4.1'	96	103
880-6699-11	C-5, 0-5'	96	105
880-6699-12	C-6, 0-5'	96	105
880-6699-13	C-19, 0-3'	97	105
880-6699-14	C-14, 0-3'	94	100
LCS 880-8715/2-A	Lab Control Sample	96	97
LCSD 880-8715/3-A	Lab Control Sample Dup	93	95
MB 880-8715/1-A	Method Blank	95	105

Eurofins Xenco, Midland

Surrogate Summary

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

Surrogate Legend

1CO = 1-Chlorooctane (Surr)
OTPH = o-Terphenyl (Surr)

1
2
3
4
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11
12
13
14

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-8654/5-A

Matrix: Solid

Analysis Batch: 8743

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8654

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/30/21 11:45	10/03/21 00:12	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/30/21 11:45	10/03/21 00:12	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/30/21 11:45	10/03/21 00:12	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		09/30/21 11:45	10/03/21 00:12	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/30/21 11:45	10/03/21 00:12	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		09/30/21 11:45	10/03/21 00:12	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	70		70 - 130	09/30/21 11:45	10/03/21 00:12	1
1,4-Difluorobenzene (Surr)	94		70 - 130	09/30/21 11:45	10/03/21 00:12	1

Lab Sample ID: MB 880-8724/5-A

Matrix: Solid

Analysis Batch: 8743

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8724

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/01/21 10:40	10/03/21 14:09	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/01/21 10:40	10/03/21 14:09	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/01/21 10:40	10/03/21 14:09	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		10/01/21 10:40	10/03/21 14:09	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/01/21 10:40	10/03/21 14:09	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/01/21 10:40	10/03/21 14:09	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	70		70 - 130	10/01/21 10:40	10/03/21 14:09	1
1,4-Difluorobenzene (Surr)	97		70 - 130	10/01/21 10:40	10/03/21 14:09	1

Lab Sample ID: LCS 880-8724/1-A

Matrix: Solid

Analysis Batch: 8743

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 8724

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.09374		mg/Kg		94	70 - 130
Toluene	0.100	0.08776		mg/Kg		88	70 - 130
Ethylbenzene	0.100	0.08321		mg/Kg		83	70 - 130
m,p-Xylenes	0.200	0.1791		mg/Kg		90	70 - 130
o-Xylene	0.100	0.09170		mg/Kg		92	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Lab Sample ID: LCSD 880-8724/2-A

Matrix: Solid

Analysis Batch: 8743

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 8724

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.100	0.1013		mg/Kg		101	70 - 130	8	35

Eurofins Xenco, Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-8724/2-A

Matrix: Solid

Analysis Batch: 8743

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 8724

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toluene	0.100	0.09310		mg/Kg		93	70 - 130	6	35
Ethylbenzene	0.100	0.08872		mg/Kg		89	70 - 130	6	35
m,p-Xylenes	0.200	0.1905		mg/Kg		95	70 - 130	6	35
o-Xylene	0.100	0.09822		mg/Kg		98	70 - 130	7	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: 890-1329-A-5-E MS

Matrix: Solid

Analysis Batch: 8743

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 8724

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00199	U F1 F2	0.100	0.2432	F1	mg/Kg		242	70 - 130
Toluene	<0.00199	U F1 F2	0.100	0.2187	F1	mg/Kg		218	70 - 130
Ethylbenzene	<0.00199	U F1 F2	0.100	0.1995	F1	mg/Kg		199	70 - 130
m,p-Xylenes	<0.00398	U F1 F2	0.201	0.3915	F1	mg/Kg		195	70 - 130
o-Xylene	<0.00199	U F1 F2	0.100	0.2079	F1	mg/Kg		207	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	279	S1+	70 - 130
1,4-Difluorobenzene (Surr)	286	S1+	70 - 130

Lab Sample ID: 890-1329-A-5-F MSD

Matrix: Solid

Analysis Batch: 8743

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 8724

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00199	U F1 F2	0.0990	0.08453	F2	mg/Kg		85	70 - 130	97	35
Toluene	<0.00199	U F1 F2	0.0990	0.07163	F2	mg/Kg		72	70 - 130	101	35
Ethylbenzene	<0.00199	U F1 F2	0.0990	0.06494	F1 F2	mg/Kg		66	70 - 130	102	35
m,p-Xylenes	<0.00398	U F1 F2	0.198	0.1071	F1 F2	mg/Kg		54	70 - 130	114	35
o-Xylene	<0.00199	U F1 F2	0.0990	0.05992	F1 F2	mg/Kg		61	70 - 130	111	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-8715/1-A

Matrix: Solid

Analysis Batch: 8697

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8715

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		10/01/21 09:56	10/01/21 15:18	1

Eurofins Xenco, Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-8715/1-A

Matrix: Solid

Analysis Batch: 8697

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8715

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/01/21 09:56	10/01/21 15:18	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/01/21 09:56	10/01/21 15:18	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	95		70 - 130			10/01/21 09:56	10/01/21 15:18	1
o-Terphenyl (Surr)	105		70 - 130			10/01/21 09:56	10/01/21 15:18	1

Lab Sample ID: LCS 880-8715/2-A

Matrix: Solid

Analysis Batch: 8697

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 8715

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	745.9		mg/Kg		75	70 - 130
Diesel Range Organics (Over C10-C28)	1000	945.6		mg/Kg		95	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1-Chlorooctane (Surr)	96		70 - 130				
o-Terphenyl (Surr)	97		70 - 130				

Lab Sample ID: LCSD 880-8715/3-A

Matrix: Solid

Analysis Batch: 8697

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 8715

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	674.3	*-	mg/Kg		67	70 - 130	10	20
Diesel Range Organics (Over C10-C28)	1000	879.9		mg/Kg		88	70 - 130	7	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane (Surr)	93		70 - 130						
o-Terphenyl (Surr)	95		70 - 130						

Lab Sample ID: 880-6699-1 MS

Matrix: Solid

Analysis Batch: 8697

Client Sample ID: Backfill-1

Prep Type: Total/NA

Prep Batch: 8715

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *-	997	1058		mg/Kg		106	70 - 130
Diesel Range Organics (Over C10-C28)	<49.8	U	997	957.5		mg/Kg		93	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
1-Chlorooctane (Surr)	110		70 - 130						
o-Terphenyl (Surr)	110		70 - 130						

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 880-6699-1 MSD

Matrix: Solid

Analysis Batch: 8697

Client Sample ID: Backfill-1

Prep Type: Total/NA

Prep Batch: 8715

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	<49.8	U *-	999	1017		mg/Kg		102	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	<49.8	U	999	903.3		mg/Kg		87	70 - 130	6	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane (Surr)	106		70 - 130								
o-Terphenyl (Surr)	104		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-8730/1-A

Matrix: Solid

Analysis Batch: 8957

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			10/05/21 16:29	1

Lab Sample ID: LCS 880-8730/2-A

Matrix: Solid

Analysis Batch: 8957

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	250.8		mg/Kg		100	90 - 110

Lab Sample ID: LCSD 880-8730/3-A

Matrix: Solid

Analysis Batch: 8957

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	251.9		mg/Kg		101	90 - 110	0	20

Lab Sample ID: 880-6690-A-1-C MS

Matrix: Solid

Analysis Batch: 8957

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	5480		2500	8112		mg/Kg		106	90 - 110

Lab Sample ID: 880-6690-A-1-D MSD

Matrix: Solid

Analysis Batch: 8957

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	5480		2500	8136		mg/Kg		107	90 - 110	0	20

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 880-8732/1-A

Matrix: Solid

Analysis Batch: 8982

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			10/06/21 15:39	1

Lab Sample ID: LCS 880-8732/2-A

Matrix: Solid

Analysis Batch: 8982

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	246.3		mg/Kg		99	90 - 110

Lab Sample ID: LCSD 880-8732/3-A

Matrix: Solid

Analysis Batch: 8982

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	246.8		mg/Kg		99	90 - 110	0	20

Lab Sample ID: 880-6699-8 MS

Matrix: Solid

Analysis Batch: 8982

Client Sample ID: C-10, 0-4.1'

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	16.0	F1	248	195.0	F1	mg/Kg		72	90 - 110

Lab Sample ID: 880-6699-8 MSD

Matrix: Solid

Analysis Batch: 8982

Client Sample ID: C-10, 0-4.1'

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	16.0	F1	248	195.5	F1	mg/Kg		72	90 - 110	0	20

Eurofins Xenco, Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

GC VOA

Prep Batch: 8654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-8654/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 8724

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-6699-1	Backfill-1	Total/NA	Solid	5035	
880-6699-2	Backfill-2	Total/NA	Solid	5035	
880-6699-3	Backfill-3	Total/NA	Solid	5035	
880-6699-4	C-24, 0-3'	Total/NA	Solid	5035	
880-6699-5	C-25, 0-3'	Total/NA	Solid	5035	
880-6699-6	C-26, 0-3'	Total/NA	Solid	5035	
880-6699-7	C-23, 0-4'	Total/NA	Solid	5035	
880-6699-8	C-10, 0-4.1'	Total/NA	Solid	5035	
880-6699-9	C-9, 0-6'	Total/NA	Solid	5035	
880-6699-10	C-7, 0-4.1'	Total/NA	Solid	5035	
880-6699-11	C-5, 0-5'	Total/NA	Solid	5035	
880-6699-12	C-6, 0-5'	Total/NA	Solid	5035	
880-6699-13	C-19, 0-3'	Total/NA	Solid	5035	
880-6699-14	C-14, 0-3'	Total/NA	Solid	5035	
MB 880-8724/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-8724/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-8724/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1329-A-5-E MS	Matrix Spike	Total/NA	Solid	5035	
890-1329-A-5-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 8743

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-6699-1	Backfill-1	Total/NA	Solid	8021B	8724
880-6699-2	Backfill-2	Total/NA	Solid	8021B	8724
880-6699-3	Backfill-3	Total/NA	Solid	8021B	8724
880-6699-4	C-24, 0-3'	Total/NA	Solid	8021B	8724
880-6699-5	C-25, 0-3'	Total/NA	Solid	8021B	8724
880-6699-6	C-26, 0-3'	Total/NA	Solid	8021B	8724
880-6699-7	C-23, 0-4'	Total/NA	Solid	8021B	8724
880-6699-8	C-10, 0-4.1'	Total/NA	Solid	8021B	8724
880-6699-9	C-9, 0-6'	Total/NA	Solid	8021B	8724
880-6699-10	C-7, 0-4.1'	Total/NA	Solid	8021B	8724
880-6699-11	C-5, 0-5'	Total/NA	Solid	8021B	8724
880-6699-12	C-6, 0-5'	Total/NA	Solid	8021B	8724
880-6699-13	C-19, 0-3'	Total/NA	Solid	8021B	8724
880-6699-14	C-14, 0-3'	Total/NA	Solid	8021B	8724
MB 880-8654/5-A	Method Blank	Total/NA	Solid	8021B	8654
MB 880-8724/5-A	Method Blank	Total/NA	Solid	8021B	8724
LCS 880-8724/1-A	Lab Control Sample	Total/NA	Solid	8021B	8724
LCSD 880-8724/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	8724
890-1329-A-5-E MS	Matrix Spike	Total/NA	Solid	8021B	8724
890-1329-A-5-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	8724

Analysis Batch: 8782

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-6699-1	Backfill-1	Total/NA	Solid	Total BTEX	
880-6699-2	Backfill-2	Total/NA	Solid	Total BTEX	

Eurofins Xenco, Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

GC VOA (Continued)

Analysis Batch: 8782 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-6699-3	Backfill-3	Total/NA	Solid	Total BTEX	
880-6699-4	C-24, 0-3'	Total/NA	Solid	Total BTEX	
880-6699-5	C-25, 0-3'	Total/NA	Solid	Total BTEX	
880-6699-6	C-26, 0-3'	Total/NA	Solid	Total BTEX	
880-6699-7	C-23, 0-4'	Total/NA	Solid	Total BTEX	
880-6699-8	C-10, 0-4.1'	Total/NA	Solid	Total BTEX	
880-6699-9	C-9, 0-6'	Total/NA	Solid	Total BTEX	
880-6699-10	C-7, 0-4.1'	Total/NA	Solid	Total BTEX	
880-6699-11	C-5, 0-5'	Total/NA	Solid	Total BTEX	
880-6699-12	C-6, 0-5'	Total/NA	Solid	Total BTEX	
880-6699-13	C-19, 0-3'	Total/NA	Solid	Total BTEX	
880-6699-14	C-14, 0-3'	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 8697

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-6699-1	Backfill-1	Total/NA	Solid	8015B NM	8715
880-6699-2	Backfill-2	Total/NA	Solid	8015B NM	8715
880-6699-3	Backfill-3	Total/NA	Solid	8015B NM	8715
880-6699-4	C-24, 0-3'	Total/NA	Solid	8015B NM	8715
880-6699-5	C-25, 0-3'	Total/NA	Solid	8015B NM	8715
880-6699-6	C-26, 0-3'	Total/NA	Solid	8015B NM	8715
880-6699-7	C-23, 0-4'	Total/NA	Solid	8015B NM	8715
880-6699-8	C-10, 0-4.1'	Total/NA	Solid	8015B NM	8715
880-6699-9	C-9, 0-6'	Total/NA	Solid	8015B NM	8715
880-6699-10	C-7, 0-4.1'	Total/NA	Solid	8015B NM	8715
880-6699-11	C-5, 0-5'	Total/NA	Solid	8015B NM	8715
880-6699-12	C-6, 0-5'	Total/NA	Solid	8015B NM	8715
880-6699-13	C-19, 0-3'	Total/NA	Solid	8015B NM	8715
880-6699-14	C-14, 0-3'	Total/NA	Solid	8015B NM	8715
MB 880-8715/1-A	Method Blank	Total/NA	Solid	8015B NM	8715
LCS 880-8715/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	8715
LCSD 880-8715/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	8715
880-6699-1 MS	Backfill-1	Total/NA	Solid	8015B NM	8715
880-6699-1 MSD	Backfill-1	Total/NA	Solid	8015B NM	8715

Prep Batch: 8715

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-6699-1	Backfill-1	Total/NA	Solid	8015NM Prep	
880-6699-2	Backfill-2	Total/NA	Solid	8015NM Prep	
880-6699-3	Backfill-3	Total/NA	Solid	8015NM Prep	
880-6699-4	C-24, 0-3'	Total/NA	Solid	8015NM Prep	
880-6699-5	C-25, 0-3'	Total/NA	Solid	8015NM Prep	
880-6699-6	C-26, 0-3'	Total/NA	Solid	8015NM Prep	
880-6699-7	C-23, 0-4'	Total/NA	Solid	8015NM Prep	
880-6699-8	C-10, 0-4.1'	Total/NA	Solid	8015NM Prep	
880-6699-9	C-9, 0-6'	Total/NA	Solid	8015NM Prep	
880-6699-10	C-7, 0-4.1'	Total/NA	Solid	8015NM Prep	
880-6699-11	C-5, 0-5'	Total/NA	Solid	8015NM Prep	
880-6699-12	C-6, 0-5'	Total/NA	Solid	8015NM Prep	

Eurofins Xenco, Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

GC Semi VOA (Continued)

Prep Batch: 8715 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-6699-13	C-19, 0-3'	Total/NA	Solid	8015NM Prep	
880-6699-14	C-14, 0-3'	Total/NA	Solid	8015NM Prep	
MB 880-8715/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-8715/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-8715/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-6699-1 MS	Backfill-1	Total/NA	Solid	8015NM Prep	
880-6699-1 MSD	Backfill-1	Total/NA	Solid	8015NM Prep	

Analysis Batch: 8890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-6699-1	Backfill-1	Total/NA	Solid	8015 NM	
880-6699-2	Backfill-2	Total/NA	Solid	8015 NM	
880-6699-3	Backfill-3	Total/NA	Solid	8015 NM	
880-6699-4	C-24, 0-3'	Total/NA	Solid	8015 NM	
880-6699-5	C-25, 0-3'	Total/NA	Solid	8015 NM	
880-6699-6	C-26, 0-3'	Total/NA	Solid	8015 NM	
880-6699-7	C-23, 0-4'	Total/NA	Solid	8015 NM	
880-6699-8	C-10, 0-4.1'	Total/NA	Solid	8015 NM	
880-6699-9	C-9, 0-6'	Total/NA	Solid	8015 NM	
880-6699-10	C-7, 0-4.1'	Total/NA	Solid	8015 NM	
880-6699-11	C-5, 0-5'	Total/NA	Solid	8015 NM	
880-6699-12	C-6, 0-5'	Total/NA	Solid	8015 NM	
880-6699-13	C-19, 0-3'	Total/NA	Solid	8015 NM	
880-6699-14	C-14, 0-3'	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 8730

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-6699-1	Backfill-1	Soluble	Solid	DI Leach	
880-6699-2	Backfill-2	Soluble	Solid	DI Leach	
880-6699-3	Backfill-3	Soluble	Solid	DI Leach	
880-6699-4	C-24, 0-3'	Soluble	Solid	DI Leach	
880-6699-5	C-25, 0-3'	Soluble	Solid	DI Leach	
880-6699-6	C-26, 0-3'	Soluble	Solid	DI Leach	
880-6699-7	C-23, 0-4'	Soluble	Solid	DI Leach	
MB 880-8730/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-8730/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-8730/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-6690-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
880-6690-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Leach Batch: 8732

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-6699-8	C-10, 0-4.1'	Soluble	Solid	DI Leach	
880-6699-9	C-9, 0-6'	Soluble	Solid	DI Leach	
880-6699-10	C-7, 0-4.1'	Soluble	Solid	DI Leach	
880-6699-11	C-5, 0-5'	Soluble	Solid	DI Leach	
880-6699-12	C-6, 0-5'	Soluble	Solid	DI Leach	
880-6699-13	C-19, 0-3'	Soluble	Solid	DI Leach	
880-6699-14	C-14, 0-3'	Soluble	Solid	DI Leach	

Eurofins Xenco, Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

HPLC/IC (Continued)

Leach Batch: 8732 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-8732/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-8732/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-8732/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-6699-8 MS	C-10, 0-4.1'	Soluble	Solid	DI Leach	
880-6699-8 MSD	C-10, 0-4.1'	Soluble	Solid	DI Leach	

Analysis Batch: 8957

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-6699-1	Backfill-1	Soluble	Solid	300.0	8730
880-6699-2	Backfill-2	Soluble	Solid	300.0	8730
880-6699-3	Backfill-3	Soluble	Solid	300.0	8730
880-6699-4	C-24, 0-3'	Soluble	Solid	300.0	8730
880-6699-5	C-25, 0-3'	Soluble	Solid	300.0	8730
880-6699-6	C-26, 0-3'	Soluble	Solid	300.0	8730
880-6699-7	C-23, 0-4'	Soluble	Solid	300.0	8730
MB 880-8730/1-A	Method Blank	Soluble	Solid	300.0	8730
LCS 880-8730/2-A	Lab Control Sample	Soluble	Solid	300.0	8730
LCSD 880-8730/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	8730
880-6690-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	8730
880-6690-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	8730

Analysis Batch: 8982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-6699-8	C-10, 0-4.1'	Soluble	Solid	300.0	8732
880-6699-9	C-9, 0-6'	Soluble	Solid	300.0	8732
880-6699-10	C-7, 0-4.1'	Soluble	Solid	300.0	8732
880-6699-11	C-5, 0-5'	Soluble	Solid	300.0	8732
880-6699-12	C-6, 0-5'	Soluble	Solid	300.0	8732
880-6699-13	C-19, 0-3'	Soluble	Solid	300.0	8732
880-6699-14	C-14, 0-3'	Soluble	Solid	300.0	8732
MB 880-8732/1-A	Method Blank	Soluble	Solid	300.0	8732
LCS 880-8732/2-A	Lab Control Sample	Soluble	Solid	300.0	8732
LCSD 880-8732/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	8732
880-6699-8 MS	C-10, 0-4.1'	Soluble	Solid	300.0	8732
880-6699-8 MSD	C-10, 0-4.1'	Soluble	Solid	300.0	8732

Eurofins Xenco, Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

Client Sample ID: Backfill-1

Lab Sample ID: 880-6699-1

Date Collected: 09/29/21 08:00

Matrix: Solid

Date Received: 09/30/21 16:32

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	8724	10/01/21 10:40	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8743	10/03/21 15:31	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			8782	10/04/21 10:14	MR	XEN MID
Total/NA	Analysis	8015 NM		1			8890	10/05/21 10:19	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	8715	10/01/21 09:56	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8697	10/01/21 16:23	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	8730	10/01/21 12:03	CA	XEN MID
Soluble	Analysis	300.0		1			8957	10/05/21 18:44	CH	XEN MID

Client Sample ID: Backfill-2

Lab Sample ID: 880-6699-2

Date Collected: 09/29/21 08:17

Matrix: Solid

Date Received: 09/30/21 16:32

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	8724	10/01/21 10:40	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8743	10/03/21 15:59	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			8782	10/04/21 10:14	MR	XEN MID
Total/NA	Analysis	8015 NM		1			8890	10/05/21 10:19	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	8715	10/01/21 09:56	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8697	10/01/21 17:28	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	8730	10/01/21 12:03	CA	XEN MID
Soluble	Analysis	300.0		1			8957	10/05/21 18:49	CH	XEN MID

Client Sample ID: Backfill-3

Lab Sample ID: 880-6699-3

Date Collected: 09/29/21 08:24

Matrix: Solid

Date Received: 09/30/21 16:32

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	8724	10/01/21 10:40	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8743	10/03/21 16:26	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			8782	10/04/21 10:14	MR	XEN MID
Total/NA	Analysis	8015 NM		1			8890	10/05/21 10:19	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	8715	10/01/21 09:56	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8697	10/01/21 17:49	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	8730	10/01/21 12:03	CA	XEN MID
Soluble	Analysis	300.0		1			8957	10/05/21 18:55	CH	XEN MID

Client Sample ID: C-24, 0-3'

Lab Sample ID: 880-6699-4

Date Collected: 09/29/21 10:06

Matrix: Solid

Date Received: 09/30/21 16:32

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	8724	10/01/21 10:40	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8743	10/03/21 16:54	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			8782	10/04/21 10:14	MR	XEN MID

Eurofins Xenco, Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

Client Sample ID: C-24, 0-3'

Date Collected: 09/29/21 10:06

Date Received: 09/30/21 16:32

Lab Sample ID: 880-6699-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			8890	10/05/21 10:19	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	8715	10/01/21 09:56	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8697	10/01/21 18:10	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	8730	10/01/21 12:03	CA	XEN MID
Soluble	Analysis	300.0		1			8957	10/05/21 19:00	CH	XEN MID

Client Sample ID: C-25, 0-3'

Date Collected: 09/29/21 10:09

Date Received: 09/30/21 16:32

Lab Sample ID: 880-6699-5

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	8724	10/01/21 10:40	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8743	10/03/21 17:23	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			8782	10/04/21 10:14	MR	XEN MID
Total/NA	Analysis	8015 NM		1			8890	10/05/21 10:19	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	8715	10/01/21 09:56	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8697	10/01/21 18:31	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	8730	10/01/21 12:03	CA	XEN MID
Soluble	Analysis	300.0		1			8957	10/05/21 19:06	CH	XEN MID

Client Sample ID: C-26, 0-3'

Date Collected: 09/29/21 10:13

Date Received: 09/30/21 16:32

Lab Sample ID: 880-6699-6

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			4.97 g	5 mL	8724	10/01/21 10:40	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8743	10/03/21 17:51	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			8782	10/04/21 10:14	MR	XEN MID
Total/NA	Analysis	8015 NM		1			8890	10/05/21 10:19	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	8715	10/01/21 09:56	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8697	10/01/21 18:51	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	8730	10/01/21 12:03	CA	XEN MID
Soluble	Analysis	300.0		1			8957	10/05/21 19:12	CH	XEN MID

Client Sample ID: C-23, 0-4'

Date Collected: 09/29/21 13:00

Date Received: 09/30/21 16:32

Lab Sample ID: 880-6699-7

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	8724	10/01/21 10:40	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8743	10/03/21 18:20	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			8782	10/04/21 10:16	MR	XEN MID
Total/NA	Analysis	8015 NM		1			8890	10/05/21 10:42	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	8715	10/01/21 09:56	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8697	10/01/21 19:12	AJ	XEN MID

Eurofins Xenco, Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

Client Sample ID: C-23, 0-4'

Date Collected: 09/29/21 13:00

Date Received: 09/30/21 16:32

Lab Sample ID: 880-6699-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	8730	10/01/21 12:03	CA	XEN MID
Soluble	Analysis	300.0		1			8957	10/05/21 19:17	CH	XEN MID

Client Sample ID: C-10, 0-4.1'

Date Collected: 09/29/21 15:12

Date Received: 09/30/21 16:32

Lab Sample ID: 880-6699-8

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			5.00 g	5 mL	8724	10/01/21 10:40	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8743	10/03/21 18:48	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			8782	10/04/21 10:16	MR	XEN MID
Total/NA	Analysis	8015 NM		1			8890	10/05/21 10:42	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	8715	10/01/21 09:56	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8697	10/01/21 19:33	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	8732	10/01/21 12:08	CA	XEN MID
Soluble	Analysis	300.0		1			8982	10/06/21 15:56	CH	XEN MID

Client Sample ID: C-9, 0-6'

Date Collected: 09/29/21 15:16

Date Received: 09/30/21 16:32

Lab Sample ID: 880-6699-9

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			5.02 g	5 mL	8724	10/01/21 10:40	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8743	10/03/21 20:43	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			8782	10/04/21 10:16	MR	XEN MID
Total/NA	Analysis	8015 NM		1			8890	10/05/21 10:42	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	8715	10/01/21 09:56	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8697	10/01/21 19:53	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	8732	10/01/21 12:08	CA	XEN MID
Soluble	Analysis	300.0		1			8982	10/07/21 11:50	CH	XEN MID

Client Sample ID: C-7, 0-4.1'

Date Collected: 09/29/21 15:23

Date Received: 09/30/21 16:32

Lab Sample ID: 880-6699-10

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			5.04 g	5 mL	8724	10/01/21 10:40	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8743	10/03/21 21:11	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			8782	10/04/21 10:16	MR	XEN MID
Total/NA	Analysis	8015 NM		1			8890	10/05/21 10:42	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	8715	10/01/21 09:56	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8697	10/01/21 20:13	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	8732	10/01/21 12:08	CA	XEN MID
Soluble	Analysis	300.0		1			8982	10/07/21 11:56	CH	XEN MID

Eurofins Xenco, Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

Client Sample ID: C-5, 0-5'

Lab Sample ID: 880-6699-11

Date Collected: 09/29/21 16:01

Matrix: Solid

Date Received: 09/30/21 16:32

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	8724	10/01/21 10:40	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8743	10/03/21 21:40	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			8782	10/04/21 10:16	MR	XEN MID
Total/NA	Analysis	8015 NM		1			8890	10/05/21 10:42	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	8715	10/01/21 09:56	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8697	10/01/21 20:55	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	8732	10/01/21 12:08	CA	XEN MID
Soluble	Analysis	300.0		1			8982	10/07/21 12:02	CH	XEN MID

Client Sample ID: C-6, 0-5'

Lab Sample ID: 880-6699-12

Date Collected: 09/29/21 16:02

Matrix: Solid

Date Received: 09/30/21 16:32

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	8724	10/01/21 10:40	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8743	10/03/21 22:07	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			8782	10/04/21 10:16	MR	XEN MID
Total/NA	Analysis	8015 NM		1			8890	10/05/21 10:42	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	8715	10/01/21 09:56	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8697	10/01/21 21:15	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	8732	10/01/21 12:08	CA	XEN MID
Soluble	Analysis	300.0		1			8982	10/07/21 12:07	CH	XEN MID

Client Sample ID: C-19, 0-3'

Lab Sample ID: 880-6699-13

Date Collected: 09/29/21 17:02

Matrix: Solid

Date Received: 09/30/21 16:32

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	8724	10/01/21 10:40	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8743	10/03/21 22:34	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			8782	10/04/21 10:16	MR	XEN MID
Total/NA	Analysis	8015 NM		1			8890	10/05/21 10:42	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	8715	10/01/21 09:56	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8697	10/01/21 21:35	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	8732	10/01/21 12:08	CA	XEN MID
Soluble	Analysis	300.0		1			8982	10/07/21 12:24	CH	XEN MID

Client Sample ID: C-14, 0-3'

Lab Sample ID: 880-6699-14

Date Collected: 09/29/21 17:01

Matrix: Solid

Date Received: 09/30/21 16:32

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	8724	10/01/21 10:40	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8743	10/03/21 22:59	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			8782	10/04/21 10:16	MR	XEN MID

Eurofins Xenco, Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

Client Sample ID: C-14, 0-3'

Lab Sample ID: 880-6699-14

Date Collected: 09/29/21 17:01

Matrix: Solid

Date Received: 09/30/21 16:32

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			8890	10/05/21 10:42	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	8715	10/01/21 09:56	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8697	10/01/21 21:56	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	8732	10/01/21 12:08	CA	XEN MID
Soluble	Analysis	300.0		1			8982	10/07/21 12:30	CH	XEN MID

Laboratory References:

XEN MID = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

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	T104704400-21-22	06-30-22

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
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Eurofins Xenco, Midland

Method Summary

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
8015 NM	Diesel Range Organics (DRO) (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.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

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: NWAUB

Job ID: 880-6699-1
SDG: 20-0107-02

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-6699-1	Backfill-1	Solid	09/29/21 08:00	09/30/21 16:32
880-6699-2	Backfill-2	Solid	09/29/21 08:17	09/30/21 16:32
880-6699-3	Backfill-3	Solid	09/29/21 08:24	09/30/21 16:32
880-6699-4	C-24, 0-3'	Solid	09/29/21 10:06	09/30/21 16:32
880-6699-5	C-25, 0-3'	Solid	09/29/21 10:09	09/30/21 16:32
880-6699-6	C-26, 0-3'	Solid	09/29/21 10:13	09/30/21 16:32
880-6699-7	C-23, 0-4'	Solid	09/29/21 13:00	09/30/21 16:32
880-6699-8	C-10, 0-4.1'	Solid	09/29/21 15:12	09/30/21 16:32
880-6699-9	C-9, 0-6'	Solid	09/29/21 15:16	09/30/21 16:32
880-6699-10	C-7, 0-4.1'	Solid	09/29/21 15:23	09/30/21 16:32
880-6699-11	C-5, 0-5'	Solid	09/29/21 16:01	09/30/21 16:32
880-6699-12	C-6, 0-5'	Solid	09/29/21 16:02	09/30/21 16:32
880-6699-13	C-19, 0-3'	Solid	09/29/21 17:02	09/30/21 16:32
880-6699-14	C-14, 0-3'	Solid	09/29/21 17:01	09/30/21 16:32

Varson & Associates, Inc.
Environmental Consultants



860-6699 Chain of Custody

432-687 0901

Data Reported to

TRRP report?
☐ Yes ☒ No

TIME ZONE
Time zone, State

S=SOIL
W=WATER
A=AIR

P=PAINT
SL=SLUDGE
OT=OTHER

Field
Sample I D

Lab #

Date

Time

Matrix

of Containers

HCl

HNO₃

H₂SO₄ ☐ NaOH ☐

ICE

UNPRESSERVED

PRESERVATION

ANALYSES

BTEX ☒ MTBE ☒

TRPH 418 1 ☒ TPH 1005 ☒ TPH 1006 ☒

GASOLINE MOD 8015 ☒

DIESEL - MOD 8015 ☒

OIL - MOD 8015 ☒

VOC 8260 ☒

SVOC 8270 ☒

8081 PESTICIDES ☒ PAH 8270 ☒ HOLDPAH ☒

8082 PESTICIDES ☒ 8151 HERBICIDES ☒

TCLP - METALS (RCRA) ☒ TCLP VOC ☒

TCLP - PEST ☒ HERB ☒ Semi-VOC ☒

TOTAL METALS (RCRA) ☒ OTHER LIST ☒

LEAD - TOTAL ☒ DW 200 8 ☒ TCLP ☒

RCL ☒ TOX ☒ FLASHPOINT ☒

TDS ☒ TSS ☒ % MOISTURE ☒ CYANIDE ☒

pH ☒ HEXAVALENT CHROMIUM ☒

EXPLOSIVES ☒ PENTACHLORATE ☒

CHLORIDES ☒ ANIONS ☒ ALKALINITY ☒

FIELD NOTES

DATE 4/30/2021

PO#

PROJECT LOCATION OR NAME NW Aub

LAI PROJECT # 21-0107-02

LAB WORK ORDER#

PAGE 1 OF 1

COLLECTOR Lu

CHAIN-OF-CUSTODY

06099

No. 2215

12/28/2021 (Rev. 2)

Field Sample I D	Lab #	Date	Time	Matrix	# of Containers	HCl	HNO ₃	H ₂ SO ₄ <input type="checkbox"/>	NaOH <input type="checkbox"/>	ICE	UNPRESSERVED	ANALYSES	FIELD NOTES
backfill-1		4/30/21	0804	S	1					X		X	
backfill-2		0512								X		X	
backfill-3		0524								X		X	
C-24, O-3'		1006								X		X	
C-25, O-3'		1009								X		X	
C-26, O-3'		1013								X		X	
C-23, O-4'		1200								X		X	
C-10, 41'		1512								X		X	
C-9, O-6'		1516								X		X	
C-7, O-4.1'		1523								X		X	
C-5, O-5'		1601								X		X	
C-6, O-5'		1602								X		X	
C-4, O-3'		1703								X		X	
C-14, O-3'		1701								X		X	
C-17, 3'		1703								X		X	
TOTAL													

RELINQUISHED BY (Signature)

DATE/TIME 4/30/21 0735

RECEIVED BY (Signature)

RELINQUISHED BY (Signature)

DATE/TIME 1632

RECEIVED BY (Signature)

RELINQUISHED BY (Signature)

DATE/TIME

RECEIVED BY (Signature)

LABORATORY XERO

TURN AROUND TIME

NORMAL ☒1 DAY ☐2 DAY ☐OTHER ☐

LABORATORY USE ONLY:

RECEIVING TEMP 11.1/1.7

THERM# 128

CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☒ NOT USED

CARRIER BILL #

HAND DELIVERED ☒

Login Sample Receipt Checklist

Client: Larson & Associates, Inc.

Job Number: 880-6699-1

SDG Number: 20-0107-02

Login Number: 6699**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	



Environment Testing America

ANALYTICAL REPORT

Eurofins Xenco, Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-7435-1
Laboratory Sample Delivery Group: 20-0107-02
Client Project/Site: NWAUB
Revision: 2

For:
Larson & Associates, Inc.
507 N Marienfeld
Suite 202
Midland, Texas 79701

Attn: Mr. Mark J Larson

Holly Taylor

Authorized for release by:
12/29/2021 3:19:45 PM

Holly Taylor, Project Manager
(806)794-1296
holly.taylor@eurofinset.com

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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: NWAUB

Laboratory Job ID: 880-7435-1
SDG: 20-0107-02

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	10
QC Sample Results	11
QC Association Summary	15
Lab Chronicle	18
Certification Summary	20
Method Summary	21
Sample Summary	22
Chain of Custody	23
Receipt Checklists	24

1
2
3
4
5
6
7
8
9
10
11
12
13
14

Definitions/Glossary

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-7435-1
SDG: 20-0107-02

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
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.
α	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: NWAUB

Job ID: 880-7435-1
SDG: 20-0107-02

Job ID: 880-7435-1

Laboratory: Eurofins Xenco, Midland

Narrative

Job Narrative 880-7435-1

Comments

No additional comments.

Revision

The report being provided is a revision of the original report sent on 10/27/2021. The report (revision 2) is being revised to remove sample C-29 from the report per Robert Nelson (email)..

Report revision history

Revision 1 - 12/28/2021 - Reason - The report was revised to change sample IDs per Robert Nelson (email)..

Receipt

The samples were received on 10/21/2021 9:13 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 was -3.5° C.

GC VOA

Method 8021B: Surrogate recovery for the following sample was outside control limits: (890-1460-A-1-E). Evidence of matrix interferences is not obvious.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method 8015B NM: Surrogate recovery for the following samples were outside control limits: C-5, 0-5' (880-7435-1) and C-29,4.1' (880-7435-4). Evidence of matrix interferences is not obvious.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-7435-1
SDG: 20-0107-02

Client Sample ID: C-5, 0-5'

Lab Sample ID: 880-7435-1

Date Collected: 10/20/21 10:43

Matrix: Solid

Date Received: 10/21/21 09:13

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/25/21 13:53	10/27/21 00:38	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/25/21 13:53	10/27/21 00:38	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/25/21 13:53	10/27/21 00:38	1
m,p-Xylenes	<0.00401	U	0.00401	mg/Kg		10/25/21 13:53	10/27/21 00:38	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/25/21 13:53	10/27/21 00:38	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		10/25/21 13:53	10/27/21 00:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	10/25/21 13:53	10/27/21 00:38	1
1,4-Difluorobenzene (Surr)	114		70 - 130	10/25/21 13:53	10/27/21 00:38	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			10/27/21 11:32	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			10/27/21 17:06	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	<49.8	U	49.8	mg/Kg		10/26/21 16:36	10/27/21 13:19	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		10/26/21 16:36	10/27/21 13:19	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		10/26/21 16:36	10/27/21 13:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	117		70 - 130	10/26/21 16:36	10/27/21 13:19	1
o-Terphenyl (Surr)	131	S1+	70 - 130	10/26/21 16:36	10/27/21 13:19	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9.55		4.95	mg/Kg			10/26/21 22:15	1

Client Sample ID: C-3,5'

Lab Sample ID: 880-7435-2

Date Collected: 10/20/21 13:27

Matrix: Solid

Date Received: 10/21/21 09:13

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		10/25/21 13:53	10/27/21 00:59	1
Toluene	<0.00201	U	0.00201	mg/Kg		10/25/21 13:53	10/27/21 00:59	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		10/25/21 13:53	10/27/21 00:59	1
m,p-Xylenes	<0.00402	U	0.00402	mg/Kg		10/25/21 13:53	10/27/21 00:59	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		10/25/21 13:53	10/27/21 00:59	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		10/25/21 13:53	10/27/21 00:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130	10/25/21 13:53	10/27/21 00:59	1
1,4-Difluorobenzene (Surr)	110		70 - 130	10/25/21 13:53	10/27/21 00:59	1

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-7435-1
SDG: 20-0107-02

Client Sample ID: C-3,5'

Lab Sample ID: 880-7435-2

Date Collected: 10/20/21 13:27

Matrix: Solid

Date Received: 10/21/21 09:13

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			10/27/21 11:32	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	50.6		50.0	mg/Kg			10/27/21 17:06	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		10/26/21 16:36	10/27/21 13:40	1
Diesel Range Organics (Over C10-C28)	50.6		50.0	mg/Kg		10/26/21 16:36	10/27/21 13:40	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/26/21 16:36	10/27/21 13:40	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	118		70 - 130			10/26/21 16:36	10/27/21 13:40	1
o-Terphenyl (Surr)	128		70 - 130			10/26/21 16:36	10/27/21 13:40	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12.4		5.00	mg/Kg			10/26/21 22:36	1

Client Sample ID: C-2,4.1'

Lab Sample ID: 880-7435-3

Date Collected: 10/20/21 13:42

Matrix: Solid

Date Received: 10/21/21 09:13

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		10/25/21 13:53	10/27/21 01:20	1
Toluene	<0.00201	U	0.00201	mg/Kg		10/25/21 13:53	10/27/21 01:20	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		10/25/21 13:53	10/27/21 01:20	1
m,p-Xylenes	<0.00402	U	0.00402	mg/Kg		10/25/21 13:53	10/27/21 01:20	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		10/25/21 13:53	10/27/21 01:20	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		10/25/21 13:53	10/27/21 01:20	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		70 - 130			10/25/21 13:53	10/27/21 01:20	1
1,4-Difluorobenzene (Surr)	115		70 - 130			10/25/21 13:53	10/27/21 01:20	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			10/27/21 11:32	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			10/27/21 17:06	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	<49.8	U	49.8	mg/Kg		10/26/21 16:36	10/27/21 14:00	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		10/26/21 16:36	10/27/21 14:00	1

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-7435-1
SDG: 20-0107-02

Client Sample ID: C-2,4.1'

Date Collected: 10/20/21 13:42

Date Received: 10/21/21 09:13

Lab Sample ID: 880-7435-3

Matrix: Solid

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		10/26/21 16:36	10/27/21 14:00	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	107		70 - 130			10/26/21 16:36	10/27/21 14:00	1
o-Terphenyl (Surr)	121		70 - 130			10/26/21 16:36	10/27/21 14:00	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	109		4.99	mg/Kg			10/26/21 22:43	1

Client Sample ID: C-7,0-4.1'

Date Collected: 10/20/21 13:54

Date Received: 10/21/21 09:13

Lab Sample ID: 880-7435-5

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		10/25/21 13:53	10/27/21 02:01	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/25/21 13:53	10/27/21 02:01	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/25/21 13:53	10/27/21 02:01	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		10/25/21 13:53	10/27/21 02:01	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/25/21 13:53	10/27/21 02:01	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/25/21 13:53	10/27/21 02:01	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130			10/25/21 13:53	10/27/21 02:01	1
1,4-Difluorobenzene (Surr)	113		70 - 130			10/25/21 13:53	10/27/21 02:01	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/Kg			10/27/21 11:32	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	106		49.9	mg/Kg			10/27/21 17:06	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		10/26/21 16:36	10/27/21 14:41	1
Diesel Range Organics (Over C10-C28)	106		49.9	mg/Kg		10/26/21 16:36	10/27/21 14:41	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/26/21 16:36	10/27/21 14:41	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	114		70 - 130			10/26/21 16:36	10/27/21 14:41	1
o-Terphenyl (Surr)	123		70 - 130			10/26/21 16:36	10/27/21 14:41	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	133		24.9	mg/Kg			10/26/21 22:56	5

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-7435-1
SDG: 20-0107-02

Client Sample ID: C-14,0-4.1'

Lab Sample ID: 880-7435-6

Date Collected: 10/20/21 14:00

Matrix: Solid

Date Received: 10/21/21 09:13

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		10/25/21 13:53	10/27/21 02:22	1
Toluene	<0.00199	U	0.00199	mg/Kg		10/25/21 13:53	10/27/21 02:22	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		10/25/21 13:53	10/27/21 02:22	1
m,p-Xylenes	<0.00398	U	0.00398	mg/Kg		10/25/21 13:53	10/27/21 02:22	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		10/25/21 13:53	10/27/21 02:22	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		10/25/21 13:53	10/27/21 02:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130	10/25/21 13:53	10/27/21 02:22	1
1,4-Difluorobenzene (Surr)	114		70 - 130	10/25/21 13:53	10/27/21 02:22	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			10/27/21 11:32	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	71.8		49.9	mg/Kg			10/27/21 17:06	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		10/26/21 16:36	10/27/21 15:02	1
Diesel Range Organics (Over C10-C28)	71.8		49.9	mg/Kg		10/26/21 16:36	10/27/21 15:02	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/26/21 16:36	10/27/21 15:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	107		70 - 130	10/26/21 16:36	10/27/21 15:02	1
o-Terphenyl (Surr)	120		70 - 130	10/26/21 16:36	10/27/21 15:02	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	237		4.97	mg/Kg			10/26/21 23:17	1

Client Sample ID: C-22,0-3'

Lab Sample ID: 880-7435-7

Date Collected: 10/20/21 14:38

Matrix: Solid

Date Received: 10/21/21 09:13

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		10/25/21 13:53	10/27/21 02:43	1
Toluene	<0.00201	U	0.00201	mg/Kg		10/25/21 13:53	10/27/21 02:43	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		10/25/21 13:53	10/27/21 02:43	1
m,p-Xylenes	<0.00402	U	0.00402	mg/Kg		10/25/21 13:53	10/27/21 02:43	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		10/25/21 13:53	10/27/21 02:43	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		10/25/21 13:53	10/27/21 02:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130	10/25/21 13:53	10/27/21 02:43	1
1,4-Difluorobenzene (Surr)	111		70 - 130	10/25/21 13:53	10/27/21 02:43	1

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-7435-1
SDG: 20-0107-02

Client Sample ID: C-22,0-3'

Lab Sample ID: 880-7435-7

Date Collected: 10/20/21 14:38

Matrix: Solid

Date Received: 10/21/21 09:13

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			10/27/21 11:32	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	129		49.9	mg/Kg			10/27/21 17:06	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		10/26/21 16:36	10/27/21 15:43	1
Diesel Range Organics (Over C10-C28)	129		49.9	mg/Kg		10/26/21 16:36	10/27/21 15:43	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/26/21 16:36	10/27/21 15:43	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	102		70 - 130			10/26/21 16:36	10/27/21 15:43	1
o-Terphenyl (Surr)	112		70 - 130			10/26/21 16:36	10/27/21 15:43	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	261		4.95	mg/Kg			10/26/21 23:24	1

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Surrogate Summary

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-7435-1
SDG: 20-0107-02

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)
880-7435-1	C-5, 0-5'	101	114
880-7435-2	C-3,5'	96	110
880-7435-3	C-2,4,1'	94	115
880-7435-5	C-7,0-4,1'	99	113
880-7435-6	C-14,0-4,1'	104	114
880-7435-7	C-22,0-3'	96	111
890-1460-A-1-C MS	Matrix Spike	90	110
890-1460-A-1-D MSD	Matrix Spike Duplicate	101	101
LCS 880-10431/1-A	Lab Control Sample	92	106
LCSD 880-10431/2-A	Lab Control Sample Dup	91	106
MB 880-10013/5-A	Method Blank	101	103
MB 880-10431/5-A	Method Blank	112	111
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)
880-7435-1	C-5, 0-5'	117	131 S1+
880-7435-2	C-3,5'	118	128
880-7435-3	C-2,4,1'	107	121
880-7435-5	C-7,0-4,1'	114	123
880-7435-6	C-14,0-4,1'	107	120
880-7435-7	C-22,0-3'	102	112
890-1448-A-4-F MS	Matrix Spike	104	102
890-1448-A-4-G MSD	Matrix Spike Duplicate	101	99
LCS 880-10652/2-A	Lab Control Sample	88	95
LCSD 880-10652/3-A	Lab Control Sample Dup	77	83
MB 880-10652/1-A	Method Blank	109	128
Surrogate Legend			
1CO = 1-Chlorooctane (Surr)			
OTPH = o-Terphenyl (Surr)			

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-7435-1
SDG: 20-0107-02

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-10013/5-A

Matrix: Solid

Analysis Batch: 10595

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 10013

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/20/21 14:34	10/26/21 12:51	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/20/21 14:34	10/26/21 12:51	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/20/21 14:34	10/26/21 12:51	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		10/20/21 14:34	10/26/21 12:51	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/20/21 14:34	10/26/21 12:51	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/20/21 14:34	10/26/21 12:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	10/20/21 14:34	10/26/21 12:51	1
1,4-Difluorobenzene (Surr)	103		70 - 130	10/20/21 14:34	10/26/21 12:51	1

Lab Sample ID: MB 880-10431/5-A

Matrix: Solid

Analysis Batch: 10595

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 10431

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/25/21 13:53	10/26/21 23:55	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/25/21 13:53	10/26/21 23:55	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/25/21 13:53	10/26/21 23:55	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		10/25/21 13:53	10/26/21 23:55	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/25/21 13:53	10/26/21 23:55	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/25/21 13:53	10/26/21 23:55	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	10/25/21 13:53	10/26/21 23:55	1
1,4-Difluorobenzene (Surr)	111		70 - 130	10/25/21 13:53	10/26/21 23:55	1

Lab Sample ID: LCS 880-10431/1-A

Matrix: Solid

Analysis Batch: 10595

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 10431

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1011		mg/Kg		101	70 - 130
Toluene	0.100	0.07776		mg/Kg		78	70 - 130
Ethylbenzene	0.100	0.07993		mg/Kg		80	70 - 130
m,p-Xylenes	0.200	0.1507		mg/Kg		75	70 - 130
o-Xylene	0.100	0.07868		mg/Kg		79	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	92		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Lab Sample ID: LCSD 880-10431/2-A

Matrix: Solid

Analysis Batch: 10595

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 10431

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.09955		mg/Kg		100	70 - 130	2	35

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-7435-1
SDG: 20-0107-02

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-10431/2-A

Matrix: Solid

Analysis Batch: 10595

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 10431

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toluene	0.100	0.07700		mg/Kg		77	70 - 130	1	35
Ethylbenzene	0.100	0.07854		mg/Kg		79	70 - 130	2	35
m,p-Xylenes	0.200	0.1482		mg/Kg		74	70 - 130	2	35
o-Xylene	0.100	0.07709		mg/Kg		77	70 - 130	2	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	91		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Lab Sample ID: 890-1460-A-1-C MS

Matrix: Solid

Analysis Batch: 10595

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 10431

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00200	U	0.100	0.08277		mg/Kg		82	70 - 130
Toluene	<0.00200	U F1	0.100	0.03668	F1	mg/Kg		37	70 - 130
Ethylbenzene	<0.00200	U F1	0.100	0.04003	F1	mg/Kg		40	70 - 130
m,p-Xylenes	<0.00399	U F1	0.201	0.07580	F1	mg/Kg		38	70 - 130
o-Xylene	<0.00200	U F1	0.100	0.04952	F1	mg/Kg		49	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		70 - 130
1,4-Difluorobenzene (Surr)	110		70 - 130

Lab Sample ID: 890-1460-A-1-D MSD

Matrix: Solid

Analysis Batch: 10595

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 10431

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.100	0.07981		mg/Kg		80	70 - 130	4	35
Toluene	<0.00200	U F1	0.100	0.04108	F1	mg/Kg		41	70 - 130	11	35
Ethylbenzene	<0.00200	U F1	0.100	0.04430	F1	mg/Kg		44	70 - 130	10	35
m,p-Xylenes	<0.00399	U F1	0.200	0.08599	F1	mg/Kg		43	70 - 130	13	35
o-Xylene	<0.00200	U F1	0.100	0.05652	F1	mg/Kg		56	70 - 130	13	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-10652/1-A

Matrix: Solid

Analysis Batch: 10661

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 10652

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		10/26/21 16:36	10/27/21 10:17	1

Eurofins Xenco, Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-7435-1
SDG: 20-0107-02

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-10652/1-A

Matrix: Solid

Analysis Batch: 10661

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 10652

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/26/21 16:36	10/27/21 10:17	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/26/21 16:36	10/27/21 10:17	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	109		70 - 130			10/26/21 16:36	10/27/21 10:17	1
o-Terphenyl (Surr)	128		70 - 130			10/26/21 16:36	10/27/21 10:17	1

Lab Sample ID: LCS 880-10652/2-A

Matrix: Solid

Analysis Batch: 10661

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 10652

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1296		mg/Kg		130	70 - 130
Diesel Range Organics (Over C10-C28)	1000	781.6		mg/Kg		78	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1-Chlorooctane (Surr)	88		70 - 130				
o-Terphenyl (Surr)	95		70 - 130				

Lab Sample ID: LCSD 880-10652/3-A

Matrix: Solid

Analysis Batch: 10661

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 10652

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1146		mg/Kg		115	70 - 130	12	20
Diesel Range Organics (Over C10-C28)	1000	757.1		mg/Kg		76	70 - 130	3	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane (Surr)	77		70 - 130						
o-Terphenyl (Surr)	83		70 - 130						

Lab Sample ID: 890-1448-A-4-F MS

Matrix: Solid

Analysis Batch: 10661

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 10652

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	997	1197		mg/Kg		120	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	997	922.5		mg/Kg		90	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
1-Chlorooctane (Surr)	104		70 - 130						
o-Terphenyl (Surr)	102		70 - 130						

Eurofins Xenco, Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-7435-1
SDG: 20-0107-02

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 890-1448-A-4-G MSD

Matrix: Solid

Analysis Batch: 10661

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 10652

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	1000	1125		mg/Kg		112	70 - 130	6	20
Diesel Range Organics (Over C10-C28)	<49.9	U	1000	914.6		mg/Kg		88	70 - 130	1	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane (Surr)	101		70 - 130								
o-Terphenyl (Surr)	99		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-10646/1-A

Matrix: Solid

Analysis Batch: 10671

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			10/26/21 21:54	1

Lab Sample ID: LCS 880-10646/2-A

Matrix: Solid

Analysis Batch: 10671

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	253.3		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-10646/3-A

Matrix: Solid

Analysis Batch: 10671

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	252.8		mg/Kg		101	90 - 110	0	20

Lab Sample ID: 880-7435-1 MS

Matrix: Solid

Analysis Batch: 10671

Client Sample ID: C-5, 0-5'

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	9.55		248	266.6		mg/Kg		104	90 - 110

Lab Sample ID: 880-7435-1 MSD

Matrix: Solid

Analysis Batch: 10671

Client Sample ID: C-5, 0-5'

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	9.55		248	268.3		mg/Kg		105	90 - 110	1	20

Eurofins Xenco, Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-7435-1
SDG: 20-0107-02

GC VOA

Prep Batch: 10013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-10013/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 10431

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-7435-1	C-5, 0-5'	Total/NA	Solid	5035	
880-7435-2	C-3,5'	Total/NA	Solid	5035	
880-7435-3	C-2,4.1'	Total/NA	Solid	5035	
880-7435-5	C-7,0-4.1'	Total/NA	Solid	5035	
880-7435-6	C-14,0-4.1'	Total/NA	Solid	5035	
880-7435-7	C-22,0-3'	Total/NA	Solid	5035	
MB 880-10431/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-10431/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-10431/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1460-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-1460-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 10595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-7435-1	C-5, 0-5'	Total/NA	Solid	8021B	10431
880-7435-2	C-3,5'	Total/NA	Solid	8021B	10431
880-7435-3	C-2,4.1'	Total/NA	Solid	8021B	10431
880-7435-5	C-7,0-4.1'	Total/NA	Solid	8021B	10431
880-7435-6	C-14,0-4.1'	Total/NA	Solid	8021B	10431
880-7435-7	C-22,0-3'	Total/NA	Solid	8021B	10431
MB 880-10013/5-A	Method Blank	Total/NA	Solid	8021B	10013
MB 880-10431/5-A	Method Blank	Total/NA	Solid	8021B	10431
LCS 880-10431/1-A	Lab Control Sample	Total/NA	Solid	8021B	10431
LCSD 880-10431/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	10431
890-1460-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	10431
890-1460-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	10431

Analysis Batch: 10619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-7435-1	C-5, 0-5'	Total/NA	Solid	Total BTEX	
880-7435-2	C-3,5'	Total/NA	Solid	Total BTEX	
880-7435-3	C-2,4.1'	Total/NA	Solid	Total BTEX	
880-7435-5	C-7,0-4.1'	Total/NA	Solid	Total BTEX	
880-7435-6	C-14,0-4.1'	Total/NA	Solid	Total BTEX	
880-7435-7	C-22,0-3'	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 10652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-7435-1	C-5, 0-5'	Total/NA	Solid	8015NM Prep	
880-7435-2	C-3,5'	Total/NA	Solid	8015NM Prep	
880-7435-3	C-2,4.1'	Total/NA	Solid	8015NM Prep	
880-7435-5	C-7,0-4.1'	Total/NA	Solid	8015NM Prep	
880-7435-6	C-14,0-4.1'	Total/NA	Solid	8015NM Prep	
880-7435-7	C-22,0-3'	Total/NA	Solid	8015NM Prep	
MB 880-10652/1-A	Method Blank	Total/NA	Solid	8015NM Prep	

Eurofins Xenco, Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-7435-1
SDG: 20-0107-02

GC Semi VOA (Continued)

Prep Batch: 10652 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-10652/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-10652/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1448-A-4-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1448-A-4-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 10661

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-7435-1	C-5, 0-5'	Total/NA	Solid	8015B NM	10652
880-7435-2	C-3,5'	Total/NA	Solid	8015B NM	10652
880-7435-3	C-2,4.1'	Total/NA	Solid	8015B NM	10652
880-7435-5	C-7,0-4.1'	Total/NA	Solid	8015B NM	10652
880-7435-6	C-14,0-4.1'	Total/NA	Solid	8015B NM	10652
880-7435-7	C-22,0-3'	Total/NA	Solid	8015B NM	10652
MB 880-10652/1-A	Method Blank	Total/NA	Solid	8015B NM	10652
LCS 880-10652/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	10652
LCSD 880-10652/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	10652
890-1448-A-4-F MS	Matrix Spike	Total/NA	Solid	8015B NM	10652
890-1448-A-4-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	10652

Analysis Batch: 10676

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-7435-1	C-5, 0-5'	Total/NA	Solid	8015 NM	
880-7435-2	C-3,5'	Total/NA	Solid	8015 NM	
880-7435-3	C-2,4.1'	Total/NA	Solid	8015 NM	
880-7435-5	C-7,0-4.1'	Total/NA	Solid	8015 NM	
880-7435-6	C-14,0-4.1'	Total/NA	Solid	8015 NM	
880-7435-7	C-22,0-3'	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 10646

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-7435-1	C-5, 0-5'	Soluble	Solid	DI Leach	
880-7435-2	C-3,5'	Soluble	Solid	DI Leach	
880-7435-3	C-2,4.1'	Soluble	Solid	DI Leach	
880-7435-5	C-7,0-4.1'	Soluble	Solid	DI Leach	
880-7435-6	C-14,0-4.1'	Soluble	Solid	DI Leach	
880-7435-7	C-22,0-3'	Soluble	Solid	DI Leach	
MB 880-10646/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-10646/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-10646/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-7435-1 MS	C-5, 0-5'	Soluble	Solid	DI Leach	
880-7435-1 MSD	C-5, 0-5'	Soluble	Solid	DI Leach	

Analysis Batch: 10671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-7435-1	C-5, 0-5'	Soluble	Solid	300.0	10646
880-7435-2	C-3,5'	Soluble	Solid	300.0	10646
880-7435-3	C-2,4.1'	Soluble	Solid	300.0	10646
880-7435-5	C-7,0-4.1'	Soluble	Solid	300.0	10646
880-7435-6	C-14,0-4.1'	Soluble	Solid	300.0	10646

Eurofins Xenco, Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-7435-1
SDG: 20-0107-02

HPLC/IC (Continued)

Analysis Batch: 10671 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-7435-7	C-22,0-3'	Soluble	Solid	300.0	10646
MB 880-10646/1-A	Method Blank	Soluble	Solid	300.0	10646
LCS 880-10646/2-A	Lab Control Sample	Soluble	Solid	300.0	10646
LCSD 880-10646/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	10646
880-7435-1 MS	C-5, 0-5'	Soluble	Solid	300.0	10646
880-7435-1 MSD	C-5, 0-5'	Soluble	Solid	300.0	10646

Eurofins Xenco, Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-7435-1
SDG: 20-0107-02

Client Sample ID: C-5, 0-5'

Date Collected: 10/20/21 10:43

Date Received: 10/21/21 09:13

Lab Sample ID: 880-7435-1

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			4.99 g	5 mL	10431	10/25/21 13:53	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	10595	10/27/21 00:38	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			10619	10/27/21 11:32	KL	XEN MID
Total/NA	Analysis	8015 NM		1			10676	10/27/21 17:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	10652	10/26/21 16:36	DM	XEN MID
Total/NA	Analysis	8015B NM		1			10661	10/27/21 13:19	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	10646	10/26/21 15:18	SC	XEN MID
Soluble	Analysis	300.0		1			10671	10/26/21 22:15	CH	XEN MID

Client Sample ID: C-3,5'

Date Collected: 10/20/21 13:27

Date Received: 10/21/21 09:13

Lab Sample ID: 880-7435-2

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			4.98 g	5 mL	10431	10/25/21 13:53	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	10595	10/27/21 00:59	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			10619	10/27/21 11:32	KL	XEN MID
Total/NA	Analysis	8015 NM		1			10676	10/27/21 17:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	10652	10/26/21 16:36	DM	XEN MID
Total/NA	Analysis	8015B NM		1			10661	10/27/21 13:40	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	10646	10/26/21 15:18	SC	XEN MID
Soluble	Analysis	300.0		1			10671	10/26/21 22:36	CH	XEN MID

Client Sample ID: C-2,4.1'

Date Collected: 10/20/21 13:42

Date Received: 10/21/21 09:13

Lab Sample ID: 880-7435-3

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			4.98 g	5 mL	10431	10/25/21 13:53	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	10595	10/27/21 01:20	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			10619	10/27/21 11:32	KL	XEN MID
Total/NA	Analysis	8015 NM		1			10676	10/27/21 17:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	10652	10/26/21 16:36	DM	XEN MID
Total/NA	Analysis	8015B NM		1			10661	10/27/21 14:00	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	10646	10/26/21 15:18	SC	XEN MID
Soluble	Analysis	300.0		1			10671	10/26/21 22:43	CH	XEN MID

Client Sample ID: C-7,0-4.1'

Date Collected: 10/20/21 13:54

Date Received: 10/21/21 09:13

Lab Sample ID: 880-7435-5

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			5.00 g	5 mL	10431	10/25/21 13:53	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	10595	10/27/21 02:01	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			10619	10/27/21 11:32	KL	XEN MID

Eurofins Xenco, Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-7435-1
SDG: 20-0107-02

Client Sample ID: C-7,0-4.1'

Lab Sample ID: 880-7435-5

Date Collected: 10/20/21 13:54

Matrix: Solid

Date Received: 10/21/21 09:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			10676	10/27/21 17:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	10652	10/26/21 16:36	DM	XEN MID
Total/NA	Analysis	8015B NM		1			10661	10/27/21 14:41	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	10646	10/26/21 15:18	SC	XEN MID
Soluble	Analysis	300.0		5			10671	10/26/21 22:56	CH	XEN MID

Client Sample ID: C-14,0-4.1'

Lab Sample ID: 880-7435-6

Date Collected: 10/20/21 14:00

Matrix: Solid

Date Received: 10/21/21 09:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	10431	10/25/21 13:53	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	10595	10/27/21 02:22	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			10619	10/27/21 11:32	KL	XEN MID
Total/NA	Analysis	8015 NM		1			10676	10/27/21 17:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	10652	10/26/21 16:36	DM	XEN MID
Total/NA	Analysis	8015B NM		1			10661	10/27/21 15:02	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	10646	10/26/21 15:18	SC	XEN MID
Soluble	Analysis	300.0		1			10671	10/26/21 23:17	CH	XEN MID

Client Sample ID: C-22,0-3'

Lab Sample ID: 880-7435-7

Date Collected: 10/20/21 14:38

Matrix: Solid

Date Received: 10/21/21 09:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	10431	10/25/21 13:53	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	10595	10/27/21 02:43	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			10619	10/27/21 11:32	KL	XEN MID
Total/NA	Analysis	8015 NM		1			10676	10/27/21 17:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	10652	10/26/21 16:36	DM	XEN MID
Total/NA	Analysis	8015B NM		1			10661	10/27/21 15:43	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	10646	10/26/21 15:18	SC	XEN MID
Soluble	Analysis	300.0		1			10671	10/26/21 23:24	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: NWAUB

Job ID: 880-7435-1
SDG: 20-0107-02

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	T104704400-21-22	06-30-22

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
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Eurofins Xenco, Midland

Method Summary

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-7435-1
SDG: 20-0107-02

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
8015 NM	Diesel Range Organics (DRO) (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.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

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: NWAUB

Job ID: 880-7435-1
SDG: 20-0107-02

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-7435-1	C-5, 0-5'	Solid	10/20/21 10:43	10/21/21 09:13
880-7435-2	C-3,5'	Solid	10/20/21 13:27	10/21/21 09:13
880-7435-3	C-2,4.1'	Solid	10/20/21 13:42	10/21/21 09:13
880-7435-5	C-7,0-4.1'	Solid	10/20/21 13:54	10/21/21 09:13
880-7435-6	C-14,0-4.1'	Solid	10/20/21 14:00	10/21/21 09:13
880-7435-7	C-22,0-3'	Solid	10/20/21 14:38	10/21/21 09:13

880 7435 Club de Fútbol

880-7435 Chain of Custody

Midland TX 79701
432-687 0901

DATE 10/21/2021

[illegible]

PROJECT LOCATION OR NAME Wu AUB

LA PROJECT # 20-0107-02 COLLECTOR RLJ

7435 No. 2221
CHAIN-OF-CUSTODY
PAGE 1 OF 1

Login Sample Receipt Checklist

Client: Larson & Associates, Inc.

Job Number: 880-7435-1

SDG Number: 20-0107-02

Login Number: 7435**List Number: 1****Creator: Teel, Brianna****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.	N/A	
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	



Environment Testing America

ANALYTICAL REPORT

Eurofins Xenco, Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-8326-1

Laboratory Sample Delivery Group: 20-0107-02

Client Project/Site: NWAUB

For:

Larson & Associates, Inc.
507 N Marienfeld
Suite 202
Midland, Texas 79701

Attn: Mr. Mark J Larson

Holly Taylor

Authorized for release by:
11/23/2021 2:12:50 PM

Holly Taylor, Project Manager
(806)794-1296
holly.taylor@eurofinset.com

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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: NWAUB

Laboratory Job ID: 880-8326-1
SDG: 20-0107-02

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	7
QC Sample Results	8
QC Association Summary	12
Lab Chronicle	14
Certification Summary	15
Method Summary	16
Sample Summary	17
Chain of Custody	18
Receipt Checklists	19

1
2
3
4
5
6
7
8
9
10
11
12
13
14

Definitions/Glossary

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-8326-1
SDG: 20-0107-02

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
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

Case Narrative

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-8326-1
SDG: 20-0107-02

Job ID: 880-8326-1

Laboratory: Eurofins Xenco, Midland

Narrative

**Job Narrative
880-8326-1**

Receipt

The samples were received on 11/16/2021 9:13 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 4.1°C

GC VOA

Method 8021B: Surrogate recovery for the following samples were outside control limits: (MB 880-12432/5-A) and (880-8304-A-21-C MS). Evidence of matrix interferences is not obvious.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (MB 880-12468/1-A) and (890-1575-A-1-G). Evidence of matrix interferences is not obvious.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-12491 and analytical batch 880-12845 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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: NWAUB

Job ID: 880-8326-1
SDG: 20-0107-02

Client Sample ID: C-22

Lab Sample ID: 880-8326-1

Date Collected: 11/15/21 11:04

Matrix: Solid

Date Received: 11/16/21 09:13

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		11/16/21 10:05	11/17/21 21:15	1
Toluene	<0.00198	U	0.00198	mg/Kg		11/16/21 10:05	11/17/21 21:15	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		11/16/21 10:05	11/17/21 21:15	1
m,p-Xylenes	<0.00397	U	0.00397	mg/Kg		11/16/21 10:05	11/17/21 21:15	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		11/16/21 10:05	11/17/21 21:15	1
Xylenes, Total	<0.00397	U	0.00397	mg/Kg		11/16/21 10:05	11/17/21 21:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	122		70 - 130	11/16/21 10:05	11/17/21 21:15	1
1,4-Difluorobenzene (Surr)	114		70 - 130	11/16/21 10:05	11/17/21 21:15	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397	mg/Kg			11/22/21 16:47	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			11/22/21 13:12	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	<49.8	U	49.8	mg/Kg		11/16/21 14:18	11/16/21 23:04	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		11/16/21 14:18	11/16/21 23:04	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		11/16/21 14:18	11/16/21 23:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	107		70 - 130	11/16/21 14:18	11/16/21 23:04	1
o-Terphenyl (Surr)	119		70 - 130	11/16/21 14:18	11/16/21 23:04	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	178		4.97	mg/Kg			11/21/21 19:01	1

Client Sample ID: C-7

Lab Sample ID: 880-8326-2

Date Collected: 11/15/21 12:07

Matrix: Solid

Date Received: 11/16/21 09:13

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		11/16/21 10:05	11/17/21 21:41	1
Toluene	<0.00199	U	0.00199	mg/Kg		11/16/21 10:05	11/17/21 21:41	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		11/16/21 10:05	11/17/21 21:41	1
m,p-Xylenes	<0.00398	U	0.00398	mg/Kg		11/16/21 10:05	11/17/21 21:41	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		11/16/21 10:05	11/17/21 21:41	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		11/16/21 10:05	11/17/21 21:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	122		70 - 130	11/16/21 10:05	11/17/21 21:41	1
1,4-Difluorobenzene (Surr)	116		70 - 130	11/16/21 10:05	11/17/21 21:41	1

Eurofins Xenco, Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-8326-1
SDG: 20-0107-02

Client Sample ID: C-7

Lab Sample ID: 880-8326-2

Date Collected: 11/15/21 12:07

Matrix: Solid

Date Received: 11/16/21 09:13

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			11/22/21 16:47	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	133		49.9	mg/Kg			11/22/21 13:12	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		11/16/21 14:18	11/16/21 23:25	1
Diesel Range Organics (Over C10-C28)	133		49.9	mg/Kg		11/16/21 14:18	11/16/21 23:25	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		11/16/21 14:18	11/16/21 23:25	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	107		70 - 130			11/16/21 14:18	11/16/21 23:25	1
o-Terphenyl (Surr)	122		70 - 130			11/16/21 14:18	11/16/21 23:25	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.576		0.0502	mg/Kg			11/21/21 19:06	1

Eurofins Xenco, Midland

Surrogate Summary

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-8326-1
SDG: 20-0107-02

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)
880-8304-A-21-C MS	Matrix Spike	199 S1+	104
880-8304-A-21-D MSD	Matrix Spike Duplicate	93	117
880-8326-1	C-22	122	114
880-8326-2	C-7	122	116
LCS 880-12432/1-A	Lab Control Sample	109	114
LCSD 880-12432/2-A	Lab Control Sample Dup	92	118
MB 880-12432/5-A	Method Blank	67 S1-	100
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)
880-8326-1	C-22	107	119
880-8326-2	C-7	107	122
890-1575-A-1-H MS	Matrix Spike	111	117
890-1575-A-1-I MSD	Matrix Spike Duplicate	111	115
LCS 880-12468/2-A	Lab Control Sample	93	105
LCSD 880-12468/3-A	Lab Control Sample Dup	94	108
MB 880-12468/1-A	Method Blank	115	136 S1+
Surrogate Legend			
1CO = 1-Chlorooctane (Surr)			
OTPH = o-Terphenyl (Surr)			

Eurofins Xenco, Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-8326-1
SDG: 20-0107-02

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-12432/5-A

Matrix: Solid

Analysis Batch: 12513

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 12432

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/16/21 10:05	11/17/21 17:19	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/16/21 10:05	11/17/21 17:19	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/16/21 10:05	11/17/21 17:19	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		11/16/21 10:05	11/17/21 17:19	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/16/21 10:05	11/17/21 17:19	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/16/21 10:05	11/17/21 17:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	67	S1-	70 - 130	11/16/21 10:05	11/17/21 17:19	1
1,4-Difluorobenzene (Surr)	100		70 - 130	11/16/21 10:05	11/17/21 17:19	1

Lab Sample ID: LCS 880-12432/1-A

Matrix: Solid

Analysis Batch: 12513

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 12432

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1169		mg/Kg		117	70 - 130
Toluene	0.100	0.1063		mg/Kg		106	70 - 130
Ethylbenzene	0.100	0.1084		mg/Kg		108	70 - 130
m,p-Xylenes	0.200	0.2401		mg/Kg		120	70 - 130
o-Xylene	0.100	0.1112		mg/Kg		111	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	109		70 - 130
1,4-Difluorobenzene (Surr)	114		70 - 130

Lab Sample ID: LCSD 880-12432/2-A

Matrix: Solid

Analysis Batch: 12513

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 12432

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.1083		mg/Kg		108	70 - 130	8	35
Toluene	0.100	0.1036		mg/Kg		104	70 - 130	3	35
Ethylbenzene	0.100	0.1098		mg/Kg		110	70 - 130	1	35
m,p-Xylenes	0.200	0.2380		mg/Kg		119	70 - 130	1	35
o-Xylene	0.100	0.1146		mg/Kg		115	70 - 130	3	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	92		70 - 130
1,4-Difluorobenzene (Surr)	118		70 - 130

Lab Sample ID: 880-8304-A-21-C MS

Matrix: Solid

Analysis Batch: 12513

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 12432

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00198	U	0.100	0.09565		mg/Kg		96	70 - 130
Toluene	<0.00198	U	0.100	0.09970		mg/Kg		99	70 - 130

Eurofins Xenco, Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-8326-1
SDG: 20-0107-02

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 880-8304-A-21-C MS

Matrix: Solid

Analysis Batch: 12513

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 12432

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00198	U	0.100	0.08457		mg/Kg		85	70 - 130
m,p-Xylenes	<0.00397	U	0.200	0.1897		mg/Kg		95	70 - 130
o-Xylene	<0.00198	U	0.100	0.1079		mg/Kg		108	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	199	S1+	70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: 880-8304-A-21-D MSD

Matrix: Solid

Analysis Batch: 12513

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 12432

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00198	U	0.0992	0.09328		mg/Kg		94	70 - 130	3	35
Toluene	<0.00198	U	0.0992	0.08177		mg/Kg		81	70 - 130	20	35
Ethylbenzene	<0.00198	U	0.0992	0.08751		mg/Kg		88	70 - 130	3	35
m,p-Xylenes	<0.00397	U	0.198	0.1869		mg/Kg		94	70 - 130	1	35
o-Xylene	<0.00198	U	0.0992	0.08694		mg/Kg		88	70 - 130	21	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	93		70 - 130
1,4-Difluorobenzene (Surr)	117		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-12468/1-A

Matrix: Solid

Analysis Batch: 12466

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 12468

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		11/16/21 14:18	11/16/21 15:23	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/16/21 14:18	11/16/21 15:23	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/16/21 14:18	11/16/21 15:23	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	115		70 - 130	11/16/21 14:18	11/16/21 15:23	1
o-Terphenyl (Surr)	136	S1+	70 - 130	11/16/21 14:18	11/16/21 15:23	1

Lab Sample ID: LCS 880-12468/2-A

Matrix: Solid

Analysis Batch: 12466

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 12468

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	994.0		mg/Kg		99	70 - 130
Diesel Range Organics (Over C10-C28)	1000	889.3		mg/Kg		89	70 - 130

Eurofins Xenco, Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-8326-1
SDG: 20-0107-02

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 880-12468/2-A

Matrix: Solid

Analysis Batch: 12466

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 12468

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane (Surr)	93		70 - 130
o-Terphenyl (Surr)	105		70 - 130

Lab Sample ID: LCSD 880-12468/3-A

Matrix: Solid

Analysis Batch: 12466

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 12468

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1069		mg/Kg		107	70 - 130	7	20
Diesel Range Organics (Over C10-C28)	1000	906.7		mg/Kg		91	70 - 130	2	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane (Surr)	94		70 - 130
o-Terphenyl (Surr)	108		70 - 130

Lab Sample ID: 890-1575-A-1-H MS

Matrix: Solid

Analysis Batch: 12466

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 12468

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	1044		mg/Kg		105	70 - 130		
Diesel Range Organics (Over C10-C28)	116		997	919.0		mg/Kg		81	70 - 130		

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane (Surr)	111		70 - 130
o-Terphenyl (Surr)	117		70 - 130

Lab Sample ID: 890-1575-A-1-I MSD

Matrix: Solid

Analysis Batch: 12466

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 12468

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	<50.0	U	998	1096		mg/Kg		110	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	116		998	922.7		mg/Kg		81	70 - 130	0	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane (Surr)	111		70 - 130
o-Terphenyl (Surr)	115		70 - 130

Eurofins Xenco, Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-8326-1
SDG: 20-0107-02

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-12491/1-A

Matrix: Solid

Analysis Batch: 12845

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			11/21/21 16:48	1

Lab Sample ID: LCS 880-12491/2-A

Matrix: Solid

Analysis Batch: 12845

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	264.7		mg/Kg		106	90 - 110

Lab Sample ID: LCSD 880-12491/3-A

Matrix: Solid

Analysis Batch: 12845

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	257.9		mg/Kg		103	90 - 110	3	20

Lab Sample ID: 880-8307-A-5-D MS

Matrix: Solid

Analysis Batch: 12845

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	723	F1	250	936.8	F1	mg/Kg		86	90 - 110

Lab Sample ID: 880-8307-A-5-E MSD

Matrix: Solid

Analysis Batch: 12845

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	723	F1	250	960.7		mg/Kg		95	90 - 110	3	20

Eurofins Xenco, Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-8326-1
SDG: 20-0107-02

GC VOA

Prep Batch: 12432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-8326-1	C-22	Total/NA	Solid	5035	
880-8326-2	C-7	Total/NA	Solid	5035	
MB 880-12432/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-12432/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-12432/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-8304-A-21-C MS	Matrix Spike	Total/NA	Solid	5035	
880-8304-A-21-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 12513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-8326-1	C-22	Total/NA	Solid	8021B	12432
880-8326-2	C-7	Total/NA	Solid	8021B	12432
MB 880-12432/5-A	Method Blank	Total/NA	Solid	8021B	12432
LCS 880-12432/1-A	Lab Control Sample	Total/NA	Solid	8021B	12432
LCSD 880-12432/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	12432
880-8304-A-21-C MS	Matrix Spike	Total/NA	Solid	8021B	12432
880-8304-A-21-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	12432

Analysis Batch: 12945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-8326-1	C-22	Total/NA	Solid	Total BTEX	
880-8326-2	C-7	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 12466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-8326-1	C-22	Total/NA	Solid	8015B NM	12468
880-8326-2	C-7	Total/NA	Solid	8015B NM	12468
MB 880-12468/1-A	Method Blank	Total/NA	Solid	8015B NM	12468
LCS 880-12468/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	12468
LCSD 880-12468/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	12468
890-1575-A-1-H MS	Matrix Spike	Total/NA	Solid	8015B NM	12468
890-1575-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	12468

Prep Batch: 12468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-8326-1	C-22	Total/NA	Solid	8015NM Prep	
880-8326-2	C-7	Total/NA	Solid	8015NM Prep	
MB 880-12468/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-12468/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-12468/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1575-A-1-H MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1575-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 12781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-8326-1	C-22	Total/NA	Solid	8015 NM	
880-8326-2	C-7	Total/NA	Solid	8015 NM	

Eurofins Xenco, Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-8326-1
SDG: 20-0107-02

HPLC/IC

Leach Batch: 12491

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-8326-1	C-22	Soluble	Solid	DI Leach	
880-8326-2	C-7	Soluble	Solid	DI Leach	
MB 880-12491/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-12491/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-12491/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-8307-A-5-D MS	Matrix Spike	Soluble	Solid	DI Leach	
880-8307-A-5-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 12845

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-8326-1	C-22	Soluble	Solid	300.0	12491
880-8326-2	C-7	Soluble	Solid	300.0	12491
MB 880-12491/1-A	Method Blank	Soluble	Solid	300.0	12491
LCS 880-12491/2-A	Lab Control Sample	Soluble	Solid	300.0	12491
LCSD 880-12491/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	12491
880-8307-A-5-D MS	Matrix Spike	Soluble	Solid	300.0	12491
880-8307-A-5-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	12491

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-8326-1
SDG: 20-0107-02

Client Sample ID: C-22

Lab Sample ID: 880-8326-1

Date Collected: 11/15/21 11:04

Matrix: Solid

Date Received: 11/16/21 09:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	12432	11/16/21 10:05	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	12513	11/17/21 21:15	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			12945	11/22/21 16:47	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			12781	11/22/21 13:12	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	12468	11/16/21 14:18	DM	XEN MID
Total/NA	Analysis	8015B NM		1			12466	11/16/21 23:04	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	12491	11/17/21 07:47	CA	XEN MID
Soluble	Analysis	300.0		1			12845	11/21/21 19:01	CH	XEN MID

Client Sample ID: C-7

Lab Sample ID: 880-8326-2

Date Collected: 11/15/21 12:07

Matrix: Solid

Date Received: 11/16/21 09:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	12432	11/16/21 10:05	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	12513	11/17/21 21:41	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			12945	11/22/21 16:47	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			12781	11/22/21 13:12	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	12468	11/16/21 14:18	DM	XEN MID
Total/NA	Analysis	8015B NM		1			12466	11/16/21 23:25	AJ	XEN MID
Soluble	Leach	DI Leach			498 g	50 mL	12491	11/17/21 07:47	CA	XEN MID
Soluble	Analysis	300.0		1			12845	11/21/21 19:06	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: NWAUB

Job ID: 880-8326-1
SDG: 20-0107-02

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	T104704400-21-22	06-30-22

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
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-8326-1
SDG: 20-0107-02

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
8015 NM	Diesel Range Organics (DRO) (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.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

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: NWAUB

Job ID: 880-8326-1
SDG: 20-0107-02

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-8326-1	C-22	Solid	11/15/21 11:04	11/16/21 09:13
880-8326-2	C-7	Solid	11/15/21 12:07	11/16/21 09:13

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880-8326 Chain of Custody

880-8326 Chain of Custody

432-687 0901

2023

No. 2279
CHAIN-OF-CUSTODY

No. 2279

Data Reported to

DATE 11/15/2011 PAGE 1 OF 1
PO# _____ LAB WORK ORDER# _____
PROJECT LOCATION OR NAME ALGAB
LAI PROJECT # 20-0107-02 COLLECTOR RU

COLLECTOR PLW

TRRP report?

☐ Yes ☒ No

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

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Journal of Management Inquiry 18(6)

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Abstract

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Released to Imaging: 3/31/2022 9:41:18 AM

Page 18 of 19

11/23/2021

Login Sample Receipt Checklist

Client: Larson & Associates, Inc.

Job Number: 880-8326-1

SDG Number: 20-0107-02

Login Number: 8326

List Number: 1

Creator: Teel, Brianna

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.	N/A	
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	



Environment Testing America

ANALYTICAL REPORT

Eurofins Xenco, Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-9150-1

Laboratory Sample Delivery Group: 20-0107-02

Client Project/Site: NWAUB

For:

Larson & Associates, Inc.
507 N Marienfeld
Suite 202
Midland, Texas 79701

Attn: Mr. Mark J Larson

Holly Taylor

Authorized for release by:
12/10/2021 7:32:27 PM

Holly Taylor, Project Manager
(806)794-1296
holly.taylor@eurofinset.com

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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: NWAUB

Laboratory Job ID: 880-9150-1
SDG: 20-0107-02

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	6
QC Sample Results	7
QC Association Summary	11
Lab Chronicle	13
Certification Summary	14
Method Summary	15
Sample Summary	16
Chain of Custody	17
Receipt Checklists	19

1
2
3
4
5
6
7
8
9
10
11
12
13
14

Definitions/Glossary

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-9150-1
SDG: 20-0107-02

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
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

Case Narrative

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-9150-1
SDG: 20-0107-02

Job ID: 880-9150-1

Laboratory: Eurofins Xenco, Midland

Narrative

Job Narrative
880-9150-1

Comments

No additional comments.

Receipt

The sample was received on 12/8/2021 3:48 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 25.9° C.

GC VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-9150-1
SDG: 20-0107-02

Client Sample ID: C-7

Lab Sample ID: 880-9150-1

Date Collected: 12/08/21 09:46

Matrix: Solid

Date Received: 12/08/21 15:48

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		12/08/21 16:08	12/09/21 09:02	1
Toluene	<0.00198	U	0.00198	mg/Kg		12/08/21 16:08	12/09/21 09:02	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		12/08/21 16:08	12/09/21 09:02	1
m,p-Xylenes	<0.00396	U	0.00396	mg/Kg		12/08/21 16:08	12/09/21 09:02	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		12/08/21 16:08	12/09/21 09:02	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		12/08/21 16:08	12/09/21 09:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	141	S1+	70 - 130	12/08/21 16:08	12/09/21 09:02	1
1,4-Difluorobenzene (Surr)	118		70 - 130	12/08/21 16:08	12/09/21 09:02	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			12/09/21 09:17	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			12/09/21 14:45	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		12/09/21 08:34	12/09/21 13:14	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/09/21 08:34	12/09/21 13:14	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/09/21 08:34	12/09/21 13:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	86		70 - 130	12/09/21 08:34	12/09/21 13:14	1
o-Terphenyl (Surr)	78		70 - 130	12/09/21 08:34	12/09/21 13:14	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	51.7		4.98	mg/Kg			12/10/21 15:06	1

Eurofins Xenco, Midland

Surrogate Summary

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-9150-1
SDG: 20-0107-02

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)
880-9142-A-1-A MS	Matrix Spike	95	134 S1+
880-9142-A-1-B MSD	Matrix Spike Duplicate	105	133 S1+
880-9150-1	C-7	141 S1+	118
LCS 880-14311/1-A	Lab Control Sample	113	133 S1+
LCSD 880-14311/2-A	Lab Control Sample Dup	119	104
MB 880-14311/5-A	Method Blank	73	116
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)
880-9100-A-41-G MS	Matrix Spike	95	85
880-9100-A-41-H MSD	Matrix Spike Duplicate	108	110
880-9150-1	C-7	86	78
Surrogate Legend			
1CO = 1-Chlorooctane (Surr)			
OTPH = o-Terphenyl (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	1CO2 (70-130)	OTPH2 (70-130)
LCS 880-14331/2-A	Lab Control Sample	94	99
LCSD 880-14331/3-A	Lab Control Sample Dup	125	127
MB 880-14331/1-A	Method Blank	103	101
Surrogate Legend			
1CO = 1-Chlorooctane (Surr)			
OTPH = o-Terphenyl (Surr)			

Eurofins Xenco, Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-9150-1
SDG: 20-0107-02

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-14311/5-A

Matrix: Solid

Analysis Batch: 14272

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 14311

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/08/21 16:08	12/08/21 19:49	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/08/21 16:08	12/08/21 19:49	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/08/21 16:08	12/08/21 19:49	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		12/08/21 16:08	12/08/21 19:49	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/08/21 16:08	12/08/21 19:49	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/08/21 16:08	12/08/21 19:49	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	73		70 - 130	12/08/21 16:08	12/08/21 19:49	1
1,4-Difluorobenzene (Surr)	116		70 - 130	12/08/21 16:08	12/08/21 19:49	1

Lab Sample ID: LCS 880-14311/1-A

Matrix: Solid

Analysis Batch: 14272

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 14311

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.07461		mg/Kg		75	70 - 130
Toluene	0.100	0.08640		mg/Kg		86	70 - 130
Ethylbenzene	0.100	0.07355		mg/Kg		74	70 - 130
m,p-Xylenes	0.200	0.1583		mg/Kg		79	70 - 130
o-Xylene	0.100	0.08087		mg/Kg		81	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	113		70 - 130
1,4-Difluorobenzene (Surr)	133	S1+	70 - 130

Lab Sample ID: LCSD 880-14311/2-A

Matrix: Solid

Analysis Batch: 14272

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 14311

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.100	0.07423		mg/Kg		74	70 - 130	1	35
Toluene	0.100	0.07282		mg/Kg		73	70 - 130	17	35
Ethylbenzene	0.100	0.07042		mg/Kg		70	70 - 130	4	35
m,p-Xylenes	0.200	0.1514		mg/Kg		76	70 - 130	4	35
o-Xylene	0.100	0.07766		mg/Kg		78	70 - 130	4	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	119		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: 880-9142-A-1-A MS

Matrix: Solid

Analysis Batch: 14272

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 14311

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00199	U F1	0.0996	0.05093	F1	mg/Kg		51	70 - 130
Toluene	<0.00199	U F1	0.0996	0.04305	F1	mg/Kg		43	70 - 130

Eurofins Xenco, Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-9150-1
SDG: 20-0107-02

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 880-9142-A-1-A MS

Matrix: Solid

Analysis Batch: 14272

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 14311

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00199	U F1	0.0996	0.05279	F1	mg/Kg		53	70 - 130
m,p-Xylenes	<0.00398	U F1	0.199	0.1110	F1	mg/Kg		56	70 - 130
o-Xylene	<0.00199	U F1	0.0996	0.06097	F1	mg/Kg		61	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
1,4-Difluorobenzene (Surr)	134	S1+	70 - 130

Lab Sample ID: 880-9142-A-1-B MSD

Matrix: Solid

Analysis Batch: 14272

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 14311

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00199	U F1	0.101	0.04507	F1	mg/Kg		45	70 - 130	12	35
Toluene	<0.00199	U F1	0.101	0.04584	F1	mg/Kg		45	70 - 130	6	35
Ethylbenzene	<0.00199	U F1	0.101	0.05389	F1	mg/Kg		53	70 - 130	2	35
m,p-Xylenes	<0.00398	U F1	0.202	0.1127	F1	mg/Kg		56	70 - 130	1	35
o-Xylene	<0.00199	U F1	0.101	0.06157	F1	mg/Kg		61	70 - 130	1	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	133	S1+	70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-14331/1-A

Matrix: Solid

Analysis Batch: 14325

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 14331

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/09/21 08:34	12/09/21 11:07	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/09/21 08:34	12/09/21 11:07	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/09/21 08:34	12/09/21 11:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	103		70 - 130	12/09/21 08:34	12/09/21 11:07	1
o-Terphenyl (Surr)	101		70 - 130	12/09/21 08:34	12/09/21 11:07	1

Lab Sample ID: LCS 880-14331/2-A

Matrix: Solid

Analysis Batch: 14325

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 14331

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1021		mg/Kg		102	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1022		mg/Kg		102	70 - 130

Eurofins Xenco, Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-9150-1
SDG: 20-0107-02

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 880-14331/2-A

Matrix: Solid

Analysis Batch: 14325

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 14331

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane (Surr)	94		70 - 130
o-Terphenyl (Surr)	99		70 - 130

Lab Sample ID: LCSD 880-14331/3-A

Matrix: Solid

Analysis Batch: 14325

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 14331

	Spike	LCSD	LCSD						%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit		
Gasoline Range Organics (GRO)-C6-C10	1000	1062		mg/Kg		106	70 - 130	4	20		
Diesel Range Organics (Over C10-C28)	1000	1038		mg/Kg		104	70 - 130	2	20		

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane (Surr)	125		70 - 130
o-Terphenyl (Surr)	127		70 - 130

Lab Sample ID: 880-9100-A-41-G MS

Matrix: Solid

Analysis Batch: 14325

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 14331

	Sample	Sample	Spike	MS	MS				%Rec.		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	997	1137		mg/Kg		114	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U F1	997	1159		mg/Kg		116	70 - 130		

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane (Surr)	95		70 - 130
o-Terphenyl (Surr)	85		70 - 130

Lab Sample ID: 880-9100-A-41-H MSD

Matrix: Solid

Analysis Batch: 14325

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 14331

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	999	1312	F1	mg/Kg		131	70 - 130	14	20
Diesel Range Organics (Over C10-C28)	<49.9	U F1	999	1388	F1	mg/Kg		139	70 - 130	18	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane (Surr)	108		70 - 130
o-Terphenyl (Surr)	110		70 - 130

Eurofins Xenco, Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-9150-1
SDG: 20-0107-02

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-14384/1-A

Matrix: Solid

Analysis Batch: 14419

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			12/10/21 14:06	1

Lab Sample ID: LCS 880-14384/2-A

Matrix: Solid

Analysis Batch: 14419

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	271.7		mg/Kg		109	90 - 110

Lab Sample ID: LCSD 880-14384/3-A

Matrix: Solid

Analysis Batch: 14419

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	273.8		mg/Kg		110	90 - 110	1	20

Lab Sample ID: 880-9100-A-14-F MS

Matrix: Solid

Analysis Batch: 14419

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	124	F1	250	474.2	F1	mg/Kg		141	90 - 110

Lab Sample ID: 880-9100-A-14-G MSD

Matrix: Solid

Analysis Batch: 14419

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	124	F1	250	415.9	F1	mg/Kg		117	90 - 110	13	20

Eurofins Xenco, Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-9150-1
SDG: 20-0107-02

GC VOA

Analysis Batch: 14272

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9150-1	C-7	Total/NA	Solid	8021B	14311
MB 880-14311/5-A	Method Blank	Total/NA	Solid	8021B	14311
LCS 880-14311/1-A	Lab Control Sample	Total/NA	Solid	8021B	14311
LCSD 880-14311/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	14311
880-9142-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	14311
880-9142-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	14311

Prep Batch: 14311

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9150-1	C-7	Total/NA	Solid	5035	
MB 880-14311/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-14311/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-14311/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-9142-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
880-9142-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 14350

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9150-1	C-7	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 14325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9150-1	C-7	Total/NA	Solid	8015B NM	14331
MB 880-14331/1-A	Method Blank	Total/NA	Solid	8015B NM	14331
LCS 880-14331/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	14331
LCSD 880-14331/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	14331
880-9100-A-41-G MS	Matrix Spike	Total/NA	Solid	8015B NM	14331
880-9100-A-41-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	14331

Prep Batch: 14331

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9150-1	C-7	Total/NA	Solid	8015NM Prep	
MB 880-14331/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-14331/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-14331/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-9100-A-41-G MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-9100-A-41-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 14395

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9150-1	C-7	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 14384

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9150-1	C-7	Soluble	Solid	DI Leach	
MB 880-14384/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-14384/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-14384/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Eurofins Xenco, Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-9150-1
SDG: 20-0107-02

HPLC/IC (Continued)

Leach Batch: 14384 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9100-A-14-F MS	Matrix Spike	Soluble	Solid	DI Leach	
880-9100-A-14-G MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 14419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9150-1	C-7	Soluble	Solid	300.0	14384
MB 880-14384/1-A	Method Blank	Soluble	Solid	300.0	14384
LCS 880-14384/2-A	Lab Control Sample	Soluble	Solid	300.0	14384
LCSD 880-14384/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	14384
880-9100-A-14-F MS	Matrix Spike	Soluble	Solid	300.0	14384
880-9100-A-14-G MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	14384

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-9150-1
SDG: 20-0107-02

Client Sample ID: C-7
Date Collected: 12/08/21 09:46
Date Received: 12/08/21 15:48

Lab Sample ID: 880-9150-1
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			5.05 g	5 mL	14311	12/08/21 16:08	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	14272	12/09/21 09:02	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			14350	12/09/21 09:17	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			14395	12/09/21 14:45	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	14331	12/09/21 08:34	DM	XEN MID
Total/NA	Analysis	8015B NM		1			14325	12/09/21 13:14	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	14384	12/09/21 13:43	CA	XEN MID
Soluble	Analysis	300.0		1			14419	12/10/21 15:06	CH	XEN MID

Laboratory References:
XEN MID = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-9150-1
SDG: 20-0107-02

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	T104704400-21-22	06-30-22

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
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Eurofins Xenco, Midland

Method Summary

Client: Larson & Associates, Inc.
Project/Site: NWAUB

Job ID: 880-9150-1
SDG: 20-0107-02

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
8015 NM	Diesel Range Organics (DRO) (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.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

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: NWAUB

Job ID: 880-9150-1
SDG: 20-0107-02

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-9150-1	C-7	Solid	12/08/21 09:46	12/08/21 15:48

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Marson & Associates, Inc.
Environmental Consultants

507 N Marensfeld, Ste 202
Midland TX 79701
432 687 0901

Data Reported to

DATE 11/15/21 PAGE 1 OF 1
PO# _____ LAB WORK ORDER# _____
PROJECT LOCATION OR NAME NEW AUB
LAI PROJECT # 20-0107-02 COLLECTOR RLJ

TRRP report?
☐ Yes ☒ No

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

TIME ZONE
Time zone/State

Field
Sample ID

Lab #

Date

Time

Matrix

of Containers

HCl

HNO₃

H₂SO₄ ☐ NaOH ☐

ICE

UNPRESERVED

ANALYSES

BTEX ☒ MTBE ☒
TRPH 418 ☒ TPH 1005 ☒ TPH 1006 ☒
GASOLINE MOD 8015 ☒
DIESEL MOD 8015 ☒
OIL - MOD 8015 ☒
VOC 8260 ☒
SVOC 8270 ☒
8081 PESTICIDES ☒
8082 PESTICIDES ☒
TCPP - METALS (RCRA) ☒
TCPP - PEST ☒
TOTAL METALS (RCRA) ☒
LEAD - TOTAL ☒
RCI ☒
TDS ☒
PH ☒
EXPLOSIVES ☒
CHLORIDE ☒
ANIONS ☒
ALKALINITY ☒
HOLDPAH ☒
TCPP VOC ☒
Semi-VOC ☒
OTHER LIST ☒
D W 200 8 ☒
FLASHPOINT ☒
% MOISTURE ☒
CYANIDE ☒
FECHELORATE ☒
FECHELORATE ☒

FIELD NOTES

202



880-9150 Chain of Custody

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)

LABORATORY Xenox

TURN AROUND TIME

NORMAL ☒
1 DAY ☒
2 DAY ☒
OTHER ☐

LABORATORY USE ONLY

RECEIVING TEMP 25.8/59 THERM# IREO

CUSTODY SEALS - ☒ BROKEN ☒ INTACT ☐ NOT USED

CARRIER BILL # _____

☒ HAND DELIVERED

9150 CHAIN-OF-CUSTODY

No. 2290

[illegible]

Login Sample Receipt Checklist

Client: Larson & Associates, Inc.

Job Number: 880-9150-1

SDG Number: 20-0107-02

Login Number: 9150

List Number: 1

Creator: Teel, Brianna

List Source: Eurofins Xenco, Midland

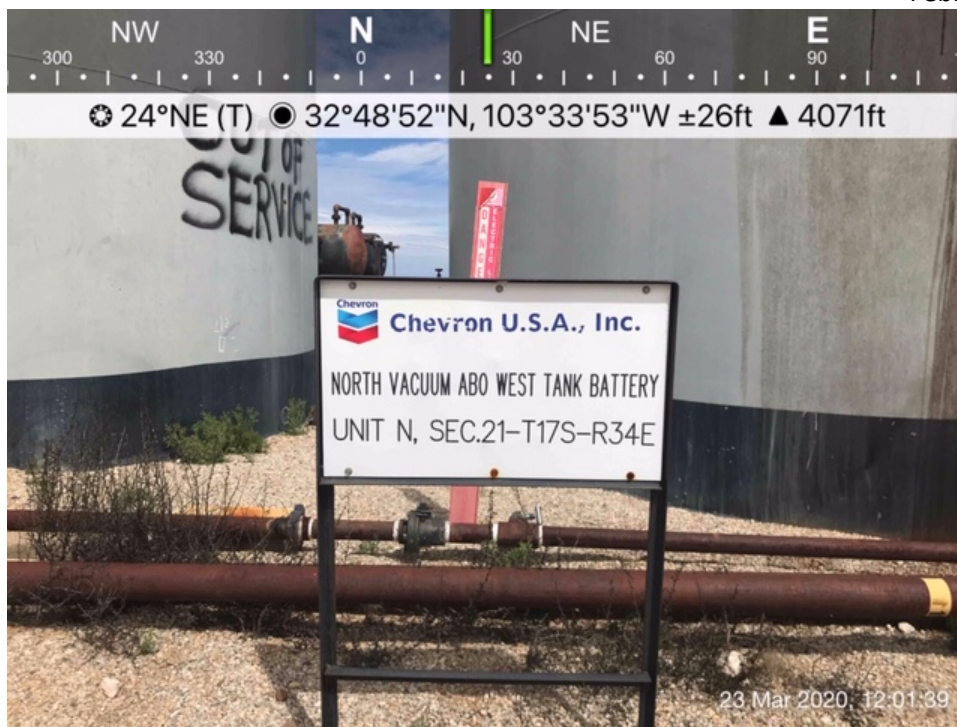
Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	Received same day of collection; chilling process has begun.
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.	N/A	
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
Photographs

Tracking Number: nOY1801255310 – Closure Report

Chevron USA, Inc., NWAUB

February 8, 2022



Northwest Abo Tank Battery Viewing North, March 23, 2020



Spill Area Viewing Northwest, March 23, 2020

Tracking Number: nOY1801255310 – Closure Report
Chevron USA, Inc., NWAUB
February 8, 2022



Spill Area Viewing Southwest, March 23, 2020



Additional Soil Excavated, October 20, 2021

Tracking Number: nOY1801255310 – Closure Report

Chevron USA, Inc., NWAUB

February 8, 2022



Additional Soil Excavated, October 20, 2021



Additional Soil Excavated, October 20, 2021

Tracking Number: nOY1801255310 – Closure Report

Chevron USA, Inc., NWAUB

February 8, 2022



Additional Soil Excavated, October 20, 2021



Additional Soil Excavated, September 29, 2021

Tracking Number: nOY1801255310 – Closure Report

Chevron USA, Inc., NWAUB

February 8, 2022



Additional Soil Excavated, November 15, 2021



Additional Soil Excavated, November 15, 2021

Tracking Number: nOY1801255310 – Closure Report

Chevron USA, Inc., NWAUB

February 8, 2022



Backfilled Excavation, December 17, 2021



Backfilled Excavation, December 17, 2021

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
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 85644

CONDITIONS

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 85644
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Deferral Request Approved. Incident nAPP2116142694 is same incident. Please implement 19.15.29.13 NMAC when completing P&A.	3/31/2022