

Incident ID	nAPP2216545859
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>70.12</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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input 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

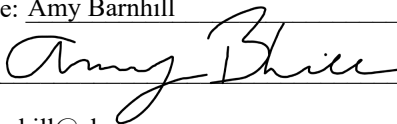
Incident ID	nAPP2216545859
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I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Amy Barnhill

Title: Water Advisor

Signature:



Date: 9-22-22

email: ABarnhill@chevron.com

Telephone: 432-687-7108

OCD Only

Received by: Jocelyn Harimon

Date: 09/22/2022

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Remediation Plan

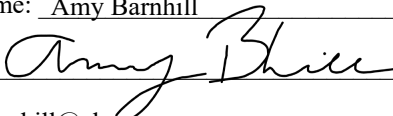
Remediation Plan Checklist: *Each of the following items must be included in the plan.*

- ☒ 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: Water Advisor
Signature:  Date: 9-22-22
email: ABarnhill@chevron.com Telephone: 432-687-7108

OCD Only

Received by: Jocelyn Harimon Date: 09/22/2022

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

Signature:  Date: 09/26/2022

Tracking Number(s): nAPP2216545859
Delineation Report and Remediation Plan
Salado Draw 19 Central Tank Battery
Produced Water Release
Lea County, New Mexico

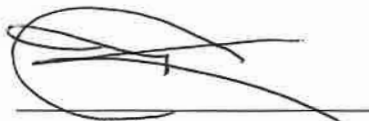
Latitude: N 32.04057543°
Longitude: W -103.65976573°

LAI Project No. 22-0105-09

September 19, 2022

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

Prepared by:
Larson & Associates, Inc.
507 North Marienfeld Street, Suite 202
Midland, Texas 79701



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



Robert Nelson
Sr. Geoscientist

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Appendix B	Karst Risk Potential
Appendix C	Soil Boring Log
Appendix D	Laboratory Reports
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Tracking Number: nAPP2216545859
Delineation Report and Remediation Plan
Chevron USA, Inc., SD 19 CTB
Produced Water Release
September 19, 2022

1.0 INTRODUCTION

Larson & Associates, Inc. (LAI), has prepared this delineation report and remediation plan on behalf of Chevron USA Inc. (Chevron) for submittal to the New Mexico Oil Conservation Division (OCD) District I for a produced water release at the Salado Draw (SD) 19 Central Tank Battery (CTB) (Site) located in Unit D (Lot 1), Section 19, Township 26 South, Range 33 East in Lea County, New Mexico. The geodetic position is North 32.04057543° and West 103.65976573°. Figure 1 presents a topographic map. Figure 2 presents an aerial map.

1.1 Background

The release was discovered on June 2, 2022, due to a pinhole leak and possible corrosion on a water line. Chevron reported that 6 barrels (bbls) of produced water was release, with none recovered. The affected area measures approximately 1,925 square feet. The initial C-141 was submitted to OCD District I on June 14, 2022. The release was assigned incident number nAPP2216545859. Appendix A presents the Chevron spill calculation and spill map.

1.2 Physical Setting

The physical setting is as follows:

- The surface elevation is approximately 3,174 feet above mean sea level (MSL).
- The surface elevation gradually decreases to the southeast.
- There are no surface water features within 1,000 feet of the Site.
- Karst data provided by the USGS describes the Site as “Medium Risk” potential.
- The geology consists of the Quaternary age- sand and silt in sheets and locally includes cover sand (USGS).
- The soils are designated as Pyote and Maljamar fine sands, consisting of 0 to 30 inches fine sand, underlain by 30 to 60 inches of fine sandy loam.
- Groundwater occurs at 70.12 feet below ground surface (bgs) based on depth to groundwater measurements taken 72 hours after installing a boring (SB-1) on April 28, 2020, approximately 0.31 miles or 1,809 feet southeast from the Site.

Figure 3 presents the soil boring location. Appendix B presents USGS data depicting karst risk potential. Appendix C presents the soil boring log.

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

Tracking Number: nAPP2216545859
Delineation Report and Remediation Plan
Chevron USA, Inc., SD 19 CTB
Produced Water Release
September 19, 2022

2.0 DELINEATION

On June 22, 2022, LAI personnel used a stainless-steel hand auger to collect soil samples from four (4) locations inside the spill area (S-1 through S-4) and four (4) locations outside of the spill area in each cardinal direction of the spill (S-5 through S-8). The samples were collected at approximately 0.5 and 1-foot bgs. The samples were delivered under chain of custody and preservation to Eurofins-Xenco Laboratories (Xenco) in Midland, Texas, which analyzed the samples 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), and chloride by EPA SW-846 Methods 8021B and 8015M, and M300, respectively.

Benzene, BTEX and TPH were reported below the NMOCD remediation standards in Table 1 (19.15.29 NMAC) of 10 milligrams per kilogram (mg/Kg), 50 mg/Kg, and 100 mg/Kg, respectively. Chloride exceeded the NMOCD delineation limit of 600 mg/Kg in sample location S-4 at a depth of 0.5 feet bgs at 919 mg/Kg.

The laboratory results demonstrate the release was delineated according to the NMOCD remediation and closure requirements (19.15.29.12 NMAC Table 1) for groundwater greater than 50 feet bgs. Table 1 presents the delineation soil sample analytical data summary. Figure 2 presents an aerial map showing the sample locations. Appendix D presents the laboratory report.

3.0 REMEDIATION PLAN

Chevron proposes the following remedial actions:

- Excavate soil from an area measuring approximately 61 square feet encompassing S-4 and to a depth of 1-foot bgs.
- Collect five (5) point composite bottom and sidewall confirmation soil samples every 200 square feet and analyze for BTEX, TPH and chloride.
- Backfill excavation with clean caliche on the pad assuming achievement of NMOCD remediation levels.
- Prepare report with photographs for submittal to NMOCD District I.
- This remediation will be performed simultaneously with two (2) additional releases (nAPP2123134861 & nAPP2201046595) that occurred at the Site.

Figure 4 presents the proposed excavation area.

Tables

Table 1
Soil Sample Analytical Data Summary
SD 19 CTB Produced Water Release
Lea County, New Mexico
32° 02' 04.93676" North, 103° 37' 00.76533" West

Page 1 of 1

Sample	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)
Remediation Level:				10	50	100/2,500				600/10,000
S-1	0.5	6/22/2022	In-Situ	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	69.2
	1	6/22/2022	In-Situ	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	58.8
S-2	0.5	6/22/2022	In-Situ	<0.00198	<0.00397	<50.0	<50.0	<50.0	<50.0	95.2
	1	6/22/2022	In-Situ	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	58.1
S-3	0.5	6/22/2022	In-Situ	<0.00200	<0.00401	<49.8	<49.8	<49.8	<49.8	31.6
	1	6/22/2022	In-Situ	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	27.1
S-4	0.5	6/22/2022	In-Situ	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	919
	1	6/22/2022	In-Situ	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	199
S-5	0.5	6/22/2022	In-Situ	<0.00202	<0.00404	<49.8	<49.8	<49.8	<49.8	0.114
S-6	0.5	6/22/2022	In-Situ	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	30.0
S-7	0.5	6/22/2022	In-Situ	<0.00200	<0.00401	<49.8	<49.8	<49.8	<49.8	218
S-8	0.5	6/22/2022	In-Situ	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	48.1

Notes: Analysis performed by Xenco Laboratories (Xenco) in Midland, Texas by EPA SW-846 8021B (BTEX), 8015M (TPH), and 300E (Chloride)

Depth in feet below ground surface (bgs)

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

<: denotes concentration less than analytical method reporting limit

Bold and Highlighted exceeds OCD remediation action limits

Figures

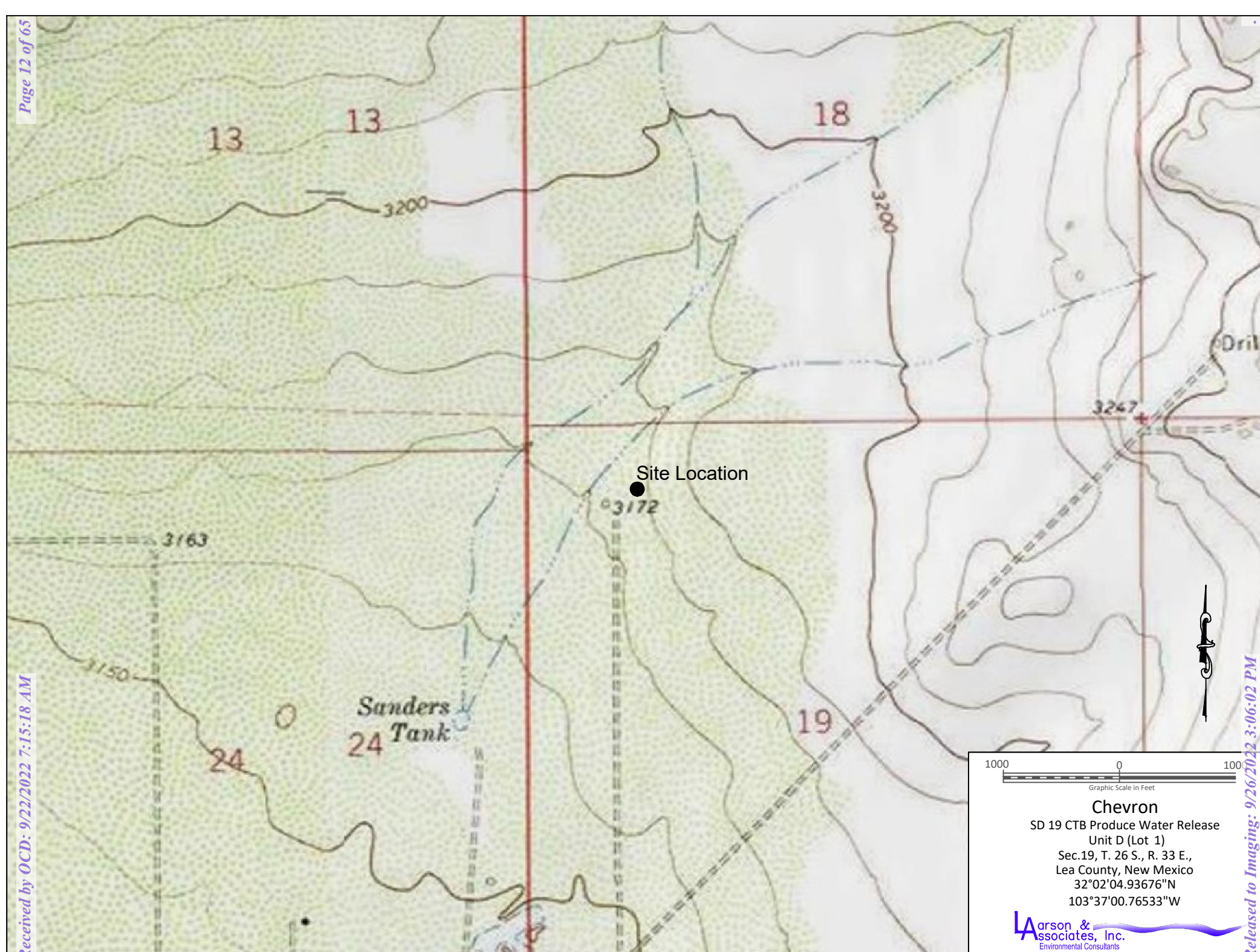
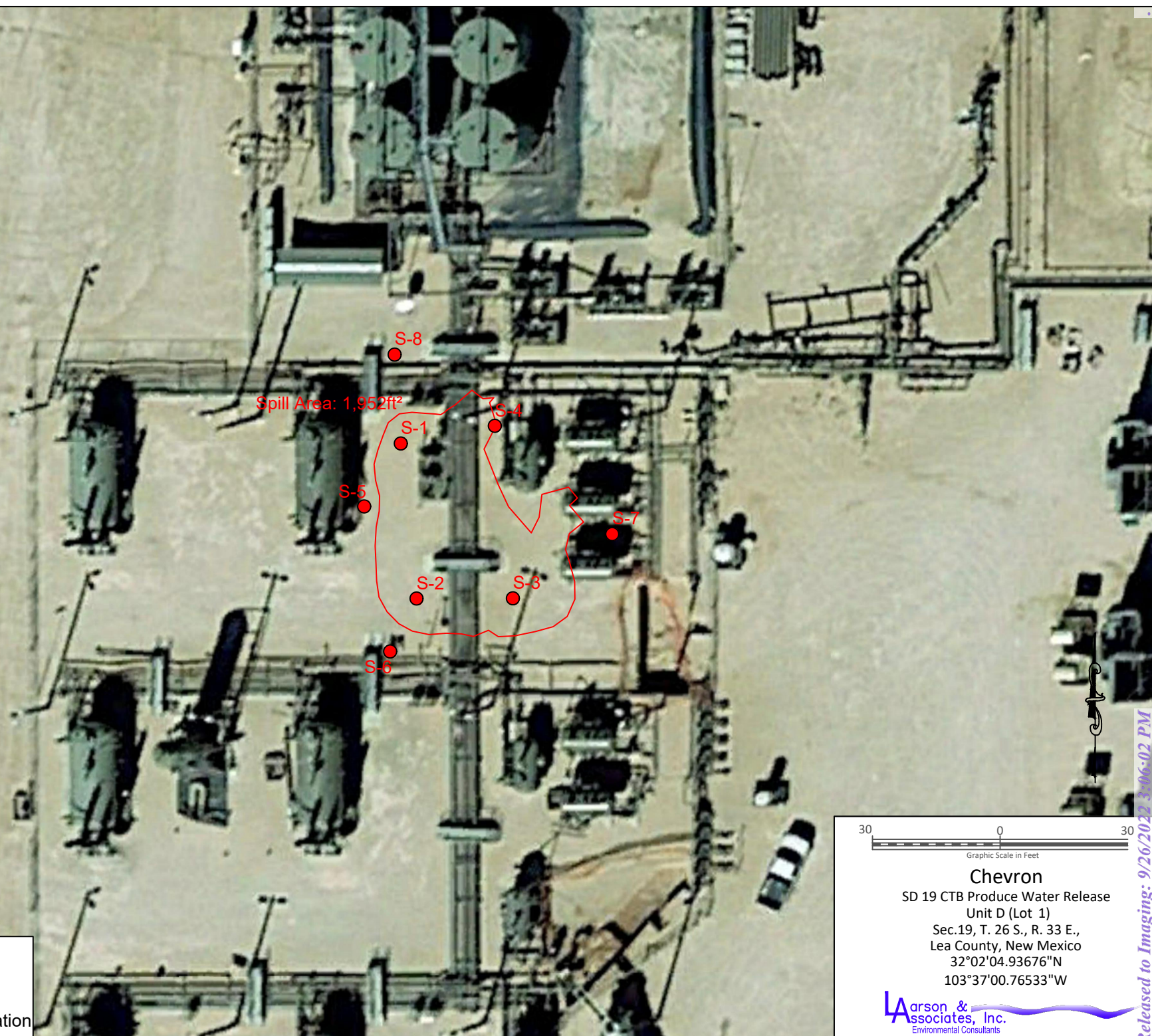


Figure 1 - Topographic Map

- Legend
- Spill Area
 - Soil Sample Location

Figure 2 - Aerial Map



Chevron
SD 19 CTB Produce Water Release
Unit D (Lot 1)
Sec.19, T. 26 S., R. 33 E.,
Lea County, New Mexico
32°02'04.93676"N
103°37'00.76533"W

Larson & Associates, Inc.
Environmental Consultants



Figure 3 - Aerial Map Showing Proposed Excavation Area



Legend

1 - Monitoring Well Location

SB-1

Graphic Scale in Feet

250 0 250

Chevron
SD 19 CTB Produce Water Release
Unit D (Lot 1)
Sec.19, T. 26 S., R. 33 E.,
Lea County, New Mexico
32°02'04.93676"N
103°37'00.76533"W

Larson & Associates, Inc.
Environmental Consultants

Figure 3 - Aerial Map Showing Monitoring Well Location

Appendix A
Chevron Spill Calculation

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

State of New Mexico
Energy Minerals and Natural
Resources Department

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

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

Incident ID	nAPP2216545859
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: Chevron USA	OGRID: 4323
Contact Name: Amy Barnhill	Contact Telephone: 432-687-7108
Contact email: ABarnhill@chevron.com	Incident # (assigned by OCD)
Contact mailing address: 6301 Deauville Blvd Midland, Tx 79706	

Location of Release Source

Latitude 32.04057543 _____ Longitude -103.65976573 _____
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Salado Draw CTB 19	Site Type: Oil
Date Release Discovered: 6-2-22	API# (if applicable)

Unit Letter	Section	Township	Range	County
D	15	26S	32E	Lea

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (Name: _____)

Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 6 bbls	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

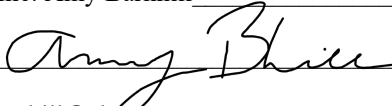
Cause of Release: Pinhole leak along water line. Possible corrosion.

Incident ID	nAPP2216545859
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? 	

Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why: 	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: Amy Barnhill	Title: Water Specialist
Signature: 	Date: 6-14-22
email: ABarnhill@chevron.com	Telephone: 432-687-7108
<u>OCD Only</u> Received by: _____ Date: _____	

Incident ID	nAPP2216545859
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Spill Calculations:

Reported Volumes

Oil Released: bbl

Oil Recovered: bbl

Water Released: 6bbl

Water Recovered: bbl

calculations are a circle 30 ft diameter with a depth of .250, 100% water cut.

From: [Barnhill, Amy D.](#)
To: [Robert Nelson](#)
Subject: New Spill - SD CTB 19
Date: Tuesday, June 14, 2022 3:20:38 PM
Attachments: [Initial C-141.pdf](#)
[Soil Map.png](#)

Robert,

Here is a spill at a location you are already working, I think.





Thank you,

Amy Barnhill

Lead Environmental Specialist – Water

Water Compliance Advisor

Tel +1 432 687 7108

Mobile +1 432 940 8524

ABarnhill@chevron.com

Mid-Continent Business Unit

Chevron North America Exploration and Production Company

Appendix B
Karst Risk Potential




Salado Draw 19 Central Tank Battery









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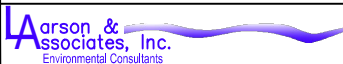
Appendix C
Soil Boring Log

BORING RECORD

GEOLOGIC UNIT	DEPTH	Start: 12:20 MDT Finish: 15:40 DESCRIPTION LITHOLOGIC	DESCRIPTION USCS	GRAPHIC LOG	PID READING										SAMPLE			REMARKS	
					PPM X <u>1</u>										NUMBER	PID READING	RECOVERY DEPTH	BACKGROUND PID READING	
					2	4	6	8	10	12	14	16	18						
	0	Silty Sand, 5YR 5/4, Reddish Brown, Very Fine Grained	ML																
	6	Quartz Sand, Poorly Sorted, Dry													1		6		
	10	2.5YR 5/4, Light Reddish Brown, Below 4 ft	Caliche																
	20	Caliche, 7.5YR 8/2, Pinkish White, Coarse Grained, Poorly Sorted, Dry													2		25		
	25	Silty Sand, 2.5YR 6/4, Light Reddish Brown, Fine Grained, Well Sorted, Dry	ML																
	30																		
	40																		
	50	Began Injecting Water																	
	55	Caliche, 7.5YR 8/2, Pinkish White, Fine Grained, Dry	Caliche												3		55		
	60																		
	66														4		66		
	70	Silty Sand, 7.5YR 4/2, Fine Grained Quartz Sand, Well Sorted, Dry	ML																
	80																		
	90																		
	100																		
	110	TD: 110.75'													5		110.75		


 70.12'
 Depth of Water

 ONE CONTINUOUS AUGER SAMPLER	 WATER TABLE (TIME OF BORING)
 STANDARD PENETRATION TEST	 LABORATORY TEST LOCATION
 UNDISTURBED SAMPLE	 PENETROMETER (TONS/ SQ. FT)
 WATER TABLE (24 HRS)	 NO RECOVERY

	DRILL DATE : 04-09-2020	BORING NUMBER : SB-01	JOB NUMBER : <u>Chevron/19-0180-05</u>
			HOLE DIAMETER : <u>2"</u>
			LOCATION : <u>Salado Draw Frac Pond 19</u>
			LAI GEOLOGIST : <u>E. Chavez</u>
			DRILLING CONTRACTOR : <u>Scarborough</u>
			DRILLING METHOD : <u>Air Rotary</u>

Appendix D
Laboratory Reports



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 880-16241-1

Laboratory Sample Delivery Group: 22-0105-09

Client Project/Site: SD 19 CTB Produced Water Release

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:

6/29/2022 8:37:38 AM

Holly Taylor, Project Manager

(806)794-1296

Holly.Taylor@et.eurofinsus.com

LINKS

Review your project
results through



Have a Question?



Visit us at:

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: SD 19 CTB Produced Water Release

Laboratory Job ID: 880-16241-1
SDG: 22-0105-09

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Definitions/Glossary

Client: Larson & Associates, Inc.
Project/Site: SD 19 CTB Produced Water Release

Job ID: 880-16241-1
SDG: 22-0105-09

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
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.
□	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: SD 19 CTB Produced Water Release

Job ID: 880-16241-1
SDG: 22-0105-09

Job ID: 880-16241-1

Laboratory: Eurofins Midland

Narrative

Job Narrative 880-16241-1

Comments

No additional comments.

Receipt

The samples were received on 6/23/2022 11:06 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 0.2° C.

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-28354 and analytical batch 880-28306 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: Surrogate recovery for the following sample was outside control limits: S-4 1' (880-16241-8). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015B NM: CCV biased low for gasoline range hydrocarbons, however an acceptable CCV was analyzed within the 12 hour window, therefore data was qualified and reported.
(CCV 880-28190/19)

Method 8015B NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-28233 and analytical batch 880-28190 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10.

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: SD 19 CTB Produced Water Release

Job ID: 880-16241-1
SDG: 22-0105-09

Client Sample ID: S-1 0.5'

Lab Sample ID: 880-16241-1

Date Collected: 06/22/22 11:12

Matrix: Solid

Date Received: 06/23/22 11:06

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		06/24/22 15:16	06/25/22 21:41	1
Toluene	<0.00201	U	0.00201	mg/Kg		06/24/22 15:16	06/25/22 21:41	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		06/24/22 15:16	06/25/22 21:41	1
m,p-Xylenes	<0.00402	U	0.00402	mg/Kg		06/24/22 15:16	06/25/22 21:41	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		06/24/22 15:16	06/25/22 21:41	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		06/24/22 15:16	06/25/22 21:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130	06/24/22 15:16	06/25/22 21:41	1
1,4-Difluorobenzene (Surr)	94		70 - 130	06/24/22 15:16	06/25/22 21:41	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			06/27/22 12:48	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			06/24/22 10:29	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 *1	49.9	mg/Kg		06/23/22 13:00	06/24/22 02:32	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		06/23/22 13:00	06/24/22 02:32	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		06/23/22 13:00	06/24/22 02:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	111		70 - 130	06/23/22 13:00	06/24/22 02:32	1
o-Terphenyl (Surr)	115		70 - 130	06/23/22 13:00	06/24/22 02:32	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	69.2		4.97	mg/Kg			06/28/22 06:40	1

Client Sample ID: S-1 1'

Lab Sample ID: 880-16241-2

Date Collected: 06/22/22 11:14

Matrix: Solid

Date Received: 06/23/22 11:06

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		06/24/22 15:16	06/25/22 22:02	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/24/22 15:16	06/25/22 22:02	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/24/22 15:16	06/25/22 22:02	1
m,p-Xylenes	<0.00399	U	0.00399	mg/Kg		06/24/22 15:16	06/25/22 22:02	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/24/22 15:16	06/25/22 22:02	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		06/24/22 15:16	06/25/22 22:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	06/24/22 15:16	06/25/22 22:02	1
1,4-Difluorobenzene (Surr)	93		70 - 130	06/24/22 15:16	06/25/22 22:02	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: SD 19 CTB Produced Water Release

Job ID: 880-16241-1
SDG: 22-0105-09

Client Sample ID: S-1 1'

Lab Sample ID: 880-16241-2

Date Collected: 06/22/22 11:14

Matrix: Solid

Date Received: 06/23/22 11:06

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			06/27/22 12:48	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			06/24/22 10:29	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 *1	50.0	mg/Kg		06/23/22 13:00	06/24/22 02:53	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		06/23/22 13:00	06/24/22 02:53	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/23/22 13:00	06/24/22 02:53	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	115		70 - 130			06/23/22 13:00	06/24/22 02:53	1
o-Terphenyl (Surr)	123		70 - 130			06/23/22 13:00	06/24/22 02:53	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	58.8		4.98	mg/Kg			06/28/22 06:50	1

Client Sample ID: S-2 0.5'

Lab Sample ID: 880-16241-3

Date Collected: 06/22/22 11:16

Matrix: Solid

Date Received: 06/23/22 11:06

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		06/24/22 15:16	06/25/22 22:22	1
Toluene	<0.00198	U	0.00198	mg/Kg		06/24/22 15:16	06/25/22 22:22	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		06/24/22 15:16	06/25/22 22:22	1
m,p-Xylenes	<0.00397	U	0.00397	mg/Kg		06/24/22 15:16	06/25/22 22:22	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		06/24/22 15:16	06/25/22 22:22	1
Xylenes, Total	<0.00397	U	0.00397	mg/Kg		06/24/22 15:16	06/25/22 22:22	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	117		70 - 130			06/24/22 15:16	06/25/22 22:22	1
1,4-Difluorobenzene (Surr)	90		70 - 130			06/24/22 15:16	06/25/22 22:22	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			06/27/22 12:48	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			06/24/22 10:29	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 *1	50.0	mg/Kg		06/23/22 13:00	06/24/22 03:14	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		06/23/22 13:00	06/24/22 03:14	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: SD 19 CTB Produced Water Release

Job ID: 880-16241-1
SDG: 22-0105-09

Client Sample ID: S-2 0.5'

Lab Sample ID: 880-16241-3

Date Collected: 06/22/22 11:16

Matrix: Solid

Date Received: 06/23/22 11:06

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)	<50.0	U	50.0	mg/Kg		06/23/22 13:00	06/24/22 03:14	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	115		70 - 130			06/23/22 13:00	06/24/22 03:14	1
o-Terphenyl (Surr)	121		70 - 130			06/23/22 13:00	06/24/22 03:14	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	95.2		4.99	mg/Kg			06/28/22 06:59	1

Client Sample ID: S-2 1'

Lab Sample ID: 880-16241-4

Date Collected: 06/22/22 11:18

Matrix: Solid

Date Received: 06/23/22 11:06

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		06/24/22 15:16	06/25/22 22:43	1
Toluene	<0.00199	U	0.00199	mg/Kg		06/24/22 15:16	06/25/22 22:43	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		06/24/22 15:16	06/25/22 22:43	1
m,p-Xylenes	<0.00398	U	0.00398	mg/Kg		06/24/22 15:16	06/25/22 22:43	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		06/24/22 15:16	06/25/22 22:43	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		06/24/22 15:16	06/25/22 22:43	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130			06/24/22 15:16	06/25/22 22:43	1
1,4-Difluorobenzene (Surr)	89		70 - 130			06/24/22 15:16	06/25/22 22:43	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			06/27/22 12:48	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			06/24/22 10:29	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 *1	49.9	mg/Kg		06/23/22 13:00	06/24/22 03:35	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		06/23/22 13:00	06/24/22 03:35	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		06/23/22 13:00	06/24/22 03:35	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	110		70 - 130			06/23/22 13:00	06/24/22 03:35	1
o-Terphenyl (Surr)	115		70 - 130			06/23/22 13:00	06/24/22 03:35	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	58.1		4.98	mg/Kg			06/28/22 07:26	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: SD 19 CTB Produced Water Release

Job ID: 880-16241-1
SDG: 22-0105-09

Client Sample ID: S-3 0.5'

Lab Sample ID: 880-16241-5

Date Collected: 06/22/22 11:20

Matrix: Solid

Date Received: 06/23/22 11:06

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		06/24/22 15:16	06/25/22 23:03	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/24/22 15:16	06/25/22 23:03	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/24/22 15:16	06/25/22 23:03	1
m,p-Xylenes	<0.00401	U	0.00401	mg/Kg		06/24/22 15:16	06/25/22 23:03	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/24/22 15:16	06/25/22 23:03	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		06/24/22 15:16	06/25/22 23:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	06/24/22 15:16	06/25/22 23:03	1
1,4-Difluorobenzene (Surr)	88		70 - 130	06/24/22 15:16	06/25/22 23:03	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			06/27/22 12:48	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			06/24/22 10:29	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 *1	49.8	mg/Kg		06/23/22 13:00	06/24/22 03:56	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		06/23/22 13:00	06/24/22 03:56	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		06/23/22 13:00	06/24/22 03:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	109		70 - 130	06/23/22 13:00	06/24/22 03:56	1
o-Terphenyl (Surr)	112		70 - 130	06/23/22 13:00	06/24/22 03:56	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	31.6		5.04	mg/Kg			06/28/22 07:36	1

Client Sample ID: S-3 1'

Lab Sample ID: 880-16241-6

Date Collected: 06/22/22 11:22

Matrix: Solid

Date Received: 06/23/22 11:06

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		06/24/22 15:16	06/25/22 23:23	1
Toluene	<0.00201	U	0.00201	mg/Kg		06/24/22 15:16	06/25/22 23:23	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		06/24/22 15:16	06/25/22 23:23	1
m,p-Xylenes	<0.00402	U	0.00402	mg/Kg		06/24/22 15:16	06/25/22 23:23	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		06/24/22 15:16	06/25/22 23:23	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		06/24/22 15:16	06/25/22 23:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130	06/24/22 15:16	06/25/22 23:23	1
1,4-Difluorobenzene (Surr)	90		70 - 130	06/24/22 15:16	06/25/22 23:23	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: SD 19 CTB Produced Water Release

Job ID: 880-16241-1
SDG: 22-0105-09

Client Sample ID: S-3 1'

Lab Sample ID: 880-16241-6

Date Collected: 06/22/22 11:22

Matrix: Solid

Date Received: 06/23/22 11:06

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			06/27/22 12:48	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			06/24/22 10:29	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 *1	50.0	mg/Kg		06/23/22 13:00	06/24/22 04:17	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		06/23/22 13:00	06/24/22 04:17	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/23/22 13:00	06/24/22 04:17	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	105		70 - 130			06/23/22 13:00	06/24/22 04:17	1
o-Terphenyl (Surr)	108		70 - 130			06/23/22 13:00	06/24/22 04:17	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	27.1		5.04	mg/Kg			06/28/22 08:03	1

Client Sample ID: S-4 0.5'

Lab Sample ID: 880-16241-7

Date Collected: 06/22/22 11:24

Matrix: Solid

Date Received: 06/23/22 11:06

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		06/24/22 15:16	06/25/22 23:44	1
Toluene	<0.00199	U	0.00199	mg/Kg		06/24/22 15:16	06/25/22 23:44	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		06/24/22 15:16	06/25/22 23:44	1
m,p-Xylenes	<0.00398	U	0.00398	mg/Kg		06/24/22 15:16	06/25/22 23:44	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		06/24/22 15:16	06/25/22 23:44	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		06/24/22 15:16	06/25/22 23:44	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	117		70 - 130			06/24/22 15:16	06/25/22 23:44	1
1,4-Difluorobenzene (Surr)	89		70 - 130			06/24/22 15:16	06/25/22 23:44	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			06/27/22 12:48	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			06/24/22 10:29	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 *1	49.9	mg/Kg		06/23/22 13:00	06/24/22 04:38	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		06/23/22 13:00	06/24/22 04:38	1

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Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: SD 19 CTB Produced Water Release

Job ID: 880-16241-1
SDG: 22-0105-09

Client Sample ID: S-4 0.5'

Lab Sample ID: 880-16241-7

Date Collected: 06/22/22 11:24

Matrix: Solid

Date Received: 06/23/22 11:06

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)	<49.9	U	49.9	mg/Kg		06/23/22 13:00	06/24/22 04:38	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	119		70 - 130			06/23/22 13:00	06/24/22 04:38	1
o-Terphenyl (Surr)	122		70 - 130			06/23/22 13:00	06/24/22 04:38	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	919		24.9	mg/Kg			06/28/22 08:13	5

Client Sample ID: S-4 1'

Lab Sample ID: 880-16241-8

Date Collected: 06/22/22 11:26

Matrix: Solid

Date Received: 06/23/22 11:06

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		06/24/22 15:16	06/26/22 00:04	1
Toluene	<0.00199	U	0.00199	mg/Kg		06/24/22 15:16	06/26/22 00:04	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		06/24/22 15:16	06/26/22 00:04	1
m,p-Xylenes	<0.00398	U	0.00398	mg/Kg		06/24/22 15:16	06/26/22 00:04	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		06/24/22 15:16	06/26/22 00:04	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		06/24/22 15:16	06/26/22 00:04	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130			06/24/22 15:16	06/26/22 00:04	1
1,4-Difluorobenzene (Surr)	88		70 - 130			06/24/22 15:16	06/26/22 00:04	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			06/27/22 12:48	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			06/24/22 10:29	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 *1	50.0	mg/Kg		06/23/22 13:00	06/24/22 04:59	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		06/23/22 13:00	06/24/22 04:59	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/23/22 13:00	06/24/22 04:59	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	126		70 - 130			06/23/22 13:00	06/24/22 04:59	1
o-Terphenyl (Surr)	134	S1+	70 - 130			06/23/22 13:00	06/24/22 04:59	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	199		25.3	mg/Kg			06/28/22 08:22	5

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Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: SD 19 CTB Produced Water Release

Job ID: 880-16241-1
SDG: 22-0105-09

Client Sample ID: S-5 0.5'

Lab Sample ID: 880-16241-9

Date Collected: 06/22/22 10:55

Matrix: Solid

Date Received: 06/23/22 11:06

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		06/24/22 15:16	06/26/22 00:25	1
Toluene	<0.00202	U	0.00202	mg/Kg		06/24/22 15:16	06/26/22 00:25	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		06/24/22 15:16	06/26/22 00:25	1
m,p-Xylenes	<0.00404	U	0.00404	mg/Kg		06/24/22 15:16	06/26/22 00:25	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		06/24/22 15:16	06/26/22 00:25	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		06/24/22 15:16	06/26/22 00:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	118		70 - 130	06/24/22 15:16	06/26/22 00:25	1
1,4-Difluorobenzene (Surr)	89		70 - 130	06/24/22 15:16	06/26/22 00:25	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404	mg/Kg			06/27/22 12:48	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			06/24/22 10:29	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 *1	49.8	mg/Kg		06/23/22 13:00	06/24/22 05:20	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		06/23/22 13:00	06/24/22 05:20	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		06/23/22 13:00	06/24/22 05:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	103		70 - 130	06/23/22 13:00	06/24/22 05:20	1
o-Terphenyl (Surr)	108		70 - 130	06/23/22 13:00	06/24/22 05:20	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.114		0.00502	mg/Kg			06/28/22 08:31	1

Client Sample ID: S-6 0.5'

Lab Sample ID: 880-16241-10

Date Collected: 06/22/22 11:00

Matrix: Solid

Date Received: 06/23/22 11:06

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		06/24/22 15:16	06/26/22 00:45	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/24/22 15:16	06/26/22 00:45	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/24/22 15:16	06/26/22 00:45	1
m,p-Xylenes	<0.00399	U	0.00399	mg/Kg		06/24/22 15:16	06/26/22 00:45	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/24/22 15:16	06/26/22 00:45	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		06/24/22 15:16	06/26/22 00:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130	06/24/22 15:16	06/26/22 00:45	1
1,4-Difluorobenzene (Surr)	87		70 - 130	06/24/22 15:16	06/26/22 00:45	1

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Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: SD 19 CTB Produced Water Release

Job ID: 880-16241-1
SDG: 22-0105-09

Client Sample ID: S-6 0.5'

Lab Sample ID: 880-16241-10

Date Collected: 06/22/22 11:00

Matrix: Solid

Date Received: 06/23/22 11:06

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			06/27/22 12:48	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			06/24/22 10:29	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		06/23/22 16:11	06/24/22 02:28	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		06/23/22 16:11	06/24/22 02:28	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		06/23/22 16:11	06/24/22 02:28	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	113		70 - 130			06/23/22 16:11	06/24/22 02:28	1
o-Terphenyl (Surr)	121		70 - 130			06/23/22 16:11	06/24/22 02:28	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	30.0		5.03	mg/Kg			06/28/22 08:40	1

Client Sample ID: S-7 0.5'

Lab Sample ID: 880-16241-11

Date Collected: 06/22/22 11:05

Matrix: Solid

Date Received: 06/23/22 11:06

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		06/24/22 14:13	06/25/22 14:02	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/24/22 14:13	06/25/22 14:02	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/24/22 14:13	06/25/22 14:02	1
m,p-Xylenes	<0.00401	U	0.00401	mg/Kg		06/24/22 14:13	06/25/22 14:02	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/24/22 14:13	06/25/22 14:02	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		06/24/22 14:13	06/25/22 14:02	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130			06/24/22 14:13	06/25/22 14:02	1
1,4-Difluorobenzene (Surr)	97		70 - 130			06/24/22 14:13	06/25/22 14:02	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			06/27/22 12:48	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			06/24/22 10:29	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		06/23/22 16:11	06/24/22 02:48	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		06/23/22 16:11	06/24/22 02:48	1

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Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: SD 19 CTB Produced Water Release

Job ID: 880-16241-1
SDG: 22-0105-09

Client Sample ID: S-7 0.5'

Lab Sample ID: 880-16241-11

Date Collected: 06/22/22 11:05

Matrix: Solid

Date Received: 06/23/22 11:06

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		06/23/22 16:11	06/24/22 02:48	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	123		70 - 130			06/23/22 16:11	06/24/22 02:48	1
o-Terphenyl (Surr)	134	S1+	70 - 130			06/23/22 16:11	06/24/22 02:48	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	218		25.0	mg/Kg			06/28/22 08:49	5

Client Sample ID: S-8 0.5'

Lab Sample ID: 880-16241-12

Date Collected: 06/22/22 11:10

Matrix: Solid

Date Received: 06/23/22 11:06

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		06/24/22 14:13	06/25/22 14:23	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/24/22 14:13	06/25/22 14:23	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/24/22 14:13	06/25/22 14:23	1
m,p-Xylenes	<0.00399	U	0.00399	mg/Kg		06/24/22 14:13	06/25/22 14:23	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/24/22 14:13	06/25/22 14:23	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		06/24/22 14:13	06/25/22 14:23	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130			06/24/22 14:13	06/25/22 14:23	1
1,4-Difluorobenzene (Surr)	92		70 - 130			06/24/22 14:13	06/25/22 14:23	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			06/27/22 12:48	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			06/24/22 10:29	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		06/23/22 16:11	06/24/22 03:08	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		06/23/22 16:11	06/24/22 03:08	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		06/23/22 16:11	06/24/22 03:08	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	110		70 - 130			06/23/22 16:11	06/24/22 03:08	1
o-Terphenyl (Surr)	120		70 - 130			06/23/22 16:11	06/24/22 03:08	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	48.1		4.99	mg/Kg			06/28/22 08:59	1

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Surrogate Summary

Client: Larson & Associates, Inc.
Project/Site: SD 19 CTB Produced Water Release

Job ID: 880-16241-1
SDG: 22-0105-09

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BFB1 (70-130)	DFBZ1 (70-130)
880-16241-1	S-1 0.5'	111	94
880-16241-1 MS	S-1 0.5'	111	100
880-16241-1 MSD	S-1 0.5'	110	99
880-16241-2	S-1 1'	112	93
880-16241-3	S-2 0.5'	117	90
880-16241-4	S-2 1'	116	89
880-16241-5	S-3 0.5'	112	88
880-16241-6	S-3 1'	119	90
880-16241-7	S-4 0.5'	117	89
880-16241-8	S-4 1'	116	88
880-16241-9	S-5 0.5'	118	89
880-16241-10	S-6 0.5'	116	87
880-16241-11	S-7 0.5'	113	97
880-16241-12	S-8 0.5'	112	92
880-16282-A-1-D MS	Matrix Spike	119	99
880-16282-A-1-E MSD	Matrix Spike Duplicate	124	84
LCS 880-28354/1-A	Lab Control Sample	127	106
LCS 880-28363/1-A	Lab Control Sample	110	98
LCSD 880-28354/2-A	Lab Control Sample Dup	110	99
LCSD 880-28363/2-A	Lab Control Sample Dup	107	100
MB 880-28306/39	Method Blank	101	90
MB 880-28354/5-A	Method Blank	102	87
MB 880-28363/5-A	Method Blank	101	89
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

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		1CO1 (70-130)	OTPH1 (70-130)
880-16239-A-21-C MS	Matrix Spike	111	102
880-16239-A-21-D MSD	Matrix Spike Duplicate	113	105
880-16241-1	S-1 0.5'	111	115
880-16241-2	S-1 1'	115	123
880-16241-3	S-2 0.5'	115	121
880-16241-4	S-2 1'	110	115
880-16241-5	S-3 0.5'	109	112
880-16241-6	S-3 1'	105	108
880-16241-7	S-4 0.5'	119	122
880-16241-8	S-4 1'	126	134 S1+
880-16241-9	S-5 0.5'	103	108
880-16241-10	S-6 0.5'	113	121
880-16241-11	S-7 0.5'	123	134 S1+
880-16241-12	S-8 0.5'	110	120
890-2448-A-1-H MS	Matrix Spike	96	95
890-2448-A-1-I MSD	Matrix Spike Duplicate	101	94

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Surrogate Summary

Client: Larson & Associates, Inc.
Project/Site: SD 19 CTB Produced Water Release

Job ID: 880-16241-1
SDG: 22-0105-09

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)
LCS 880-28233/2-A	Lab Control Sample	93	98
LCS 880-28272/2-A	Lab Control Sample	96	96
LCSD 880-28233/3-A	Lab Control Sample Dup	101	106
LCSD 880-28272/3-A	Lab Control Sample Dup	102	105
MB 880-28233/1-A	Method Blank	103	106
MB 880-28272/1-A	Method Blank	103	112

Surrogate Legend

1CO = 1-Chlorooctane (Surr)

OTPH = o-Terphenyl (Surr)

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: SD 19 CTB Produced Water Release

Job ID: 880-16241-1
SDG: 22-0105-09

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-28306/39

Matrix: Solid

Analysis Batch: 28306

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg			06/24/22 22:17	1
Toluene	<0.00200	U	0.00200	mg/Kg			06/24/22 22:17	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg			06/24/22 22:17	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg			06/24/22 22:17	1
o-Xylene	<0.00200	U	0.00200	mg/Kg			06/24/22 22:17	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg			06/24/22 22:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130		06/24/22 22:17	1
1,4-Difluorobenzene (Surr)	90		70 - 130		06/24/22 22:17	1

Lab Sample ID: MB 880-28354/5-A

Matrix: Solid

Analysis Batch: 28306

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 28354

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		06/24/22 14:13	06/25/22 08:52	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/24/22 14:13	06/25/22 08:52	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/24/22 14:13	06/25/22 08:52	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		06/24/22 14:13	06/25/22 08:52	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/24/22 14:13	06/25/22 08:52	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		06/24/22 14:13	06/25/22 08:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130	06/24/22 14:13	06/25/22 08:52	1
1,4-Difluorobenzene (Surr)	87		70 - 130	06/24/22 14:13	06/25/22 08:52	1

Lab Sample ID: LCS 880-28354/1-A

Matrix: Solid

Analysis Batch: 28306

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 28354

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.07094		mg/Kg		71	70 - 130
Toluene	0.100	0.07028		mg/Kg		70	70 - 130
Ethylbenzene	0.100	0.07386		mg/Kg		74	70 - 130
m,p-Xylenes	0.200	0.1543		mg/Kg		77	70 - 130
o-Xylene	0.100	0.08210		mg/Kg		82	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	127		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Lab Sample ID: LCSD 880-28354/2-A

Matrix: Solid

Analysis Batch: 28306

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 28354

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09324		mg/Kg		93	70 - 130	27	35

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: SD 19 CTB Produced Water Release

Job ID: 880-16241-1
SDG: 22-0105-09

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

Lab Sample ID: LCSD 880-28354/2-A

Matrix: Solid

Analysis Batch: 28306

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 28354

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene	0.100	0.09103		mg/Kg		91	70 - 130	26	35
Ethylbenzene	0.100	0.09529		mg/Kg		95	70 - 130	25	35
m,p-Xylenes	0.200	0.1953		mg/Kg		98	70 - 130	23	35
o-Xylene	0.100	0.1001		mg/Kg		100	70 - 130	20	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	110		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

Lab Sample ID: 880-16282-A-1-D MS

Matrix: Solid

Analysis Batch: 28306

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 28354

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U F2 F1	0.100	0.07260		mg/Kg		72	70 - 130
Toluene	<0.00201	U F2 F1	0.100	0.06776	F1	mg/Kg		66	70 - 130
Ethylbenzene	<0.00201	U F2 F1	0.100	0.06790	F1	mg/Kg		66	70 - 130
m,p-Xylenes	<0.00402	U F2 F1	0.200	0.1297	F1	mg/Kg		63	70 - 130
o-Xylene	<0.00201	U F2 F1	0.100	0.06945	F1	mg/Kg		68	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	119		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

Lab Sample ID: 880-16282-A-1-E MSD

Matrix: Solid

Analysis Batch: 28306

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 28354

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F2 F1	0.0990	0.03163	F2 F1	mg/Kg		31	70 - 130	79	35
Toluene	<0.00201	U F2 F1	0.0990	0.03840	F2 F1	mg/Kg		38	70 - 130	55	35
Ethylbenzene	<0.00201	U F2 F1	0.0990	0.04227	F2 F1	mg/Kg		41	70 - 130	47	35
m,p-Xylenes	<0.00402	U F2 F1	0.198	0.08106	F2 F1	mg/Kg		39	70 - 130	46	35
o-Xylene	<0.00201	U F2 F1	0.0990	0.04747	F2 F1	mg/Kg		47	70 - 130	38	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	124		70 - 130
1,4-Difluorobenzene (Surr)	84		70 - 130

Lab Sample ID: MB 880-28363/5-A

Matrix: Solid

Analysis Batch: 28398

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 28363

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		06/24/22 15:16	06/25/22 21:19	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/24/22 15:16	06/25/22 21:19	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/24/22 15:16	06/25/22 21:19	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		06/24/22 15:16	06/25/22 21:19	1

Eurofins Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: SD 19 CTB Produced Water Release

Job ID: 880-16241-1
SDG: 22-0105-09

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

Lab Sample ID: MB 880-28363/5-A

Matrix: Solid

Analysis Batch: 28398

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 28363

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/24/22 15:16	06/25/22 21:19	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		06/24/22 15:16	06/25/22 21:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	06/24/22 15:16	06/25/22 21:19	1
1,4-Difluorobenzene (Surr)	89		70 - 130	06/24/22 15:16	06/25/22 21:19	1

Lab Sample ID: LCS 880-28363/1-A

Matrix: Solid

Analysis Batch: 28398

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 28363

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1136		mg/Kg		114	70 - 130
Toluene	0.100	0.1103		mg/Kg		110	70 - 130
Ethylbenzene	0.100	0.1153		mg/Kg		115	70 - 130
m,p-Xylenes	0.200	0.2346		mg/Kg		117	70 - 130
o-Xylene	0.100	0.1196		mg/Kg		120	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	110		70 - 130
1,4-Difluorobenzene (Surr)	98		70 - 130

Lab Sample ID: LCSD 880-28363/2-A

Matrix: Solid

Analysis Batch: 28398

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 28363

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	0.100	0.1099		mg/Kg		110	70 - 130	3	35
Toluene	0.100	0.1041		mg/Kg		104	70 - 130	6	35
Ethylbenzene	0.100	0.1082		mg/Kg		108	70 - 130	6	35
m,p-Xylenes	0.200	0.2204		mg/Kg		110	70 - 130	6	35
o-Xylene	0.100	0.1110		mg/Kg		111	70 - 130	7	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

Lab Sample ID: 880-16241-1 MS

Matrix: Solid

Analysis Batch: 28398

Client Sample ID: S-1 0.5'

Prep Type: Total/NA

Prep Batch: 28363

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U	0.100	0.1028		mg/Kg		103	70 - 130
Toluene	<0.00201	U	0.100	0.09858		mg/Kg		98	70 - 130
Ethylbenzene	<0.00201	U	0.100	0.1012		mg/Kg		101	70 - 130
m,p-Xylenes	<0.00402	U	0.200	0.2077		mg/Kg		104	70 - 130
o-Xylene	<0.00201	U	0.100	0.1035		mg/Kg		103	70 - 130

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: SD 19 CTB Produced Water Release

Job ID: 880-16241-1
SDG: 22-0105-09

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

Lab Sample ID: 880-16241-1 MS

Matrix: Solid

Analysis Batch: 28398

Client Sample ID: S-1 0.5'

Prep Type: Total/NA

Prep Batch: 28363

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	111		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

Lab Sample ID: 880-16241-1 MSD

Matrix: Solid

Analysis Batch: 28398

Client Sample ID: S-1 0.5'

Prep Type: Total/NA

Prep Batch: 28363

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0996	0.1015		mg/Kg		102	70 - 130	1	35
Toluene	<0.00201	U	0.0996	0.09871		mg/Kg		99	70 - 130	0	35
Ethylbenzene	<0.00201	U	0.0996	0.1014		mg/Kg		102	70 - 130	0	35
m,p-Xylenes	<0.00402	U	0.199	0.2067		mg/Kg		104	70 - 130	0	35
o-Xylene	<0.00201	U	0.0996	0.1030		mg/Kg		103	70 - 130	0	35

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	110		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

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

Lab Sample ID: MB 880-28233/1-A

Matrix: Solid

Analysis Batch: 28190

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 28233

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		06/23/22 11:40	06/23/22 20:34	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		06/23/22 11:40	06/23/22 20:34	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/23/22 11:40	06/23/22 20:34	1

	MB	MB		Prepared	Analyzed	Dil Fac
Surrogate	%Recovery	Qualifier	Limits			
1-Chlorooctane (Surr)	103		70 - 130	06/23/22 11:40	06/23/22 20:34	1
o-Terphenyl (Surr)	106		70 - 130	06/23/22 11:40	06/23/22 20:34	1

Lab Sample ID: LCS 880-28233/2-A

Matrix: Solid

Analysis Batch: 28190

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 28233

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1169		mg/Kg		117	70 - 130
Diesel Range Organics (Over C10-C28)	1000	889.0		mg/Kg		89	70 - 130

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane (Surr)	93		70 - 130
o-Terphenyl (Surr)	98		70 - 130

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: SD 19 CTB Produced Water Release

Job ID: 880-16241-1
SDG: 22-0105-09

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

Lab Sample ID: LCSD 880-28233/3-A

Matrix: Solid

Analysis Batch: 28190

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 28233

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	832.6	*1	mg/Kg		83	70 - 130	34	20
Diesel Range Organics (Over C10-C28)	1000	925.0		mg/Kg		92	70 - 130	4	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane (Surr)	101		70 - 130						
o-Terphenyl (Surr)	106		70 - 130						

Lab Sample ID: 890-2448-A-1-H MS

Matrix: Solid

Analysis Batch: 28190

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 28233

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 *1	998	975.2		mg/Kg		94	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	998	915.8		mg/Kg		89	70 - 130		
Surrogate	MS %Recovery	MS Qualifier	Limits								
1-Chlorooctane (Surr)	96		70 - 130								
o-Terphenyl (Surr)	95		70 - 130								

Lab Sample ID: 890-2448-A-1-I MSD

Matrix: Solid

Analysis Batch: 28190

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 28233

	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Analyte											
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	999	1048		mg/Kg		101	70 - 130	7	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	942.4		mg/Kg		92	70 - 130	3	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane (Surr)	101		70 - 130								
o-Terphenyl (Surr)	94		70 - 130								

Lab Sample ID: MB 880-28272/1-A

Matrix: Solid

Analysis Batch: 28196

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 28272

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		06/23/22 16:11	06/23/22 20:12	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		06/23/22 16:11	06/23/22 20:12	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/23/22 16:11	06/23/22 20:12	1

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: SD 19 CTB Produced Water Release

Job ID: 880-16241-1
SDG: 22-0105-09

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

Lab Sample ID: MB 880-28272/1-A

Matrix: Solid

Analysis Batch: 28196

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 28272

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	103		70 - 130	06/23/22 16:11	06/23/22 20:12	1
o-Terphenyl (Surr)	112		70 - 130	06/23/22 16:11	06/23/22 20:12	1

Lab Sample ID: LCS 880-28272/2-A

Matrix: Solid

Analysis Batch: 28196

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 28272

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1098		mg/Kg		110	70 - 130
Diesel Range Organics (Over C10-C28)	1000	863.7		mg/Kg		86	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane (Surr)	96		70 - 130
o-Terphenyl (Surr)	96		70 - 130

Lab Sample ID: LCSD 880-28272/3-A

Matrix: Solid

Analysis Batch: 28196

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 28272

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1083		mg/Kg		108	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	1000	975.6		mg/Kg		98	70 - 130	12	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane (Surr)	102		70 - 130
o-Terphenyl (Surr)	105		70 - 130

Lab Sample ID: 880-16239-A-21-C MS

Matrix: Solid

Analysis Batch: 28196

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 28272

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	998	1252		mg/Kg		125	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	998	878.5		mg/Kg		88	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane (Surr)	111		70 - 130
o-Terphenyl (Surr)	102		70 - 130

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: SD 19 CTB Produced Water Release

Job ID: 880-16241-1
SDG: 22-0105-09

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

Lab Sample ID: 880-16239-A-21-D MSD

Matrix: Solid

Analysis Batch: 28196

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 28272

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	999	1256		mg/Kg		126	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	902.1		mg/Kg		90	70 - 130	3	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane (Surr)	113		70 - 130								
o-Terphenyl (Surr)	105		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-28275/1-A

Matrix: Solid

Analysis Batch: 28540

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			06/28/22 04:22	1

Lab Sample ID: LCS 880-28275/2-A

Matrix: Solid

Analysis Batch: 28540

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	261.6		mg/Kg		105	90 - 110

Lab Sample ID: LCSD 880-28275/3-A

Matrix: Solid

Analysis Batch: 28540

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	261.3		mg/Kg		105	90 - 110	0	20

Lab Sample ID: 880-16241-3 MS

Matrix: Solid

Analysis Batch: 28540

Client Sample ID: S-2 0.5'

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	95.2		250	366.4		mg/Kg		109	90 - 110

Lab Sample ID: 880-16241-3 MSD

Matrix: Solid

Analysis Batch: 28540

Client Sample ID: S-2 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	95.2		250	366.5		mg/Kg		109	90 - 110	0	20

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QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: SD 19 CTB Produced Water Release

Job ID: 880-16241-1
SDG: 22-0105-09

GC VOA

Analysis Batch: 28306

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16241-11	S-7 0.5'	Total/NA	Solid	8021B	28354
880-16241-12	S-8 0.5'	Total/NA	Solid	8021B	28354
MB 880-28306/39	Method Blank	Total/NA	Solid	8021B	
MB 880-28354/5-A	Method Blank	Total/NA	Solid	8021B	28354
LCS 880-28354/1-A	Lab Control Sample	Total/NA	Solid	8021B	28354
LCSD 880-28354/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	28354
880-16282-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	28354
880-16282-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	28354

Prep Batch: 28354

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16241-11	S-7 0.5'	Total/NA	Solid	5035	
880-16241-12	S-8 0.5'	Total/NA	Solid	5035	
MB 880-28354/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-28354/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-28354/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-16282-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
880-16282-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 28363

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16241-1	S-1 0.5'	Total/NA	Solid	5035	
880-16241-2	S-1 1'	Total/NA	Solid	5035	
880-16241-3	S-2 0.5'	Total/NA	Solid	5035	
880-16241-4	S-2 1'	Total/NA	Solid	5035	
880-16241-5	S-3 0.5'	Total/NA	Solid	5035	
880-16241-6	S-3 1'	Total/NA	Solid	5035	
880-16241-7	S-4 0.5'	Total/NA	Solid	5035	
880-16241-8	S-4 1'	Total/NA	Solid	5035	
880-16241-9	S-5 0.5'	Total/NA	Solid	5035	
880-16241-10	S-6 0.5'	Total/NA	Solid	5035	
MB 880-28363/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-28363/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-28363/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-16241-1 MS	S-1 0.5'	Total/NA	Solid	5035	
880-16241-1 MSD	S-1 0.5'	Total/NA	Solid	5035	

Analysis Batch: 28398

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16241-1	S-1 0.5'	Total/NA	Solid	8021B	28363
880-16241-2	S-1 1'	Total/NA	Solid	8021B	28363
880-16241-3	S-2 0.5'	Total/NA	Solid	8021B	28363
880-16241-4	S-2 1'	Total/NA	Solid	8021B	28363
880-16241-5	S-3 0.5'	Total/NA	Solid	8021B	28363
880-16241-6	S-3 1'	Total/NA	Solid	8021B	28363
880-16241-7	S-4 0.5'	Total/NA	Solid	8021B	28363
880-16241-8	S-4 1'	Total/NA	Solid	8021B	28363
880-16241-9	S-5 0.5'	Total/NA	Solid	8021B	28363
880-16241-10	S-6 0.5'	Total/NA	Solid	8021B	28363
MB 880-28363/5-A	Method Blank	Total/NA	Solid	8021B	28363
LCS 880-28363/1-A	Lab Control Sample	Total/NA	Solid	8021B	28363

Eurofins Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: SD 19 CTB Produced Water Release

Job ID: 880-16241-1
SDG: 22-0105-09

GC VOA (Continued)

Analysis Batch: 28398 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-28363/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	28363
880-16241-1 MS	S-1 0.5'	Total/NA	Solid	8021B	28363
880-16241-1 MSD	S-1 0.5'	Total/NA	Solid	8021B	28363

Analysis Batch: 28470

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16241-1	S-1 0.5'	Total/NA	Solid	Total BTEX	
880-16241-2	S-1 1'	Total/NA	Solid	Total BTEX	
880-16241-3	S-2 0.5'	Total/NA	Solid	Total BTEX	
880-16241-4	S-2 1'	Total/NA	Solid	Total BTEX	
880-16241-5	S-3 0.5'	Total/NA	Solid	Total BTEX	
880-16241-6	S-3 1'	Total/NA	Solid	Total BTEX	
880-16241-7	S-4 0.5'	Total/NA	Solid	Total BTEX	
880-16241-8	S-4 1'	Total/NA	Solid	Total BTEX	
880-16241-9	S-5 0.5'	Total/NA	Solid	Total BTEX	
880-16241-10	S-6 0.5'	Total/NA	Solid	Total BTEX	
880-16241-11	S-7 0.5'	Total/NA	Solid	Total BTEX	
880-16241-12	S-8 0.5'	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 28190

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16241-1	S-1 0.5'	Total/NA	Solid	8015B NM	28233
880-16241-2	S-1 1'	Total/NA	Solid	8015B NM	28233
880-16241-3	S-2 0.5'	Total/NA	Solid	8015B NM	28233
880-16241-4	S-2 1'	Total/NA	Solid	8015B NM	28233
880-16241-5	S-3 0.5'	Total/NA	Solid	8015B NM	28233
880-16241-6	S-3 1'	Total/NA	Solid	8015B NM	28233
880-16241-7	S-4 0.5'	Total/NA	Solid	8015B NM	28233
880-16241-8	S-4 1'	Total/NA	Solid	8015B NM	28233
880-16241-9	S-5 0.5'	Total/NA	Solid	8015B NM	28233
MB 880-28233/1-A	Method Blank	Total/NA	Solid	8015B NM	28233
LCS 880-28233/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	28233
LCSD 880-28233/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	28233
890-2448-A-1-H MS	Matrix Spike	Total/NA	Solid	8015B NM	28233
890-2448-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	28233

Analysis Batch: 28196

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16241-10	S-6 0.5'	Total/NA	Solid	8015B NM	28272
880-16241-11	S-7 0.5'	Total/NA	Solid	8015B NM	28272
880-16241-12	S-8 0.5'	Total/NA	Solid	8015B NM	28272
MB 880-28272/1-A	Method Blank	Total/NA	Solid	8015B NM	28272
LCS 880-28272/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	28272
LCSD 880-28272/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	28272
880-16239-A-21-C MS	Matrix Spike	Total/NA	Solid	8015B NM	28272
880-16239-A-21-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	28272

Eurofins Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: SD 19 CTB Produced Water Release

Job ID: 880-16241-1
SDG: 22-0105-09

GC Semi VOA

Prep Batch: 28233

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16241-1	S-1 0.5'	Total/NA	Solid	8015NM Prep	
880-16241-2	S-1 1'	Total/NA	Solid	8015NM Prep	
880-16241-3	S-2 0.5'	Total/NA	Solid	8015NM Prep	
880-16241-4	S-2 1'	Total/NA	Solid	8015NM Prep	
880-16241-5	S-3 0.5'	Total/NA	Solid	8015NM Prep	
880-16241-6	S-3 1'	Total/NA	Solid	8015NM Prep	
880-16241-7	S-4 0.5'	Total/NA	Solid	8015NM Prep	
880-16241-8	S-4 1'	Total/NA	Solid	8015NM Prep	
880-16241-9	S-5 0.5'	Total/NA	Solid	8015NM Prep	
MB 880-28233/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-28233/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-28233/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2448-A-1-H MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2448-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Prep Batch: 28272

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16241-10	S-6 0.5'	Total/NA	Solid	8015NM Prep	
880-16241-11	S-7 0.5'	Total/NA	Solid	8015NM Prep	
880-16241-12	S-8 0.5'	Total/NA	Solid	8015NM Prep	
MB 880-28272/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-28272/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-28272/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-16239-A-21-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-16239-A-21-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 28325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16241-1	S-1 0.5'	Total/NA	Solid	8015 NM	
880-16241-2	S-1 1'	Total/NA	Solid	8015 NM	
880-16241-3	S-2 0.5'	Total/NA	Solid	8015 NM	
880-16241-4	S-2 1'	Total/NA	Solid	8015 NM	
880-16241-5	S-3 0.5'	Total/NA	Solid	8015 NM	
880-16241-6	S-3 1'	Total/NA	Solid	8015 NM	
880-16241-7	S-4 0.5'	Total/NA	Solid	8015 NM	
880-16241-8	S-4 1'	Total/NA	Solid	8015 NM	
880-16241-9	S-5 0.5'	Total/NA	Solid	8015 NM	
880-16241-10	S-6 0.5'	Total/NA	Solid	8015 NM	
880-16241-11	S-7 0.5'	Total/NA	Solid	8015 NM	
880-16241-12	S-8 0.5'	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 28275

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16241-1	S-1 0.5'	Soluble	Solid	DI Leach	
880-16241-2	S-1 1'	Soluble	Solid	DI Leach	
880-16241-3	S-2 0.5'	Soluble	Solid	DI Leach	
880-16241-4	S-2 1'	Soluble	Solid	DI Leach	
880-16241-5	S-3 0.5'	Soluble	Solid	DI Leach	
880-16241-6	S-3 1'	Soluble	Solid	DI Leach	

Eurofins Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: SD 19 CTB Produced Water Release

Job ID: 880-16241-1
SDG: 22-0105-09

HPLC/IC (Continued)

Leach Batch: 28275 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16241-7	S-4 0.5'	Soluble	Solid	DI Leach	
880-16241-8	S-4 1'	Soluble	Solid	DI Leach	
880-16241-9	S-5 0.5'	Soluble	Solid	DI Leach	
880-16241-10	S-6 0.5'	Soluble	Solid	DI Leach	
880-16241-11	S-7 0.5'	Soluble	Solid	DI Leach	
880-16241-12	S-8 0.5'	Soluble	Solid	DI Leach	
MB 880-28275/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-28275/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-28275/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-16241-3 MS	S-2 0.5'	Soluble	Solid	DI Leach	
880-16241-3 MSD	S-2 0.5'	Soluble	Solid	DI Leach	

Analysis Batch: 28540

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16241-1	S-1 0.5'	Soluble	Solid	300.0	28275
880-16241-2	S-1 1'	Soluble	Solid	300.0	28275
880-16241-3	S-2 0.5'	Soluble	Solid	300.0	28275
880-16241-4	S-2 1'	Soluble	Solid	300.0	28275
880-16241-5	S-3 0.5'	Soluble	Solid	300.0	28275
880-16241-6	S-3 1'	Soluble	Solid	300.0	28275
880-16241-7	S-4 0.5'	Soluble	Solid	300.0	28275
880-16241-8	S-4 1'	Soluble	Solid	300.0	28275
880-16241-9	S-5 0.5'	Soluble	Solid	300.0	28275
880-16241-10	S-6 0.5'	Soluble	Solid	300.0	28275
880-16241-11	S-7 0.5'	Soluble	Solid	300.0	28275
880-16241-12	S-8 0.5'	Soluble	Solid	300.0	28275
MB 880-28275/1-A	Method Blank	Soluble	Solid	300.0	28275
LCS 880-28275/2-A	Lab Control Sample	Soluble	Solid	300.0	28275
LCSD 880-28275/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	28275
880-16241-3 MS	S-2 0.5'	Soluble	Solid	300.0	28275
880-16241-3 MSD	S-2 0.5'	Soluble	Solid	300.0	28275

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: SD 19 CTB Produced Water Release

Job ID: 880-16241-1
SDG: 22-0105-09

Client Sample ID: S-1 0.5'

Lab Sample ID: 880-16241-1

Date Collected: 06/22/22 11:12

Matrix: Solid

Date Received: 06/23/22 11:06

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	28363	06/24/22 15:16	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28398	06/25/22 21:41	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28470	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28325	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	28233	06/23/22 13:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28190	06/24/22 02:32	SM	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	28275	06/23/22 16:38	CH	XEN MID
Soluble	Analysis	300.0		1			28540	06/28/22 06:40	SC	XEN MID

Client Sample ID: S-1 1'

Lab Sample ID: 880-16241-2

Date Collected: 06/22/22 11:14

Matrix: Solid

Date Received: 06/23/22 11:06

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	28363	06/24/22 15:16	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28398	06/25/22 22:02	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28470	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28325	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	28233	06/23/22 13:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28190	06/24/22 02:53	SM	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	28275	06/23/22 16:38	CH	XEN MID
Soluble	Analysis	300.0		1			28540	06/28/22 06:50	SC	XEN MID

Client Sample ID: S-2 0.5'

Lab Sample ID: 880-16241-3

Date Collected: 06/22/22 11:16

Matrix: Solid

Date Received: 06/23/22 11:06

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	28363	06/24/22 15:16	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28398	06/25/22 22:22	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28470	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28325	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	28233	06/23/22 13:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28190	06/24/22 03:14	SM	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	28275	06/23/22 16:38	CH	XEN MID
Soluble	Analysis	300.0		1			28540	06/28/22 06:59	SC	XEN MID

Client Sample ID: S-2 1'

Lab Sample ID: 880-16241-4

Date Collected: 06/22/22 11:18

Matrix: Solid

Date Received: 06/23/22 11:06

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	28363	06/24/22 15:16	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28398	06/25/22 22:43	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28470	06/27/22 12:48	SM	XEN MID

Eurofins Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: SD 19 CTB Produced Water Release

Job ID: 880-16241-1
SDG: 22-0105-09

Client Sample ID: S-2 1'

Lab Sample ID: 880-16241-4

Date Collected: 06/22/22 11:18

Matrix: Solid

Date Received: 06/23/22 11:06

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			28325	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	28233	06/23/22 13:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28190	06/24/22 03:35	SM	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	28275	06/23/22 16:38	CH	XEN MID
Soluble	Analysis	300.0		1			28540	06/28/22 07:26	SC	XEN MID

Client Sample ID: S-3 0.5'

Lab Sample ID: 880-16241-5

Date Collected: 06/22/22 11:20

Matrix: Solid

Date Received: 06/23/22 11:06

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	28363	06/24/22 15:16	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28398	06/25/22 23:03	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28470	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28325	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	28233	06/23/22 13:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28190	06/24/22 03:56	SM	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	28275	06/23/22 16:38	CH	XEN MID
Soluble	Analysis	300.0		1			28540	06/28/22 07:36	SC	XEN MID

Client Sample ID: S-3 1'

Lab Sample ID: 880-16241-6

Date Collected: 06/22/22 11:22

Matrix: Solid

Date Received: 06/23/22 11:06

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	28363	06/24/22 15:16	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28398	06/25/22 23:23	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28470	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28325	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	28233	06/23/22 13:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28190	06/24/22 04:17	SM	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	28275	06/23/22 16:38	CH	XEN MID
Soluble	Analysis	300.0		1			28540	06/28/22 08:03	SC	XEN MID

Client Sample ID: S-4 0.5'

Lab Sample ID: 880-16241-7

Date Collected: 06/22/22 11:24

Matrix: Solid

Date Received: 06/23/22 11:06

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	28363	06/24/22 15:16	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28398	06/25/22 23:44	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28470	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28325	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	28233	06/23/22 13:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28190	06/24/22 04:38	SM	XEN MID

Eurofins Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: SD 19 CTB Produced Water Release

Job ID: 880-16241-1
SDG: 22-0105-09

Client Sample ID: S-4 0.5'

Lab Sample ID: 880-16241-7

Date Collected: 06/22/22 11:24

Matrix: Solid

Date Received: 06/23/22 11:06

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.02 g	50 mL	28275	06/23/22 16:38	CH	XEN MID
Soluble	Analysis	300.0		5			28540	06/28/22 08:13	SC	XEN MID

Client Sample ID: S-4 1'

Lab Sample ID: 880-16241-8

Date Collected: 06/22/22 11:26

Matrix: Solid

Date Received: 06/23/22 11:06

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	28363	06/24/22 15:16	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28398	06/26/22 00:04	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28470	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28325	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	28233	06/23/22 13:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28190	06/24/22 04:59	SM	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	28275	06/23/22 16:38	CH	XEN MID
Soluble	Analysis	300.0		5			28540	06/28/22 08:22	SC	XEN MID

Client Sample ID: S-5 0.5'

Lab Sample ID: 880-16241-9

Date Collected: 06/22/22 10:55

Matrix: Solid

Date Received: 06/23/22 11:06

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	28363	06/24/22 15:16	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28398	06/26/22 00:25	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28470	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28325	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	28233	06/23/22 13:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28190	06/24/22 05:20	SM	XEN MID
Soluble	Leach	DI Leach			4.98 L	50 mL	28275	06/23/22 16:38	CH	XEN MID
Soluble	Analysis	300.0		1			28540	06/28/22 08:31	SC	XEN MID

Client Sample ID: S-6 0.5'

Lab Sample ID: 880-16241-10

Date Collected: 06/22/22 11:00

Matrix: Solid

Date Received: 06/23/22 11:06

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	28363	06/24/22 15:16	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28398	06/26/22 00:45	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28470	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28325	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	28272	06/23/22 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28196	06/24/22 02:28	AJ	XEN MID
Soluble	Leach	DI Leach			4.97 g	50 mL	28275	06/23/22 16:38	CH	XEN MID
Soluble	Analysis	300.0		1			28540	06/28/22 08:40	SC	XEN MID

Eurofins Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: SD 19 CTB Produced Water Release

Job ID: 880-16241-1
SDG: 22-0105-09

Client Sample ID: S-7 0.5'

Lab Sample ID: 880-16241-11

Date Collected: 06/22/22 11:05

Matrix: Solid

Date Received: 06/23/22 11:06

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	28354	06/24/22 14:13	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28306	06/25/22 14:02	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28470	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28325	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	28272	06/23/22 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28196	06/24/22 02:48	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	28275	06/23/22 16:38	CH	XEN MID
Soluble	Analysis	300.0		5			28540	06/28/22 08:49	SC	XEN MID

Client Sample ID: S-8 0.5'

Lab Sample ID: 880-16241-12

Date Collected: 06/22/22 11:10

Matrix: Solid

Date Received: 06/23/22 11:06

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	28354	06/24/22 14:13	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28306	06/25/22 14:23	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28470	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28325	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	28272	06/23/22 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28196	06/24/22 03:08	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	28275	06/23/22 16:38	CH	XEN MID
Soluble	Analysis	300.0		1			28540	06/28/22 08:59	SC	XEN MID

Laboratory References:

XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Larson & Associates, Inc.
Project/Site: SD 19 CTB Produced Water Release

Job ID: 880-16241-1
SDG: 22-0105-09

Laboratory: Eurofins 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: SD 19 CTB Produced Water Release

Job ID: 880-16241-1
SDG: 22-0105-09

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 Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Midland

Sample Summary

Client: Larson & Associates, Inc.
Project/Site: SD 19 CTB Produced Water Release

Job ID: 880-16241-1
SDG: 22-0105-09

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-16241-1	S-1 0.5'	Solid	06/22/22 11:12	06/23/22 11:06
880-16241-2	S-1 1'	Solid	06/22/22 11:14	06/23/22 11:06
880-16241-3	S-2 0.5'	Solid	06/22/22 11:16	06/23/22 11:06
880-16241-4	S-2 1'	Solid	06/22/22 11:18	06/23/22 11:06
880-16241-5	S-3 0.5'	Solid	06/22/22 11:20	06/23/22 11:06
880-16241-6	S-3 1'	Solid	06/22/22 11:22	06/23/22 11:06
880-16241-7	S-4 0.5'	Solid	06/22/22 11:24	06/23/22 11:06
880-16241-8	S-4 1'	Solid	06/22/22 11:26	06/23/22 11:06
880-16241-9	S-5 0.5'	Solid	06/22/22 10:55	06/23/22 11:06
880-16241-10	S-6 0.5'	Solid	06/22/22 11:00	06/23/22 11:06
880-16241-11	S-7 0.5'	Solid	06/22/22 11:05	06/23/22 11:06
880-16241-12	S-8 0.5'	Solid	06/22/22 11:10	06/23/22 11:06

~~6/29/2023~~

Login Sample Receipt Checklist

Client: Larson & Associates, Inc.

Job Number: 880-16241-1

SDG Number: 22-0105-09

Login Number: 16241**List Number: 1****Creator: Rodriguez, Leticia****List Source: Eurofins 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	

Appendix E
Photographs

Tracking Number: nAPP2216545859
Delineation Report and Remediation Plan
Chevron USA, Inc., SD 19 CTB
Produced Water Release
September 19, 2022



Impacted Area Viewing North, June 22, 2022



Impacted Area Viewing Northeast, June 22, 2022

Tracking Number: nAPP2216545859
Delineation Report and Remediation Plan
Chevron USA, Inc., SD 19 CTB
Produced Water Release
September 19, 2022



Impacted Area Viewing North, June 22, 2022



Impacted Area Viewing East, June 22, 2022

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 145478

CONDITIONS

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 145478
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Remediation Plan Approved. Going forward, please include the latitude and longitude of the dtw boring in report.	9/26/2022