



February 6, 2025

District Supervisor
Oil Conservation Division, District 1
1625 North French Drive
Hobbs, New Mexico 88240

**Re: Remediation Closure Request
Breitburn Operating, LP
Jalmat Field Yates Sand Unit #170
Unit Letter H, Section 14, Township 22 South, Range 35 East
Lea County, New Mexico
NMOCD Incident ID# nOY1707658025**

Dear Sir or Madam,

Tetra Tech, Inc. (Tetra Tech) was contracted by Breitburn Operating, LP (Breitburn) to assist with the management of a historic release of oil associated with the Jalmat Field Yates Sand Unit #170 well, Unit Letter H, Section 14, Township 22 South, Range 35 East, in Lea County, New Mexico, at coordinates 32.395359°, -103.3328705° (Site). The location is shown in the Safety & Environmental Solutions, Inc. (SESI) report figures contained in **Attachments 2 and 3**.

BACKGROUND

According to the New Mexico Oil Conservation District (NMOCD) online OCD Permitting nOY1707658025 Incident Details, on March 13, 2017, Breitburn reported that a trunkline was shot out, resulting in the release of 25 barrels (bbls) of oil and 60 bbls of produced water affecting a pasture next to the release location. According to available records, 17 bbls of oil and 45 bbls of produced water were recovered during the initial response. The release notification was submitted to NMOCD, which subsequently assigned the release Incident Identification (ID) nOY1707658025. Based on a review of available documentation from the NMOCD Permitting Incident Details, the release occurred at approximately 32.394755°, -103.334005°, southwest of the Jalmat Field Yates Sand Unit #170 well pad.

SITE CHARACTERIZATION

Receptors

Tetra Tech performed a site characterization for the release location. It did not identify any watercourses, sinkholes, playas, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, wetlands, incorporated municipal boundaries, subsurface mines, or floodplains within the distances specified in 19.15.29.11 New Mexico Administrative Code (NMAC). Based on a review of the NMOCD Mapper, the site is in an area of medium karst potential. The site characterization data is included in **Attachment 1**.

Depth to Groundwater

A search of the New Mexico Office of the State Engineer (NMOSE) and United States Geologic Survey (USGS) groundwater databases was completed to determine the proximity of known water sources within a half-mile radius of the Site. The approximate groundwater depth was determined in the area using published water well data. Groundwater well CP 00753 was identified approximately 1,100 feet northeast of the release site with a depth to groundwater listed as 185 feet below ground surface (bgs).

Tetra Tech, Inc.

1500 CityWest Boulevard, Suite 1000, Houston, Texas 77042

Tel +1.832.251.5160 | tetratech.com/oga | tetratech.com

Remediation Closure Request
 Jalmat Field Yates Sand Unit #170
 Incident ID# nOY1707658025

Breitburn Operating, LP
 February 6, 2025

Wetlands

An apparent drainage and two playa lakes are visible on the northeast and east sides of the Jalmat field Yates Sand Unit #170 well pad; however, the apparent high-water lines are approximately 350 to 400 feet from the edge of the release area.

Soils

According to the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), the Site is mapped as having Kimbrough gravelly lam, dry, 0 to 3 percent slopes, which is classified as a loam soil type.

PREVIOUS ASSESSMENT AND REMEDIATION

SESI Site Assessment and Remediation Work Plan

SESI submitted a site assessment and remediation work plan dated May 12, 2017, to the NMOCD and New Mexico State Land Office (NMSLO) that was subsequently approved by Olivia Yu of NMOCD on June 30, 2017, and Amber Groves of NMSLO on July 6, 2017, approving the delineation and proposed remediation plan with the condition that confirmatory laboratory analyses of sidewalls must be less than or equal to 50 feet apart. The approved report showing the NMOCD approval and the NMSLO approval email are provided in **Attachment 2**.

The NMOCD-approved remediation work plan established the following Recommended Remediation Action Levels (RRALs):

NMOCD-Approved RRALs

Constituent	Remediation RRAL
Total TPH	5,000 mg/kg
BTEX	50 mg/kg
Benzene	10 mg/kg

Additionally, the report identified deliation of chloride in soil to 250 mg/kg.

The remediation work plan proposed the following remediation activities:

- Excavate all contaminated soil to depths of four (4) feet, staying three (3) feet away on either side of all existing lines;
- Installation of a 20 mil liner;
- Excavation backfill with uncontaminated, similar material;
- Transport and disposal of contaminated soil to an approved facility for disposal;
- Collect confirmation samples of the sides and bottom of the excavation to document the concentration, if any, being left in place and
- Re-seeding the site in the summer of 2017 with BLM #2-LPC seed mixture.

Remediation Closure Request
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SESI Remediation Work Plan

Safety & Environmental Solutions, Inc. (SESI) submitted a closure report for the Site dated July 18, 2017, to the NMOCD that is shown as received by Dylon Rose-Coss on May 14, 2019, and a "Not Approved" stamp on the upper left-hand corner of the electronic report. A rejection of this report is not present in the NMOCD Permitting Incident Details and the report was obtained from the NMOCD Imaging portal and appears to have not been reviewed for closure of the release incident. The SESI closure report is provided in **Attachment 3**.

The report documents soil assessment borings to 26, 35, and 65 feet bgs delineating chloride impacts to less than 250 mg/kg, verifying groundwater is not present in the upper 65 feet where borings were advanced. Additionally, the report details excavation and confirmation sampling that is in line with the NMOCD-approved remediation work plan. The report is missing figures showing sampling locations and excavation extents, making the documentation of excavation and sampling somewhat incomplete, though overall, the report does document that remediation has been completed in accordance with the NMOCD Work Plan.

OVERLAPPING 2022 FLOWLINE RELEASE (NAPP2233946698)

On November 20, 2022, a flowline ruptured, releasing approximately 1.92 barrels (bbls) of crude oil and 7.7 bbls of produced water into the surrounding pasture. The released fluids were not recovered. The release occurred off-pad. The affected area was over the release footprint of 2017 incident ID nOY1707658025. Breitburn reported the release to the NMOCD on a Release Notification Form C-141 (Form C141) on November 30, 2022. The release was assigned Incident Number NAPP2233946698.

Ensulum, LLC (Ensulum) conducted Site Characterization, Site Assessment, and Remediation of the incident in 2022 as documented in the Ensulum Closure Request dated February 17, 2023, approved by the NMOCD on March 1, 2023, that demonstrated the previously remediated area was remediated. The Ensulum closure report for Incident nAPP2233946698 is provided in **Attachment 4**.

CONCLUSION

Breitburn requests remediation closure of incident ID nAPP2233946698 based on available data in the NMOCD NMOCD Permitting Incident Details and NMOCD Imaging. The nOY1707658025 release is documented as previously remediated by SESI. Though the SESI closure report for the incident lacked figures showing the remediation area and sample locations, the remainder of the report documents that the remediation was conducted in accordance with the NMOCD-approved remediation work plan. The closure of overlapping incident nAPP2233946698 that occurred in 2022 further substantiates that this remediation was conducted effectively in accordance with the pertinent regulation and NMOCD approval at the time. based on the assessment results. If you have any questions concerning the remediation activities for the Site, please contact Charles Terhune by email at Charles.Terhune@tetratech.com or by phone at (832) 252-2093.

Sincerely,



Charles Terhune IV, P.G.
Program Manager
Tetra Tech, Inc.



Chris Straub
Project Manager
Tetra Tech, Inc.

cc: Mr. Bryce Wagoner, Breitburn Operating, LP
New Mexico State Land Office

Remediation Closure Request
Jalmat Field Yates Sand Unit #170
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Breitburn Operating, LP
February 6, 2025

LIST OF ATTACHMENTS

Attachments

- Attachment 1 – Site Characterization Data
- Attachment 2 – SESI Site Assessment and Remediation Work Plan
- Attachment 3 – SESI Remediation Closure Report
- Attachment 4 – Ensolum Incident nAPP2233946698 Closure Report

Remediation Closure Request
Jalmat Field Yates Sand Unit #170
Incident ID# nOY1707658025

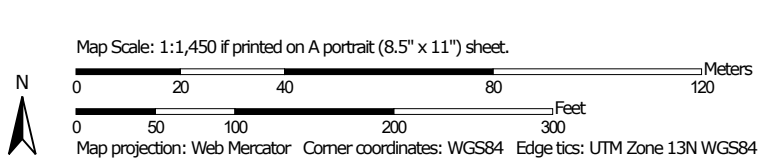
Breitburn Operating, LP
February 6, 2025

ATTACHMENT 1: SITE CHARACTERIZATION DATA

Soil Map—Lea County, New Mexico
(Jalmat Field Yates Sand Unit #170)




Soil Map may not be valid at this scale.



Soil Map—Lea County, New Mexico
(Jalmat Field Yates Sand Unit #170)

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lea County, New Mexico
Survey Area Data: Version 21, Sep 3, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

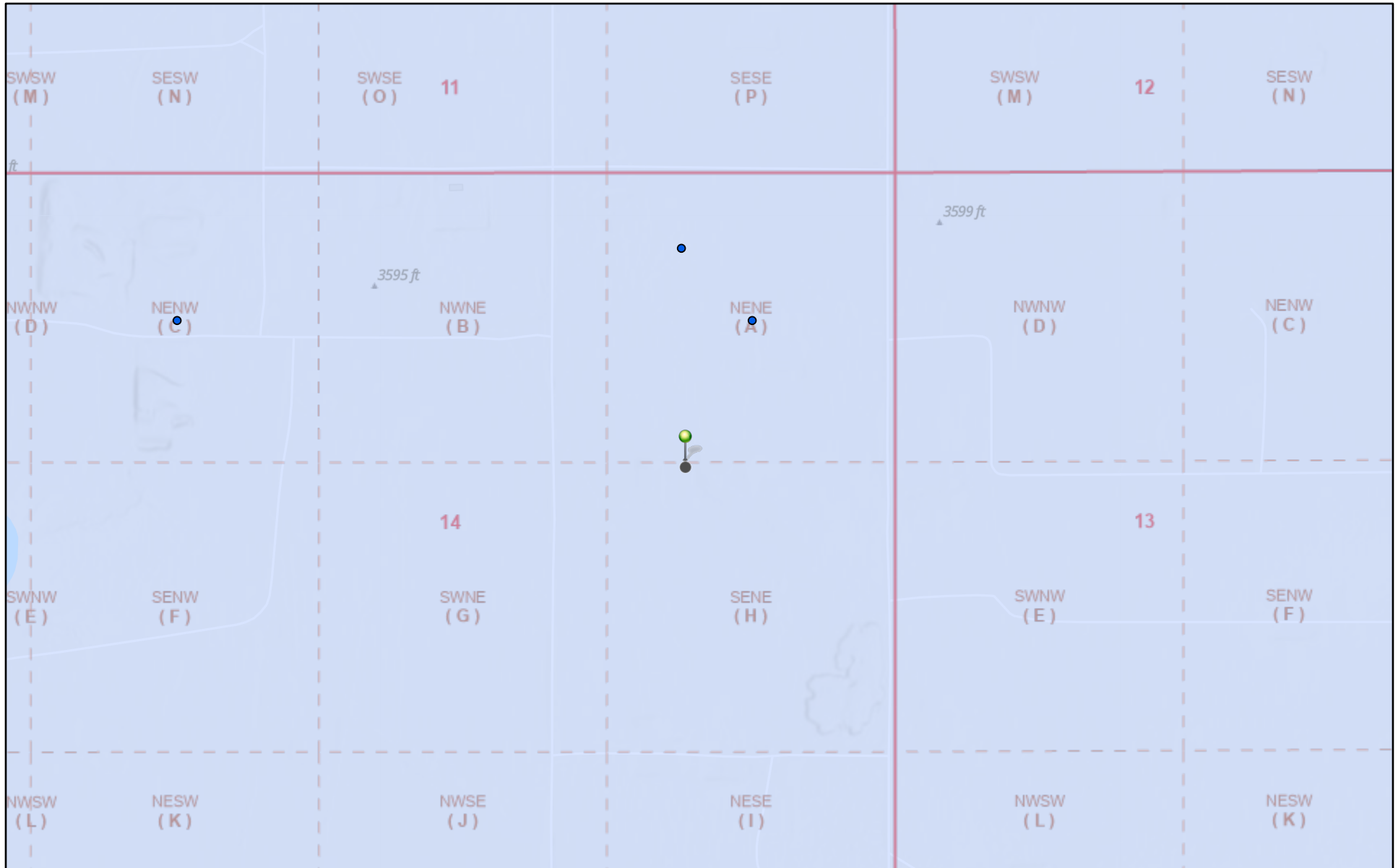
Date(s) aerial images were photographed: Feb 7, 2020—May 12, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
KO	Kimbrough gravelly loam, dry, 0 to 3 percent slopes	8.4	89.7%
SE	Simona fine sandy loam, 0 to 3 percent slopes	1.0	10.3%
Totals for Area of Interest		9.4	100.0%



Jalmat Field Yates Sand Unit #170





12/6/2024, 3:02:04 PM

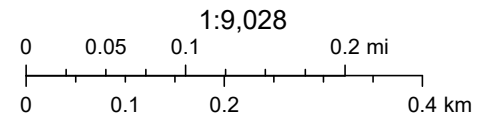
-  Override 1
-  OSE Water PODs

Karst Occurrence Potential

-  Low
-  OSW Water Bodies

 PLSS Second Division

 PLSS First Division




BLM, OCD, New Mexico Tech, Esri, NASA, NGA, USGS, FEMA, USGS, OCD, Esri Community Maps Contributors, New Mexico State University,

New Mexico Oil Conservation Division

Point of Diversion Summary

quarters are 1=NW 2=NE 3=SW 4=SE
quarters are smallest to largest

NAD83 UTM in meters

Well Tag	POD Nbr	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map
CP 00753			NE	NE	14	22S	35E	656891.0	3585687.0 *	

* UTM location was derived from PLSS - see Help

Driller License:	208	Driller Company:	VAN NOY, W.L.		
Driller Name:	VAN NOY, W.L.				
Drill Start Date:	1990-07-11	Drill Finish Date:	1990-07-18	Plug Date:	
Log File Date:	1990-07-23	PCW Rcv Date:		Source:	Shallow
Pump Type:		Pipe Discharge Size:		Estimated Yield:	23
Casing Size:	5.00	Depth Well:	215	Depth Water:	185

Water Bearing Stratifications:

Top	Bottom	Description
195	210	Sandstone/Gravel/Conglomerate

Casing Perforations:

Top	Bottom
201	211

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

2/6/25 6:07 AM MST

Point of Diversion Summary

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U.S. Fish and Wildlife Service
National Wetlands Inventory









Jalmat Field Yates Sand Unit #170



U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov

December 6, 2024

Wetlands

-  Estuarine and Marine Deepwater
-  Freshwater Emergent Wetland
-  Lake
-  Estuarine and Marine Wetland
-  Freshwater Forested/Shrub Wetland
-  Other
-  Freshwater Pond
-  Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Flood Hazard Layer FIRMette



103°20'21"W 32°23'56"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

- | | | |
|------------------------------------|--|--|
| SPECIAL FLOOD HAZARD AREAS | | Without Base Flood Elevation (BFE)
<i>Zone A, V, A99</i> |
| | | With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i> |
| | | Regulatory Floodway |
| OTHER AREAS OF FLOOD HAZARD | | 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i> |
| | | Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i> |
| | | Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i> |
| | | Area with Flood Risk due to Levee <i>Zone D</i> |
| OTHER AREAS | | NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i> |
| | | Effective LOMRs |
| GENERAL STRUCTURES | | Area of Undetermined Flood Hazard <i>Zone D</i> |
| | | Channel, Culvert, or Storm Sewer |
| | | Levee, Dike, or Floodwall |
| OTHER FEATURES | | 20.2 Cross Sections with 1% Annual Chance Water Surface Elevation |
| | | 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation |
| | | Coastal Transect |
| | | Base Flood Elevation Line (BFE) |
| | | Limit of Study |
| | | Jurisdiction Boundary |
| MAP PANELS | | Coastal Transect Baseline |
| | | Profile Baseline |
| | | Hydrographic Feature |
| | | Digital Data Available |
| | | No Digital Data Available |
| | | Unmapped |
- The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.



1:6,000

103°19'44"W 32°23'26"N

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards


The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 2/6/2025 at 5:01 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Point of Diversion Summary

quarters are 1=NW 2=NE 3=SW 4=SE
quarters are smallest to largest

NAD83 UTM in meters

Well Tag	POD Nbr	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map
	CP 00753		NE	NE	14	22S	35E	656891.0	3585687.0 *	

* UTM location was derived from PLSS - see Help

Driller License:	208	Driller Company:	VAN NOY, W.L.		
Driller Name:	VAN NOY, W.L.				
Drill Start Date:	1990-07-11	Drill Finish Date:	1990-07-18	Plug Date:	
Log File Date:	1990-07-23	PCW Rcv Date:		Source:	Shallow
Pump Type:		Pipe Discharge Size:		Estimated Yield:	23
Casing Size:	5.00	Depth Well:	215	Depth Water:	185

Water Bearing Stratifications:

Top	Bottom	Description
195	210	Sandstone/Gravel/Conglomerate

Casing Perforations:

Top	Bottom
201	211











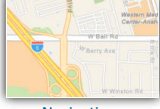
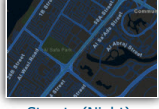

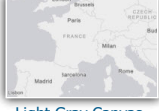
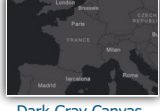



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12/26/24 7:47 AM MST

Point of Diversion Summary

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Legend Basemap Query 1:2,257

 Enhanced Contrast Map	 Navigation (Places)
 Navigation (Dark - Places)	 Environment Map
 Enhanced Contrast Dark Map	 Topographic (Vector)
 Imagery	 Imagery Hybrid
 Streets	 Topographic
 Navigation	 Streets (Night)
 Terrain with Labels	 Light Gray Canvas
 Dark Gray Canvas	 Outdoor
 World Map	 World Map



Lon: -103.53354° Lat: 32.39627°

0 100 200ft

Remediation Closure Request
Jalmat Field Yates Sand Unit #170
Incident ID# nOY1707658025

Breitburn Operating, LP
February 6, 2025

ATTACHMENT 2: SESI SITE ASSESSMENT AND REMEDIATION WORK PLAN

From: Groves, Amber
To: [Bob Allen](#); [Yu, Olivia, EMNRD](#)
Cc: [Tara Hodges](#); [Matt Cottrell](#)
Subject: RE: Breitburn Jalmat Work Plan 1RP-4645
Date: Thursday, July 6, 2017 11:04:37 AM
Attachments: image001.png
image003.png

Good Morning,

NMSLO agrees with NMOCD on work plan approval and confirmation sampling.

Thank you,

Amber Groves

Remediation Specialist
Field Operations Division
(575)392-3697
(575)263-3209 cell
New Mexico State Land Office
2827 N. Dal Paso Suite 117
Hobbs, NM 88260

.....
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From: Bob Allen [mailto:ballen@sesi-nm.com]
Sent: Wednesday, July 05, 2017 1:27 PM
To: Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>
Cc: Tara Hodges <office2@sesi-nm.com>; Groves, Amber <agroves@slo.state.nm.us>; Matt Cottrell <Matt.Cottrell@breitburn.com>
Subject: Re: Breitburn Jalmat Work Plan 1RP-4645

Hi Olivia,

Thank you for your response. We will sample the sides every 50' and run TPH, BTEX and Cl. The bottom samples we will only run chlorides because the delineation samples indicate that chlorides were the contaminant of concern.

Please reply with your agreement. Thank you

Regards,

Bob Allen CSP, CHMM
Office. 575-397-0510
Cell 575-390-7063

On Jun 30, 2017, at 3:11 PM, Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us> wrote:

Dear Ms. Hodges:

NMOCD approves of the delineation completed and proposed remediation plan for 1RP-4645 with one condition: confirmatory laboratory analyses of sidewalls of excavated impacted area for TPH and chlorides. For remediation, permissible chloride levels are 600 mg/kg and 100 mg/kg for TPH. Sample locations must be <= 50 ft. apart. Please confirm.

Like approval from SLO required.

Thanks,
Olivia

From: Tara Hodges [<mailto:office2@sesi-nm.com>]
Sent: Tuesday, June 20, 2017 2:45 PM
To: Groves, Amber <agroves@slo.state.nm.us>; Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>; Bob Allen <ballen@sesi-nm.com>
Cc: Matt Cottrell <Matt.Cottrell@breitburn.com>
Subject: RE: Breitburn Jalmat Work Plan 1RP-4645

I apologize for the typo. The previous revised Work Plan stated the re-veg to take place in May 2017. I have changed the timeframe to Summer 2017. Please see attached, revised Work Plan.

Thank You

Tara Hodges

Safety & Environmental Solutions, Inc.
703 East Clinton Street
Hobbs, NM 88240
Office: (575) 397-0510

From: Tara Hodges [mailto:office2@sesi-nm.com]
Sent: Tuesday, June 20, 2017 2:37 PM
To: 'Groves, Amber' <agroves@slo.state.nm.us>; 'Yu, Olivia, EMNRD' <Olivia.Yu@state.nm.us>; Bob Allen <ballen@sesi-nm.com>
Cc: 'Matt Cottrell' <Matt.Cottrell@breitburn.com>
Subject: RE: Breitburn Jalmat Work Plan 1RP-4645

Hello,

I have attached the revised Work Plan that includes the revegetation plan. Please let us know if you have any questions.

Thank You

Tara Hodges

Safety & Environmental Solutions, Inc.
703 East Clinton Street
Hobbs, NM 88240
Office: (575) 397-0510

From: Groves, Amber [mailto:agroves@slo.state.nm.us]
Sent: Tuesday, June 20, 2017 12:32 PM
To: Tara Hodges <office2@sesi-nm.com>; Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>; Bob Allen <ballen@sesi-nm.com>
Cc: Matt Cottrell <Matt.Cottrell@breitburn.com>
Subject: RE: Breitburn Jalmat Work Plan 1RP-4645

Good Afternoon,

Due to this release being located in a pasture, a revegetation plan is required by NMSLO to be included in the submitted plan. Please include and re-submit for approval.

Thank you,

<image001.png> **Amber Groves**
Remediation Specialist
Field Operations Division

(575)392-3697
(575)263-3209 cell
New Mexico State Land Office
2827 N. Dal Paso Suite 117
Hobbs, NM 88260

.....
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From: Tara Hodges [<mailto:office2@sesi-nm.com>]
Sent: Friday, June 16, 2017 8:21 AM
To: Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>; Bob Allen <ballen@sesi-nm.com>
Cc: Matt Cottrell <Matt.Cottrell@breitburn.com>; Groves, Amber <agroves@slo.state.nm.us>
Subject: RE: Breitburn Jalmat Work Plan 1RP-4645

Dear Ms. Yu:

I have attached the revised Work Plan for the Breitburn Jalmat 1RP-4645, addressing the concerns stated in your previous email. We have also informed SESI personnel of the NMOCD required chloride analyzing Method 300.0, for future reference. Please let us know if you have any further questions.

Thank You

Tara Hodges

Safety & Environmental Solutions, Inc.
703 East Clinton Street
Hobbs, NM 88240
Office: (575) 397-0510

From: Yu, Olivia, EMNRD [mailto:Olivia.Yu@state.nm.us]
Sent: Tuesday, June 13, 2017 12:41 PM
To: Tara Hodges <office2@sesi-nm.com>; ballen@sesi-nm.com
Cc: Matt Cottrell <Matt.Cottrell@breitburn.com>; 'Groves, Amber' <agroves@slo.state.nm.us>
Subject: RE: Breitburn Jalmat Work Plan

Dear Ms. Hodges:

Notes:

1. All submitted reports (release characterization/delineation, remediation, abatement plans) to NMOCD must include a 1RP # and reviewed initial C-141 for proper documentation.
2. Based on the revised GPS coordinates provided on the Google Earth image, this release occurred on State surface and mineral ownership.
3. As a reminder, NMOCD requires that chlorides be analyzed using Method 300.0.

Please address these concerns regarding the delineation workplan for 1RP-4645:

1. Topographical map indicates the presence of a pair of probable playas < 1000 ft. directly East of the release location. Please verify.
2. NMOCD requests field data for the sample points indicated on maps.

Thanks,
Olivia

From: Tara Hodges [mailto:office2@sesi-nm.com]
Sent: Thursday, May 18, 2017 7:31 AM
To: Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>
Subject: Breitburn Jalmat Work Plan

Olivia,
I have attached, per Bob Allen (SESI) and Matt Cottrell (Breitburn) the proposed Work Plan for the Breitburn Jalmat Trunk Line. Please review and let us know if you have any questions.

Thank You

Tara Hodges

Safety & Environmental Solutions, Inc.
703 East Clinton Street
Hobbs, NM 88240
Office: (575) 397-0510

This email has been scanned by the Symantec Email Security.cloud service.
For more information please visit <http://www.symanteccloud.com>

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For more information please visit <http://www.symanteccloud.com>

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For more information please visit <http://www.symanteccloud.com>

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For more information please visit <http://www.symanteccloud.com>

Breitburn Management

Jalmat Trunk Line

Work Plan

Section 14, Township 22S, Range 35E

Lea County, New Mexico

May 12, 2017

APPROVED

By Olivia Yu at 3:01 pm, Jun 30, 2017

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NMOCD approves of the delineation completed and proposed remediation plan for 1RP-4645 with one condition: confirmatory laboratory analyses of sidewalls for TPH and chlorides. Sample locations must be ≤ 50 ft. apart.

Prepared for:

Breitburn Management
P.O. BOX 678
Andrews, TX 79714

By:

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Safety & Environmental Solutions, Inc.
703 East Clinton Street
Hobbs, New Mexico 88240
(575) 397-0510

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TABLE OF CONTENTS

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- I. COMPANY CONTACTS.....1
- II. BACKGROUND.....1
- III. SURFACE AND GROUND WATER1
- IV. CHARACTERIZATION1
- V. WORK PERFORMED.....2
- VI. ACTION PLAN2
- VII. FIGURES & APPENDICES.....2
 - Øã ~ |^ÁÁ Áãã ã Á æ3
 - Øã ~ |^ÁÁ Áãã Á|æ4
 - Ø]] ^) äã ÁÁ ÁÖFI F.....5
 - Ø]] ^) äã ÁÁ ÁÖI [~ } á, æ6
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Jalmat Trunk Line
May 12, 2017

Breitburn
Lea County, New Mexico

I. Company Contacts

Representative	Company	Telephone	E-mail
Matt Cottrell	Breitburn	(432) 967-7266	matt.cottrell@breitburn.com
Bob Allen	SESI	575-397-0510	ballen@sesi-nm.com

II. Background

Safety and Environmental Solutions, Inc., hereinafter referred to as (SESI) was engaged by Breitburn to assess a spill on the Jalmat concerning a twenty five (25) bbls. oil and sixty (60) bbls. water release. This site is situated in Lea County, Section 14, Township 22S, and Range 35E.

According to the C-141: approximately twenty five (25) barrels of oil and sixty (60) barrels of water was released when the trunk line going to the battery was shot out. A pasture next to the location was affected. All standing fluid was picked up and samples were collected. A remediation contractor was contacted.

III. Surface and Ground Water

There is no record of groundwater in the immediate vicinity of the site location. Further research of the New Mexico Office of the State Engineer records indicates the average depth to groundwater for the area to be 185' bgs.

IV. Characterization

The target cleanup levels are determined using the *Guidelines for Remediation of Leaks, Spills and Releases* published by the NMOCD (August 13, 1993). Based on the ranking criteria presented below, the applicable Recommended Remediation Action Levels (RRAL) are 10 parts per million (ppm) Benzene, 50 ppm combined benzene, toluene, ethyl benzene, and total xylenes (BTEX), and 5,000 ppm Total Petroleum Hydrocarbons (TPH). Characterization of vertical extent of chloride concentration to a level of 250 mg/kg (PPM) is also required.

Depth to Ground Water:			
(Vertical distance from contaminants to seasonal high water elevation of groundwater)	Less than 50 feet	20 points	
	50 feet to 99 feet	10 points	
	>100 feet	0 points	X
Wellhead Protection Area:			
(Less than 200 feet from a private domestic water source; or less than 1000 feet from all other water sources)	Yes	20 points	X
	No	0 points	
Distance to Surface Water:			
(Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Less than 200 feet	20 points	
	200 feet to 1000 feet	10 points	
	>1000 feet	0 points	X
RANKING SCORE (TOTAL POINTS)			20

**Jalmat Trunk Line
May 12, 2017**

**Breitburn
Lea County, New Mexico**

V. Work Performed

On March 28, 2017, SESI personnel was onsite at the Brietburn Jalmat Trunk line leak to obtain soil samples from the bottom of the excavation and field test for Chlorides and TPH. Nine soil samples were obtained from different locations and field test for Chlorides. All field test results were greater the 1000 ppm. Soil samples were properly preserved and taken to the SESI lab due to the high winds. Four TPH field test were performed. Soil samples for TPH were numbers SP-4, SP-5, SP-7 and SP-9 where visible Hydro carbons were seen. Soil sample SP-9 TPH test result was 253 ppm and all others were under 100 ppm. The excavation and sample points were mapped using the Juno 3B. The field test results are presented in the table below:

Breitburn Jalmat Trunk Line Field Test Results: 3-28-2017	
SAMPLE ID	Chlorides
SP-1	5736
SP-2	1332
SP-3	6732
SP-4	2604
SP-5	2408
SP-6	4484
SP-7	4484
SP-8	7288
SP-9	1240

On March 31, 2017, SESI personnel was onsite at the Brietburn Jalmat Trunkline With Blade Trackhoe w/operator and Brietburn personnel to install test trenches to determine vertical extent of contamination. Test trench ten was installed on the southwest side three feet off the pipeline. The test trench was installed to the total depth that the trackhoe could dig at twenty two feet. Soil samples were grabbed at seven, fifteen, feventeen and twenty two feet, and field tested for Chlorides. The trench was then backfilled. Test trench six was installed in the same area of SP-6. The test trench was installed to the total depth that the track hoe could dig, twenty four feet. Soil samples were grabbed at four, ten, fourteen, sixteen, eighteen, twenty, twenty two and twenty four feet. Soil samples were field tested for Chlorides, and the trench was backfilled. Test trench Eight was installed on the area of SP-8 to the depth of ten feet. Soil samples were grabbed at four, six, eight and ten feet and field tested for Chlorides. Photos were taken of the test trenches. All soil samples were properly packaged, preserved and transported to Cardinal Laboratories of Hobbs, NM by chain of custody, and analyzed for TPH(total petroleum hydrocarbons)(Method 8015M), and Chlorides (Method SM4500Cl-B). The field test and lab results are recapped in the following tables:

**Jalmat Trunk Line
May 12, 2017**

**Breitburn
Lea County, New Mexico**

Breitburn Jalmat Trunk Line Soil Sample Results: Field Testing: 4-31-2017	
SAMPLE ID	Chlorides
TT-6 @ 4ft	1656
TT-6 @ 10ft	2604
TT-6 @ 14ft	1152
TT-6 @ 16ft	1784
TT-6 @ 18ft	1332
TT-6 @ 20ft	1540
TT-6 @ 22ft	1920
TT-6 @ 24ft	1920
TT-8 @ 4ft	<124
TT-8 @ 6ft	352
TT-8 @ 8ft	124
TT-8 @ 10ft	<124
TT-10 @ 7ft	5736
TT-10 @ 15ft	2408
TT-10 @ 17ft	2604
TT-10 @ 22ft	2232

Breitburn Jalmat Trunk Line Soil Sample Results: Cardinal Laboratories 4-12-2017									
SAMPLE ID	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Total BTEX	Chlorides	TPH GRO	TPH DRO	EXT DRO
BH-1 24-25'	<0.050	<0.050	<0.062	<0.150	<0.300	1600	<10.0	<10.0	<10.0
BH-1 29-30'	<0.050	<0.050	<0.067	<0.150	<0.300	2960	<10.0	<10.0	<10.0
BH-1 39-40'	<0.050	<0.050	<0.070	<0.150	<0.300	1960	<10.0	<10.0	<10.0
BH-1 49-50'	<0.050	<0.050	<0.070	<0.150	<0.300	656	<10.0	<10.0	<10.0
BH-1 54-55'	<0.050	<0.050	<0.071	<0.150	<0.300	416	<10.0	<10.0	<10.0
BH-1 59-60'	<0.050	<0.050	<0.074	<0.150	<0.300	544	<10.0	<10.0	<10.0
BH-1 64-65'	<0.050	<0.050	<0.072	<0.150	<0.300	240	<10.0	<10.0	<10.0
BH-2 5'	<0.050	<0.050	<0.072	<0.150	<0.300	48.0	<10.0	<10.0	<10.0
BH-2 14-16'	<0.050	<0.050	<0.071	<0.150	<0.300	80.0	<10.0	<10.0	<10.0
BH-2 24-26'	<0.050	<0.050	<0.072	<0.150	<0.300	80.0	<10.0	<10.0	35.7
BH-3 4-6'	<0.050	<0.050	<0.072	<0.150	<0.300	1230	<10.0	<10.0	<10.0
BH-3 9-11'	<0.050	<0.050	<0.050	<0.150	<0.300	2720	<10.0	<10.0	22.3
BH-3 19-20'	<0.050	<0.050	<0.050	<0.150	<0.300	2440	<10.0	<10.0	<10.0
BH-3 24-25'	<0.050	<0.050	<0.050	<0.150	<0.300	160	<10.0	<10.0	<10.0
BH-3 29-30'	<0.050	<0.050	<0.050	<0.150	<0.300	112	<10.0	<10.0	<10.0
BH-3 34-35'	<0.050	<0.050	<0.050	<0.150	<0.300	80.0	<10.0	<10.0	<10.0

Jalmat Trunk Line
May 12, 2017

Breitburn
Lea County, New Mexico

VI. Action Plan

Due to the results listed above, the following work plan is proposed:

1. Excavate all contaminated soil to depths of four (4) feet, staying three (3) feet away, on either side of all existing lines.
2. Install a 20 mil liner.
3. The excavated are will be backfilled with uncontaminated, similar material.
4. All contaminated soil to be transported to an approved facility for disposal.
5. Collect confirmation samples of the sides and bottom of the excavation to document the concentration, if any, being left in place.

In addition, In the summer of 2017, the site will be reseeded with BLM #2-LPC seed mixture and applied at 5lbs/ acre to the entire affected area off the location. The seed mix will be purchased commercially and will be a certified seed mix. There will be no primary or secondary noxious weeds in this mixture. In the event that noxious weeds occur, chemical treatments, along with follow-ups and monitoring will take place. Straw will be scattered over the seed which is intended to hold the seed in place to allow growth to occur. The site will be watered weekly for four weeks. The site will be monitored for growth monthly and the area will be reseeded if growth is not observed within 60 days. When adequate growth has been observed, a report of such growth will be filed with the New Mexico State Land Office.

Upon approval of remediation activity, all necessary documentation related to this incident will be submitted to Breitburn and the appropriate regulatory agencies.

VII. Figures & Appendices

Figure 1 - Vicinity Map

Figure 2 - Site Plan

Appendix A – C-141

Appendix B – Groundwater

Appendix C – Analytical Results

Appendix D – Photo Documentation

Figure 1 Vicinity Map

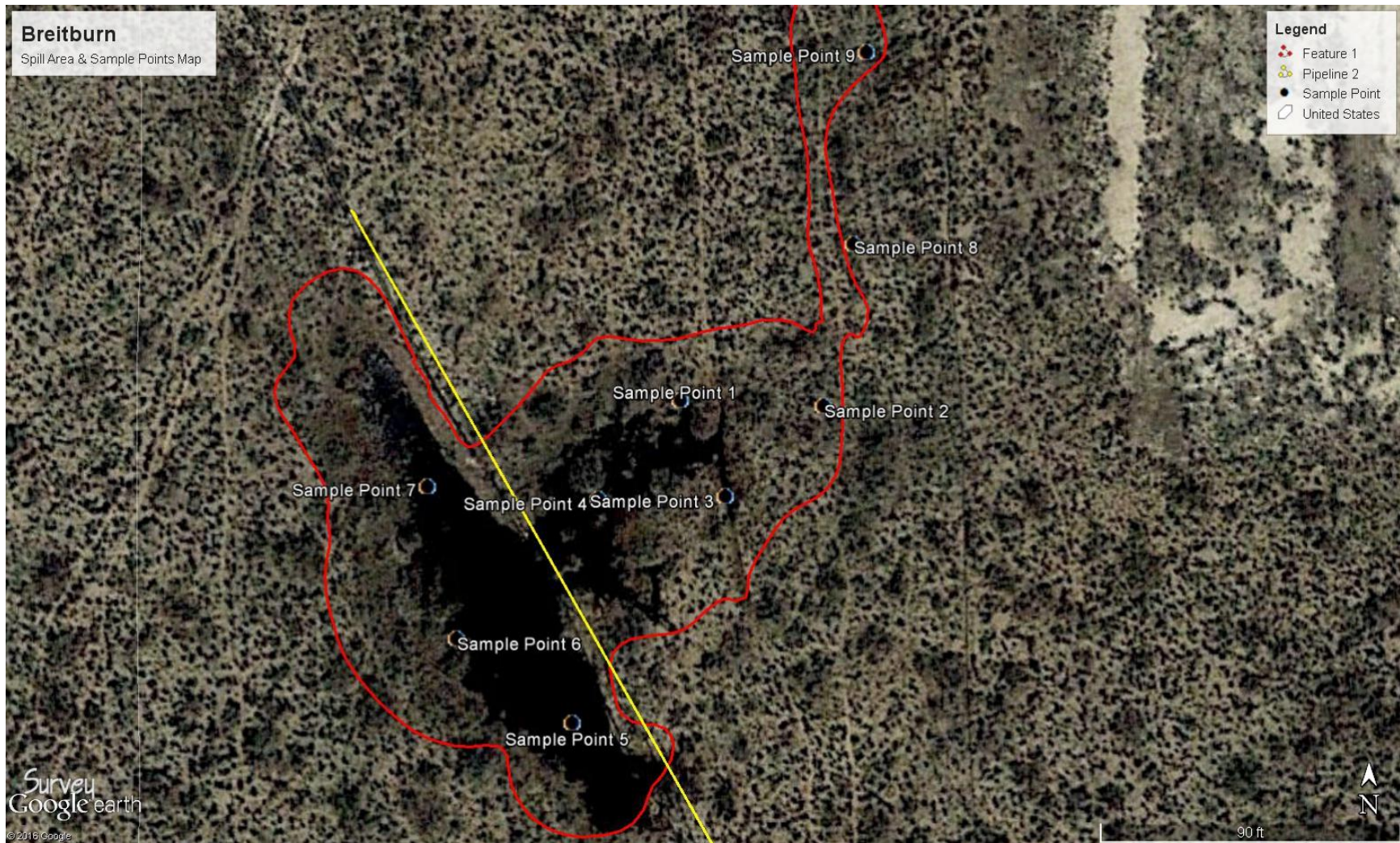
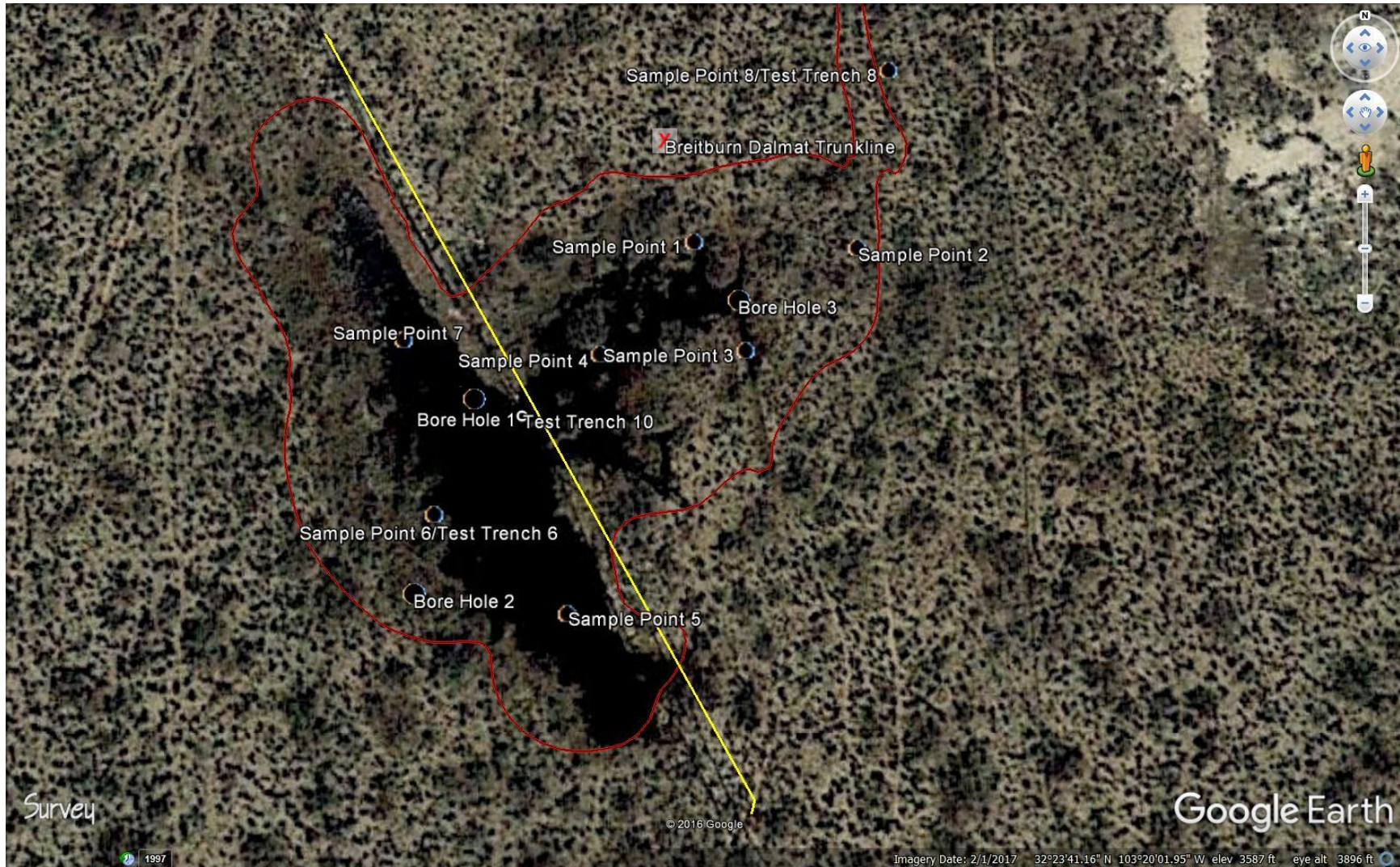


Figure 2 Site Plan



Appendix A C-141

* Attach Additional Sheets If Necessary

Date: 3-15-17		Phone: 432-967-7266	
E-mail Address: <i>Matt.Cottrell@breitburn.com</i>		Conditions of Approval:	
Title: EHS Coordinator		Approval Date:	
Printed Name: Matt Cottrell		Expiration Date:	
Signature: <i>Matt Cottrell</i>		Approved by Environmental Specialist:	
OIL CONSERVATION DIVISION			

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

Describe Area Affected and Cleanup Action Taken.*
 Pasture next to the Jalmat #170 location affected area is (188x174) in size. On 3-13-17 we picked up all standing fluid and fenced in the area so the cows would not be exposed to the oil and produced water. 3-14-17 Matt Cottrell Collected 5 samples of the area to Cardinal Labs in Hobbs as soon as the results get back we will have a 3rd part contractor start cleanup on the affected area.

Describe Cause of Problem and Remedial Action Taken.*
 Someone shot out the trunk line going to the battery. Repaired flowing fenced in area and made one call.

If a Watercourse was Impacted, Describe Fully.*

Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		If YES, Volume Impacting the Watercourse.	
By Whom? Matt Cottrell		Date and Hour 3-14-17 9:00A.M.	
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required		If YES, To Whom? NMOCD District 1	
Source of Release Jalmat production trunk line		Date and Hour of Occurrence 3-13-17 1:30 P.M.	
Type of Release Oil/Water		Date and Hour of Discovery 3-13-17 3:30 P.M.	
Volume of Release 25 BLS Oil		BLS Water	
Volume Recovered 17BLS OIL 45			

NATURE OF RELEASE

Latitude 32 23'45N		Longitude 103 20'5 W	
Unit Letter	Section	Township	Range
H	14	22S	35E
			1330
			North
			990
			East
			Lea

LOCATION OF RELEASE

Surface Owner Merchant Cattle Company		Mineral Owner Breitburn Management		API No. 30-025-35262	
Facility Name Jalmat		Facility Type Production			
Address P.O. Box 678 Andrews TX 79714		Telephone No. 432-967-7266			
Name of Company Breitburn Management		Contact Matt Cottrell			

OPERATOR

Initial Report Final Report

Release Notification and Corrective Action

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

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

Form C-141 Revised August 8, 2011

Appendix B Groundwater



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

(R=POD has been replaced, O=orphaned, C=the file is closed) (quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
CP 00593 POD1	CP	LE	LE	4	4	06	22S	35E	650422	3587591*		62		
CP 00594 POD1	CP	LE	LE	2	1	34	22S	35E	654553	3580819*		98		
CP 00595 POD1	CP	LE	LE	2	2	20	22S	35E	652089	3584000*		96		
CP 00753		LE	LE	2	2	14	22S	35E	656891	3585687*		215	185	30

Average Depth to Water: **185 feet**

Minimum Depth: **185 feet**

Maximum Depth: **185 feet**

Record Count: 4

PLSS Search:

Township: 22S

Range: 35E

*UTM location was derived from PLSS - see Help

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

Appendix C

Analytical Results



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

May 12, 2017

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: BRE-17-002

Enclosed are the results of analyses for samples received by the laboratory on 05/04/17 16:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, flowing "C" at the beginning.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	05/04/2017	Sampling Date:	04/27/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 1 24'-25' (H701208-01)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/08/2017	ND	2.29	114	2.00	1.36	
Toluene*	<0.050	0.050	05/08/2017	ND	2.23	111	2.00	0.391	
Ethylbenzene*	0.062	0.050	05/08/2017	ND	2.16	108	2.00	0.994	
Total Xylenes*	<0.150	0.150	05/08/2017	ND	6.38	106	6.00	1.26	
Total BTEX	<0.300	0.300	05/08/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 118 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1600	16.0	05/08/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/06/2017	ND	165	82.4	200	3.75	
DRO >C10-C28	<10.0	10.0	05/06/2017	ND	183	91.5	200	7.50	
EXT DRO >C28-C36	<10.0	10.0	05/06/2017	ND					

Surrogate: 1-Chlorooctane 86.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.1 % 34.7-157

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	05/04/2017	Sampling Date:	04/27/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 1 29'-30' (H701208-02)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/08/2017	ND	2.29	114	2.00	1.36	
Toluene*	<0.050	0.050	05/08/2017	ND	2.23	111	2.00	0.391	
Ethylbenzene*	0.067	0.050	05/08/2017	ND	2.16	108	2.00	0.994	
Total Xylenes*	<0.150	0.150	05/08/2017	ND	6.38	106	6.00	1.26	
Total BTEX	<0.300	0.300	05/08/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 120 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2960	16.0	05/09/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/06/2017	ND	165	82.4	200	3.75	
DRO >C10-C28	<10.0	10.0	05/06/2017	ND	183	91.5	200	7.50	
EXT DRO >C28-C36	<10.0	10.0	05/06/2017	ND					

Surrogate: 1-Chlorooctane 75.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 98.5 % 34.7-157

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	05/04/2017	Sampling Date:	04/27/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 1 39'-40' (H701208-03)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/09/2017	ND	2.29	114	2.00	1.36	
Toluene*	<0.050	0.050	05/09/2017	ND	2.23	111	2.00	0.391	
Ethylbenzene*	0.070	0.050	05/09/2017	ND	2.16	108	2.00	0.994	
Total Xylenes*	<0.150	0.150	05/09/2017	ND	6.38	106	6.00	1.26	
Total BTEX	<0.300	0.300	05/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 121 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1960	16.0	05/09/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/06/2017	ND	165	82.4	200	3.75	
DRO >C10-C28	<10.0	10.0	05/06/2017	ND	183	91.5	200	7.50	
EXT DRO >C28-C36	<10.0	10.0	05/06/2017	ND					

Surrogate: 1-Chlorooctane 78.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 101 % 34.7-157

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	05/04/2017	Sampling Date:	04/27/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 1 49'-50' (H701208-04)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/09/2017	ND	2.29	114	2.00	1.36	
Toluene*	<0.050	0.050	05/09/2017	ND	2.23	111	2.00	0.391	
Ethylbenzene*	0.070	0.050	05/09/2017	ND	2.16	108	2.00	0.994	
Total Xylenes*	<0.150	0.150	05/09/2017	ND	6.38	106	6.00	1.26	
Total BTEX	<0.300	0.300	05/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 121 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	656	16.0	05/09/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/06/2017	ND	165	82.4	200	3.75	
DRO >C10-C28	<10.0	10.0	05/06/2017	ND	183	91.5	200	7.50	
EXT DRO >C28-C36	<10.0	10.0	05/06/2017	ND					

Surrogate: 1-Chlorooctane 61.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 80.8 % 34.7-157

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Received:	05/04/2017	Sampling Date:	04/27/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 1 54'-55' (H701208-05)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/09/2017	ND	2.29	114	2.00	1.36	
Toluene*	<0.050	0.050	05/09/2017	ND	2.23	111	2.00	0.391	
Ethylbenzene*	0.071	0.050	05/09/2017	ND	2.16	108	2.00	0.994	
Total Xylenes*	<0.150	0.150	05/09/2017	ND	6.38	106	6.00	1.26	
Total BTEX	<0.300	0.300	05/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 122 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	05/09/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/06/2017	ND	165	82.4	200	3.75	
DRO >C10-C28	<10.0	10.0	05/06/2017	ND	183	91.5	200	7.50	
EXT DRO >C28-C36	<10.0	10.0	05/06/2017	ND					

Surrogate: 1-Chlorooctane 80.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 83.3 % 34.7-157

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Received:	05/04/2017	Sampling Date:	04/27/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 1 59'-60' (H701208-06)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/09/2017	ND	2.29	114	2.00	1.36	
Toluene*	<0.050	0.050	05/09/2017	ND	2.23	111	2.00	0.391	
Ethylbenzene*	0.074	0.050	05/09/2017	ND	2.16	108	2.00	0.994	
Total Xylenes*	<0.150	0.150	05/09/2017	ND	6.38	106	6.00	1.26	
Total BTEX	<0.300	0.300	05/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 122 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	544	16.0	05/09/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/06/2017	ND	165	82.4	200	3.75	
DRO >C10-C28	<10.0	10.0	05/06/2017	ND	183	91.5	200	7.50	
EXT DRO >C28-C36	<10.0	10.0	05/06/2017	ND					

Surrogate: 1-Chlorooctane 77.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 99.5 % 34.7-157

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Received:	05/04/2017	Sampling Date:	04/27/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 1 64'-65' (H701208-07)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/09/2017	ND	2.29	114	2.00	1.36	
Toluene*	<0.050	0.050	05/09/2017	ND	2.23	111	2.00	0.391	
Ethylbenzene*	0.072	0.050	05/09/2017	ND	2.16	108	2.00	0.994	
Total Xylenes*	<0.150	0.150	05/09/2017	ND	6.38	106	6.00	1.26	
Total BTEX	<0.300	0.300	05/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 121 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	05/09/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/06/2017	ND	165	82.4	200	3.75	
DRO >C10-C28	<10.0	10.0	05/06/2017	ND	183	91.5	200	7.50	
EXT DRO >C28-C36	<10.0	10.0	05/06/2017	ND					

Surrogate: 1-Chlorooctane 75.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 79.5 % 34.7-157

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Received:	05/04/2017	Sampling Date:	04/27/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 2 5' (H701208-08)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/09/2017	ND	2.29	114	2.00	1.36	
Toluene*	<0.050	0.050	05/09/2017	ND	2.23	111	2.00	0.391	
Ethylbenzene*	0.072	0.050	05/09/2017	ND	2.16	108	2.00	0.994	
Total Xylenes*	<0.150	0.150	05/09/2017	ND	6.38	106	6.00	1.26	
Total BTEX	<0.300	0.300	05/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 120 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	05/09/2017	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/06/2017	ND	165	82.4	200	3.75	
DRO >C10-C28	<10.0	10.0	05/06/2017	ND	183	91.5	200	7.50	
EXT DRO >C28-C36	<10.0	10.0	05/06/2017	ND					

Surrogate: 1-Chlorooctane 72.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 76.9 % 34.7-157

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Received:	05/04/2017	Sampling Date:	04/27/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 2 14'-16' (H701208-09)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/09/2017	ND	2.29	114	2.00	1.36	
Toluene*	<0.050	0.050	05/09/2017	ND	2.23	111	2.00	0.391	
Ethylbenzene*	0.071	0.050	05/09/2017	ND	2.16	108	2.00	0.994	
Total Xylenes*	<0.150	0.150	05/09/2017	ND	6.38	106	6.00	1.26	
Total BTEX	<0.300	0.300	05/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 122 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	05/09/2017	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/09/2017	ND	192	96.2	200	0.280	
DRO >C10-C28	<10.0	10.0	05/09/2017	ND	215	108	200	1.40	
EXT DRO >C28-C36	<10.0	10.0	05/09/2017	ND					

Surrogate: 1-Chlorooctane 85.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.3 % 34.7-157

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Received:	05/04/2017	Sampling Date:	04/27/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 2 24'-26' (H701208-10)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/09/2017	ND	2.29	114	2.00	1.36	
Toluene*	<0.050	0.050	05/09/2017	ND	2.23	111	2.00	0.391	
Ethylbenzene*	0.072	0.050	05/09/2017	ND	2.16	108	2.00	0.994	
Total Xylenes*	<0.150	0.150	05/09/2017	ND	6.38	106	6.00	1.26	
Total BTEX	<0.300	0.300	05/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 122 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	05/09/2017	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/09/2017	ND	192	96.2	200	0.280	
DRO >C10-C28	<10.0	10.0	05/09/2017	ND	215	108	200	1.40	
EXT DRO >C28-C36	35.7	10.0	05/09/2017	ND					

Surrogate: 1-Chlorooctane 89.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 92.3 % 34.7-157

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Received:	05/04/2017	Sampling Date:	04/27/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 3 4'-6' (H701208-11)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/09/2017	ND	2.29	114	2.00	1.36	
Toluene*	<0.050	0.050	05/09/2017	ND	2.23	111	2.00	0.391	
Ethylbenzene*	0.072	0.050	05/09/2017	ND	2.16	108	2.00	0.994	
Total Xylenes*	<0.150	0.150	05/09/2017	ND	6.38	106	6.00	1.26	
Total BTEX	<0.300	0.300	05/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 122 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1230	16.0	05/09/2017	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/09/2017	ND	192	96.2	200	0.280	
DRO >C10-C28	<10.0	10.0	05/09/2017	ND	215	108	200	1.40	
EXT DRO >C28-C36	<10.0	10.0	05/09/2017	ND					

Surrogate: 1-Chlorooctane 87.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.8 % 34.7-157

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Received:	05/04/2017	Sampling Date:	04/27/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 3 9'-11' (H701208-12)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/08/2017	ND	2.12	106	2.00	0.747	
Toluene*	<0.050	0.050	05/08/2017	ND	1.95	97.5	2.00	0.722	
Ethylbenzene*	<0.050	0.050	05/08/2017	ND	1.91	95.3	2.00	0.777	
Total Xylenes*	<0.150	0.150	05/08/2017	ND	5.37	89.5	6.00	0.512	
Total BTEX	<0.300	0.300	05/08/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.5 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2720	16.0	05/09/2017	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/09/2017	ND	192	96.2	200	0.280	
DRO >C10-C28	<10.0	10.0	05/09/2017	ND	215	108	200	1.40	
EXT DRO >C28-C36	22.3	10.0	05/09/2017	ND					

Surrogate: 1-Chlorooctane 87.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.8 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	05/04/2017	Sampling Date:	05/02/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 3 19'-20' (H701208-13)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/08/2017	ND	2.12	106	2.00	0.747	
Toluene*	<0.050	0.050	05/08/2017	ND	1.95	97.5	2.00	0.722	
Ethylbenzene*	<0.050	0.050	05/08/2017	ND	1.91	95.3	2.00	0.777	
Total Xylenes*	<0.150	0.150	05/08/2017	ND	5.37	89.5	6.00	0.512	
Total BTEX	<0.300	0.300	05/08/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.4 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2440	16.0	05/09/2017	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/09/2017	ND	192	96.2	200	0.280	
DRO >C10-C28	<10.0	10.0	05/09/2017	ND	215	108	200	1.40	
EXT DRO >C28-C36	<10.0	10.0	05/09/2017	ND					

Surrogate: 1-Chlorooctane 74.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 74.2 % 34.7-157

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Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	05/04/2017	Sampling Date:	05/02/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 3 24'-25' (H701208-14)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/08/2017	ND	2.12	106	2.00	0.747	
Toluene*	<0.050	0.050	05/08/2017	ND	1.95	97.5	2.00	0.722	
Ethylbenzene*	<0.050	0.050	05/08/2017	ND	1.91	95.3	2.00	0.777	
Total Xylenes*	<0.150	0.150	05/08/2017	ND	5.37	89.5	6.00	0.512	
Total BTEX	<0.300	0.300	05/08/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.5 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	05/09/2017	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/09/2017	ND	198	98.8	200	1.70	
DRO >C10-C28	<10.0	10.0	05/09/2017	ND	193	96.4	200	5.15	
EXT DRO >C28-C36	<10.0	10.0	05/09/2017	ND					

Surrogate: 1-Chlorooctane 82.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.4 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	05/04/2017	Sampling Date:	05/02/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 3 29'-30' (H701208-15)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/08/2017	ND	2.12	106	2.00	0.747	
Toluene*	<0.050	0.050	05/08/2017	ND	1.95	97.5	2.00	0.722	
Ethylbenzene*	<0.050	0.050	05/08/2017	ND	1.91	95.3	2.00	0.777	
Total Xylenes*	<0.150	0.150	05/08/2017	ND	5.37	89.5	6.00	0.512	
Total BTEX	<0.300	0.300	05/08/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.7 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	05/09/2017	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/09/2017	ND	198	98.8	200	1.70	
DRO >C10-C28	<10.0	10.0	05/09/2017	ND	193	96.4	200	5.15	
EXT DRO >C28-C36	<10.0	10.0	05/09/2017	ND					

Surrogate: 1-Chlorooctane 89.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 89.9 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	05/04/2017	Sampling Date:	05/02/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 3 34'-35' (H701208-16)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/08/2017	ND	2.12	106	2.00	0.747	
Toluene*	<0.050	0.050	05/08/2017	ND	1.95	97.5	2.00	0.722	
Ethylbenzene*	<0.050	0.050	05/08/2017	ND	1.91	95.3	2.00	0.777	
Total Xylenes*	<0.150	0.150	05/08/2017	ND	5.37	89.5	6.00	0.512	
Total BTEX	<0.300	0.300	05/08/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.1 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	05/09/2017	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/09/2017	ND	198	98.8	200	1.70	
DRO >C10-C28	<10.0	10.0	05/09/2017	ND	193	96.4	200	5.15	
EXT DRO >C28-C36	<10.0	10.0	05/09/2017	ND					

Surrogate: 1-Chlorooctane 86.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 91.7 % 34.7-157

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Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
 (575) 393-2326 FAX (575) 393-2476

1082

BILL TO

ANALYSIS REQUEST

P.O. #: _____
 Company: Same
 Attn: _____
 Address: _____
 City: _____
 State: _____ Zip: _____

Project Manager: Bob Allen

Address: 703 East Clinton, PO Box 1613

City: Hobbs State: NM Zip: 88240

Phone #: 575 397-0510 Fax #: 575 393-4388

Project #: RE-17-002 Project Owner: _____

Project Name: _____

Project Location: _____

Sampler Name: David Boyer

FOR LAB USE ONLY

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	TPH (8015 EXT)	BTEX	Chloride
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :					
H7D120B	BH-1 24-25'	X	1			X				4/27	1012	X	X	X
	BH-1 29-30'	X	1			X				1112	1220	X	X	X
	BH-1 39-40'	X	1			X				1235	1235	X	X	X
	BH-1 49-50'	X	1			X				1245	1245	X	X	X
	BH-1 54-55'	X	1			X				1255	1340	X	X	X
	BH-1 59-60'	X	1			X				1515	1535	X	X	X
	BH-2 64-65'	X	1			X				1615	1615	X	X	X
	BH-2 14-16'	X	1			X				4/27	1615	X	X	X
	BH-2 24-26'	X	1			X						X	X	X

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Relinquished By: *David Boyer*

Received By: *Jamara Delgado*

Date: 4/17
 Time: 4:55

Date: 5-4-17
 Time: 4:55

Delivered By: (Circle One)
 Sampler - UPS - Bus - Other: _____

Sample Condition
 Cool Intact
 Yes No

CHECKED BY: *Jamara Delgado*
 (Initials) *JD*
 Phone Result: Yes No
 Fax Result: Yes No
 Add'l Phone #: _____
 Add'l Fax #: _____
 REMARKS: *dash head space.*



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
 (575) 393-2326 FAX (575) 393-2476

BILL TO

ANALYSIS REQUEST

Company Name: Safety and Environmental Solutions
 Project Manager: Bob Allen
 Address: 703 East Clinton, PO Box 1613
 City: Hobbs State: NM Zip: 88240

P.O. #: _____
 Company: Same
 Attn: _____

Phone #: 575 397-0510 Fax #: 575 393-4388

Project #: BRE-17-002 Project Owner: _____

Project Name: _____
 Project Location: _____

Sampler Name: DAVID BOYER

FOR LAB USE ONLY

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	ANALYSIS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :			
H201208	BH-3 4-6'	G	1			X				4/27	1715	TPH (BD15 EXJ)
	BH-3 9-11'	G	1			X				4/25	1742	BTEX
	BH-3	G	1			X				5/2	1620	CHLORide
	BH-3	G	1			X				5/2	1645	
	BH-3	G	1			X				5/2	1130	
	BH-3	G	1			X				5/2	1525	

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Relinquished By: [Signature] Date: 8/4/17

Received By: [Signature] Date: 8/4/17

Relinquished By: [Signature] Date: 8/4/17

Received By: [Signature] Date: 8/4/17

Delivered By: (Circle One)
 Sampler - UPS - Bus - Other: 192

Sample Condition
 Cool Intact
 Yes No
 Yes No

CHECKED BY: [Signature] (Initials)
 Phone Result: Yes No
 Fax Result: Yes No
 Add'l Phone #: _____
 Add'l Fax #: _____

2052

Remediation Closure Request
Jalmat Field Yates Sand Unit #170
Incident ID# nOY1707658025

Breitburn Operating, LP
February 6, 2025

ATTACHMENT 3: SESI REMEDIATION CLOSURE REPORT

NOT APPROVED

File under review.
Received by:
Dylan Rose-Coss
5/14/2019

Breitburn Management
Jalmat Trunk Line
Closure Report

Section 14, Township 22S, Range 35E
Lea County, New Mexico
1RP-4645

July 18, 2017



Prepared for:

Breitburn Management
P.O. BOX 678
Andrews, TX 79714

By:

Safety & Environmental Solutions, Inc.
703 East Clinton Street
Hobbs, New Mexico 88240
(575) 397-0510

TABLE OF CONTENTS

I. COMPANY CONTACTS.....	1
II. BACKGROUND.....	1
III. SURFACE AND GROUND WATER.....	1
IV. CHARACTERIZATION.....	1
V. WORK PERFORMED.....	2
VI. REQUEST FOR CLOSURE.....	2
VII. FIGURES & APPENDICES.....	2
Figure 1 – Vicinity Map.....	3
Figure 2 – Site Plan.....	4
Appendix A – C-141.....	5
Appendix B – Groundwater.....	6
Appendix C – Analytical Results.....	7

Jalmat Trunk Line
June 18, 2017

Breitburn
Lea County, New Mexico

I. Company Contacts

Representative	Company	Telephone	E-mail
Thomas Haigood	Breitburn	(432) 967-7266	
Bob Allen	SESI	575-397-0510	ballen@sesi-nm.com

II. Background

Safety and Environmental Solutions, Inc., hereinafter referred to as (SESI) was engaged by Breitburn to assess a spill on the Jalmat trunkline concerning a twenty five (25) bbls. oil and sixty (60) bbls. water release. This site is situated in Lea County, Section 14, Township 22S, and Range 35E.

According to the C-141: approximately twenty five (25) barrels of oil and sixty (60) barrels of water was released when the trunk line going to the battery was shot out. A pasture next to the location was affected. All standing fluid was picked up and samples were collected. A remediation contractor was contacted.

III. Surface and Ground Water

There is no record of groundwater in the immediate vicinity of the site location. Further research of the New Mexico Office of the State Engineer records indicates the average depth to groundwater for the area to be 185' bgs.

IV. Characterization

The target cleanup levels are determined using the *Guidelines for Remediation of Leaks, Spills and Releases* published by the NMOCD (August 13, 1993). Based on the ranking criteria presented below, the applicable Recommended Remediation Action Levels (RRAL) are 10 parts per million (ppm) Benzene, 50 ppm combined benzene, toluene, ethyl benzene, and total xylenes (BTEX), and 5,000 ppm Total Petroleum Hydrocarbons (TPH). Characterization of vertical extent of chloride concentration to a level of 250 mg/kg (PPM) is also required.

Depth to Ground Water:			
(Vertical distance from contaminants to seasonal high water elevation of groundwater)	Less than 50 feet	20 points	
	50 feet to 99 feet	10 points	
	>100 feet	0 points	X
Wellhead Protection Area:			
(Less than 200 feet from a private domestic water source; or less than 1000 feet from all other water sources)	Yes	20 points	X
	No	0 points	
Distance to Surface Water:			
(Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Less than 200 feet	20 points	
	200 feet to 1000 feet	10 points	
	>1000 feet	0 points	X
RANKING SCORE (TOTAL POINTS)			20

**Jalmat Trunk Line
June 18, 2017**

**Breitburn
Lea County, New Mexico**

V. Work Performed

On March 28, 2017, SESI personnel were onsite at the Brietburn Jalmat Trunk line leak to obtain soil samples from the bottom of the excavation and field test for Chlorides and TPH. Nine soil samples were obtained from different locations and field test for Chlorides. All field test results were greater the 1000 ppm. Soil samples were properly preserved and taken to the SESI lab due to the high winds. Four TPH field test were performed. Soil samples for TPH were numbers SP-4, SP-5, SP-7 and SP-9 where visible Hydro carbons were seen. Soil sample SP-9 TPH test result was 253 ppm and all others were under 100 ppm. The excavation and sample points were mapped using the Juno 3B. The field test results are presented in the table below:

Breitburn Jalmat Trunk Line Field Test Results: 3-28-2017	
SAMPLE ID	Chlorides
SP-1	5736
SP-2	1332
SP-3	6732
SP-4	2604
SP-5	2408
SP-6	4484
SP-7	4484
SP-8	7288
SP-9	1240

On March 31, 2017, SESI personnel were onsite at the Brietburn Jalmat Trunkline With Blade Trackhoe w/operator and Brietburn personnel to install test trenches to determine vertical extent of contamination. Test trench ten was installed on the southwest side three feet off the pipeline. The test trench was installed to the total depth that the trackhoe could dig at twenty two feet. Soil samples were grabbed at seven, fifteen, feventeen and twenty two feet, and field tested for Chlorides. The trench was then backfilled. Test trench six was installed in the same area of SP-6. The test trench was installed to the total depth that the track hoe could dig, twenty four feet. Soil samples were grabbed at four, ten, fourteen, sixteen, eighteen, twenty, twenty two and twenty four feet. Soil samples were field tested for Chlorides, and the trench was backfilled. Test trench Eight was installed on the area of SP-8 to the depth of ten feet. Soil samples were grabbed at four, six, eight and ten feet and field tested for Chlorides. Photos were taken of the test trenches. All soil samples were properly packaged, preserved and transported to Cardinal Laboratories of Hobbs, NM by chain of custody, and analyzed for TPH(total petroleum hydrocarbons)(Method 8015M), and Chlorides (Method SM4500Cl-B). The field test and lab results are recapped in the following tables:

Jalmat Trunk Line
June 18, 2017

Breitburn
Lea County, New Mexico

Breitburn Jalmat Trunk Line Soil Sample Results: Field Testing: 4-31-2017	
SAMPLE ID	Chlorides
TT-6 @ 4ft	1656
TT-6 @ 10ft	2604
TT-6 @ 14ft	1152
TT-6 @ 16ft	1784
TT-6 @ 18ft	1332
TT-6 @ 20ft	1540
TT-6 @ 22ft	1920
TT-6 @ 24ft	1920
TT-8 @ 4ft	<124
TT-8 @ 6ft	352
TT-8 @ 8ft	124
TT-8 @ 10ft	<124
TT-10 @ 7ft	5736
TT-10 @ 15ft	2408
TT-10 @ 17ft	2604
TT-10 @ 22ft	2232

Breitburn Jalmat Trunk Line Soil Sample Results: Cardinal Laboratories 4-12-2017									
SAMPLE ID	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Total BTEX	Chlorides	TPH GRO	TPH DRO	EXT DRO
BH-1 24-25'	<0.050	<0.050	<0.062	<0.150	<0.300	1600	<10.0	<10.0	<10.0
BH-1 29-30'	<0.050	<0.050	<0.067	<0.150	<0.300	2960	<10.0	<10.0	<10.0
BH-1 39-40'	<0.050	<0.050	<0.070	<0.150	<0.300	1960	<10.0	<10.0	<10.0
BH-1 49-50'	<0.050	<0.050	<0.070	<0.150	<0.300	656	<10.0	<10.0	<10.0
BH-1 54-55'	<0.050	<0.050	<0.071	<0.150	<0.300	416	<10.0	<10.0	<10.0
BH-1 59-60'	<0.050	<0.050	<0.074	<0.150	<0.300	544	<10.0	<10.0	<10.0
BH-1 64-65'	<0.050	<0.050	<0.072	<0.150	<0.300	240	<10.0	<10.0	<10.0
BH-2 5'	<0.050	<0.050	<0.072	<0.150	<0.300	48.0	<10.0	<10.0	<10.0
BH-2 14-16'	<0.050	<0.050	<0.071	<0.150	<0.300	80.0	<10.0	<10.0	<10.0
BH-2 24-26'	<0.050	<0.050	<0.072	<0.150	<0.300	80.0	<10.0	<10.0	35.7
BH-3 4-6'	<0.050	<0.050	<0.072	<0.150	<0.300	1230	<10.0	<10.0	<10.0
BH-3 9-11'	<0.050	<0.050	<0.050	<0.150	<0.300	2720	<10.0	<10.0	22.3
BH-3 19-20'	<0.050	<0.050	<0.050	<0.150	<0.300	2440	<10.0	<10.0	<10.0
BH-3 24-25'	<0.050	<0.050	<0.050	<0.150	<0.300	160	<10.0	<10.0	<10.0
BH-3 29-30'	<0.050	<0.050	<0.050	<0.150	<0.300	112	<10.0	<10.0	<10.0
BH-3 34-35'	<0.050	<0.050	<0.050	<0.150	<0.300	80.0	<10.0	<10.0	<10.0

Jalmat Trunk Line
June 18, 2017

Breitburn
Lea County, New Mexico

On July 06, 2017, SESI submitted the Work-Remediation Plan to the NMSLO, as well as the NMOCD parties of concern for approval. Both parties concurred and agreed to the plan.

On July 14, 2017, SESI personnel were onsite to collect samples of excavation sidewalls and excavation bottom. The location on both sides of the buried line has been excavated to a depth approaching 4 ft. with near vertical sidewalls. Boyer used a measuring wheel to lay out a small grid system to determine excavation bottom locations for sampling. The bottom samples on the west side were approximately 30 ft. apart while those on the east side were about 40 ft. apart. Four bottom samples were taken on each side of the buried line. Due to very hard consolidated caliche at bottom and on sidewalls, samples were collected used a rock hammer to break and remove sufficient pieces of caliche to obtain unconsolidated loose samples for field testing and lab submittal. The sidewall samples were field tested to make a recommendation as to the need for additional excavation. Following collection of the samples the sample locations were mapped using a Juno GPS handheld device. Also mapped were the outlines of the west and east excavations (with the exception of the north entrance ramp to the west excavation which was not further excavated). At the completion of the mapping, photos and a video were taken of the site. All soil samples were properly packaged, preserved and transported to Cardinal Laboratories of Hobbs, NM by chain of custody, and analyzed for TPH(total petroleum hydrocarbons)(Method 8015M), and Chlorides (Method 300.0). The field test and lab results are recapped in the following tables:

Breitburn Jalmat Trunk Line Soil Sample Results: Cardinal Laboratories 7-14-2017									
SAMPLE ID	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Total BTEX	Chlorides	TPH GRO	TPH DRO	EXT DRO
WSW-1	<0.050	<0.050	<0.050	<0.150	<0.300	128	<10.0	<12.6	<10.0
WSW-2	<0.050	<0.050	<0.050	<0.150	<0.300	352	<10.0	<10.0	<10.0
ESW-1	<0.050	<0.050	<0.050	<0.150	<0.300	1360	<10.0	<10.0	<10.0
ESW-2	<0.050	<0.050	<0.050	<0.150	<0.300	288	<10.0	<10.0	<10.0
ESW-3	<0.050	<0.050	<0.050	<0.150	<0.300	32	<10.0	<10.0	<10.0
WSP-1	<0.050	<0.050	<0.050	<0.150	<0.300	704	<10.0	<10.0	<10.0
WSP-2	<0.050	<0.050	<0.050	<0.150	<0.300	544	<10.0	<10.0	<10.0
WSP-3	<0.050	<0.050	<0.050	<0.150	<0.300	432	<10.0	<10.0	<10.0
WSP-4	<0.050	<0.050	<0.050	<0.150	<0.300	512	<10.0	<10.0	<10.0
ESP-1	<0.050	<0.050	<0.050	<0.150	<0.300	912	<10.0	<10.0	<10.0
ESP-2	<0.050	<0.050	<0.050	<0.150	<0.300	736	<10.0	<10.0	<10.0
ESP-3	<0.050	<0.050	<0.050	<0.150	<0.300	464	<10.0	<10.0	<10.0
ESP-4	<0.050	<0.050	<0.050	<0.150	<0.300	1090	<10.0	<10.0	<10.0

Jalmat Trunk Line
June 18, 2017

Breitburn
Lea County, New Mexico

On July 21, 2017, SESI personnel was onsite to sample north sidewall of east excavation following additional excavation by Tex-Mex contractor. Samples were collected using a rock hammer to break and remove sufficient pieces of caliche to obtain unconsolidated loose samples for field testing and possible lab submittal. The sidewall was sampled first at midpoint between flow lines and the dug trench. Moved about 3 ft. west of midpoint and resampled: Field test ESW-5, 2452 ppm Cl. Moved about 22 ft. east of the midpoint and sampled: Field test ESW-6, <128 ppm Cl.

Samples were properly preserved. Additional sampling to continue the next work day.

On July 24, 2017, SESI personnel was onsite to sample north sidewall of east excavation following additional excavation by Tex-Mex contractor. Took sample at midpoint after some digging: ESW-7, 2976 ppm Cl. Samples were collected using a rock hammer to break and remove sufficient pieces of caliche to obtain unconsolidated loose samples for field testing and possible lab submittal. At ~ 9:00 rancher/landowner Brad Blevins arrives and inquires about progress and watches chloride test. He leaves about 30 minutes later. Continued digging vicinity ESW-7 and resample: ESW-8, <128 ppm Cl, save for lab analysis. Move west and sample after digging additional material: ESW-9, <128 ppm Cl, save for lab analysis. Move west to edge of ramp and sample after digging: ESW-10, <128 pm Cl, save for lab analysis. Took photos and make GPS measurements at ESW-8, -9 and -10. Pack gear and leave site at 1 p.m. to return Hobbs. At Hobbs, pack four clean samples for delivery to Cardinal including sample at ESW-6 from last Friday.

Breitburn Jalmat Trunk Line Soil Sample Results: Cardinal Laboratories 7-21-2017									
SAMPLE ID	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Total BTEX	Chlorides	TPH GRO	TPH DRO	EXT DRO
ESW-6	<0.050	<0.050	<0.050	<0.150	<0.300	50.6	<10.0	<12.6	<10.0
ESW-8	<0.050	<0.050	<0.050	<0.150	<0.300	22.3	<10.0	<10.0	<10.0
ESW-9	<0.050	<0.050	<0.050	<0.150	<0.300	43.2	<10.0	<10.0	<10.0
ESW-10	<0.050	<0.050	<0.050	<0.150	<0.300	35.4	<10.0	<10.0	<10.0

VI. Request for Closure

Based on the aforementioned sidewall and bottom soil analyses: Tex Mex drilling, Inc. installed a 30 mil. liner in the excavated area at a depth of 4' bgs. Approximately 528 yards of soil were disposed of at Sundance Services (an NMOCD approved facility). The area was backfilled with farm grade topsoil, and restored to dunal like feature. The area was then planted with a mixture of prairie grass seed comparable to BLM #3 seed mixture. This concludes remedial activity for this location.

Based on depth to groundwater for this area, remedial excavation of soil, disposal of impacted soil, and restoration of site in accordance with the approved remediation plan, SESI on behalf of Breitburn, LP respectfully requests closure of the regulatory file for this incident.

**Jalmat Trunk Line
June 18, 2017**

**Breitburn
Lea County, New Mexico**

VII. Figures & Appendices

Figure 1 - Vicinity Map

Figure 2 - Site Plan

Appendix A – C-141

Appendix B – Groundwater

Appendix C – Analytical Results

Appendix D – Photo Documentation

Figure 1 Vicinity Map

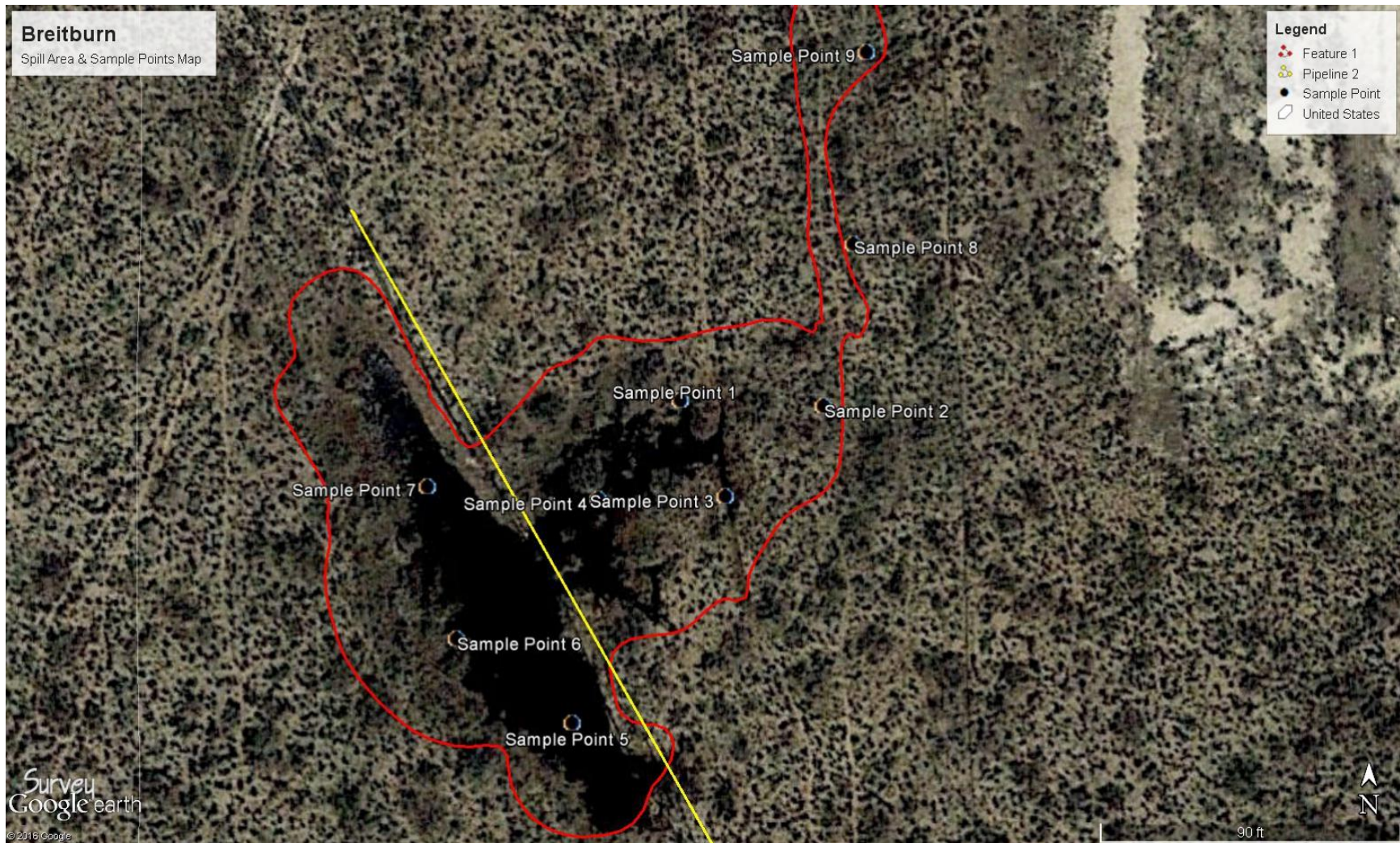


Figure 2 Site Plan



Appendix A C-141

Form C-141

State of New Mexico
Oil Conservation Division

Page 3

Incident ID	NOY1707658025
District RP	1RP-4645
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>185</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 1/2-mile of the lateral extents of the release
- Boring or excavation logs
- Photographs including date and GIS information
- Topographic/Aerial maps
- Laboratory data including chain of custody

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

Form C-141

State of New Mexico
Oil Conservation Division

Page 4

Incident ID	NOY1707658025
District RP	1RP-4645
Facility ID	
Application ID	

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

Printed Name: Thomas Haigood Title: Permian HSE Specialist

Signature:  Date: 05/09/2019

email: Thomas.haigood@maverickresources.com Telephone: (432) 701-7802


OCD Only

Received by: _____ Date: _____

Form C-141

State of New Mexico
Oil Conservation Division

Page 5

Incident ID	NOY1707658025
District RP	1RP-4645
Facility ID	
Application ID	

Remediation Plan

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

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

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

- Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- Extents of contamination must be fully delineated.
- Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Thomas Haigood Title: Permian HSE Specialist

Signature:  Date: 05/09/2019

email: Thomas.haigood@maverickresources.com Telephone: (432) 701-7802

MaverickResources.com

OCD Only

Received by: _____ Date: _____

- Approved
 Approved with Attached Conditions of Approval
 Denied
 Deferral Approved

Signature: _____ Date: _____

Form C-141

State of New Mexico
Oil Conservation Division

Page 6

Incident ID	NOY1707658025
District RP	1RP-4645
Facility ID	
Application ID	

Closure

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

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

- A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Thomas Haigood Title: Permian HSE Specialist

Signature:  Date: 05/09/2019

email: Thomas.hagood@mauricekresources.com Telephone: (432)701-7802

Maurresources.com

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

Appendix B Groundwater



New Mexico Office of the State Engineer Water Column/Average Depth to Water

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

(R=POD has been replaced, O=orphaned, C=the file is closed) (quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
CP 00593 POD1	CP	LE		4	4	06	22S	35E		650422	3587591*	62		
CP 00594 POD1	CP	LE		2	1	34	22S	35E		654553	3580819*	98		
CP 00595 POD1	CP	LE		2	2	20	22S	35E		652089	3584000*	96		
CP 00753		LE		2	2	14	22S	35E		656891	3585687*	215	185	30

Average Depth to Water: **185 feet**

Minimum Depth: **185 feet**

Maximum Depth: **185 feet**

Record Count: 4

PLSS Search:

Township: 22S

Range: 35E

*UTM location was derived from PLSS - see Help

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

Appendix C

Analytical Results



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

April 10, 2017

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: BRE-17-002

Enclosed are the results of analyses for samples received by the laboratory on 04/03/17 10:57.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	04/03/2017	Sampling Date:	03/31/2017
Reported:	04/10/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NOT GIVEN		

Sample ID: TT- 10 7' (H700868-01)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/05/2017	ND	2.19	110	2.00	0.503	
Toluene*	<0.050	0.050	04/05/2017	ND	2.13	107	2.00	0.718	
Ethylbenzene*	<0.050	0.050	04/05/2017	ND	2.18	109	2.00	0.693	
Total Xylenes*	<0.150	0.150	04/05/2017	ND	6.19	103	6.00	0.676	
Total BTEX	<0.300	0.300	04/05/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.1 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4640	16.0	04/05/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/04/2017	ND	203	101	200	1.44	
DRO >C10-C28	15.0	10.0	04/04/2017	ND	220	110	200	2.30	
EXT DRO >C28-C36	36.5	10.0	04/04/2017	ND					

Surrogate: 1-Chlorooctane 94.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 98.1 % 34.7-157

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	04/03/2017	Sampling Date:	03/31/2017
Reported:	04/10/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NOT GIVEN		

Sample ID: TT- 10 15' (H700868-02)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/05/2017	ND	2.19	110	2.00	0.503	
Toluene*	<0.050	0.050	04/05/2017	ND	2.13	107	2.00	0.718	
Ethylbenzene*	<0.050	0.050	04/05/2017	ND	2.18	109	2.00	0.693	
Total Xylenes*	<0.150	0.150	04/05/2017	ND	6.19	103	6.00	0.676	
Total BTEX	<0.300	0.300	04/05/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.5 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3200	16.0	04/05/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/04/2017	ND	203	101	200	1.44	
DRO >C10-C28	23.7	10.0	04/04/2017	ND	220	110	200	2.30	
EXT DRO >C28-C36	25.5	10.0	04/04/2017	ND					

Surrogate: 1-Chlorooctane 99.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 107 % 34.7-157

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	04/03/2017	Sampling Date:	03/31/2017
Reported:	04/10/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NOT GIVEN		

Sample ID: TT- 10 17' (H700868-03)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/05/2017	ND	2.19	110	2.00	0.503	
Toluene*	<0.050	0.050	04/05/2017	ND	2.13	107	2.00	0.718	
Ethylbenzene*	<0.050	0.050	04/05/2017	ND	2.18	109	2.00	0.693	
Total Xylenes*	<0.150	0.150	04/05/2017	ND	6.19	103	6.00	0.676	
Total BTEX	<0.300	0.300	04/05/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.5 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3680	16.0	04/05/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/04/2017	ND	203	101	200	1.44	
DRO >C10-C28	27.8	10.0	04/04/2017	ND	220	110	200	2.30	
EXT DRO >C28-C36	32.3	10.0	04/04/2017	ND					

Surrogate: 1-Chlorooctane 107 % 28.3-164

Surrogate: 1-Chlorooctadecane 110 % 34.7-157

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Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	04/03/2017	Sampling Date:	03/31/2017
Reported:	04/10/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NOT GIVEN		

Sample ID: TT- 10 22' (H700868-04)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/05/2017	ND	2.19	110	2.00	0.503	
Toluene*	<0.050	0.050	04/05/2017	ND	2.13	107	2.00	0.718	
Ethylbenzene*	<0.050	0.050	04/05/2017	ND	2.18	109	2.00	0.693	
Total Xylenes*	<0.150	0.150	04/05/2017	ND	6.19	103	6.00	0.676	
Total BTEX	<0.300	0.300	04/05/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.2 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2560	16.0	04/05/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/04/2017	ND	203	101	200	1.44	
DRO >C10-C28	<10.0	10.0	04/04/2017	ND	220	110	200	2.30	
EXT DRO >C28-C36	<10.0	10.0	04/04/2017	ND					

Surrogate: 1-Chlorooctane 106 % 28.3-164

Surrogate: 1-Chlorooctadecane 115 % 34.7-157

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Received:	04/03/2017	Sampling Date:	03/31/2017
Reported:	04/10/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NOT GIVEN		

Sample ID: TT- 6 4' (H700868-05)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/05/2017	ND	2.19	110	2.00	0.503	
Toluene*	<0.050	0.050	04/05/2017	ND	2.13	107	2.00	0.718	
Ethylbenzene*	<0.050	0.050	04/05/2017	ND	2.18	109	2.00	0.693	
Total Xylenes*	<0.150	0.150	04/05/2017	ND	6.19	103	6.00	0.676	
Total BTEX	<0.300	0.300	04/05/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.3 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2160	16.0	04/05/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/04/2017	ND	203	101	200	1.44	
DRO >C10-C28	<10.0	10.0	04/04/2017	ND	220	110	200	2.30	
EXT DRO >C28-C36	<10.0	10.0	04/04/2017	ND					

Surrogate: 1-Chlorooctane 117 % 28.3-164

Surrogate: 1-Chlorooctadecane 123 % 34.7-157

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Received:	04/03/2017	Sampling Date:	03/31/2017
Reported:	04/10/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NOT GIVEN		

Sample ID: TT- 6 10' (H700868-06)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/05/2017	ND	2.19	110	2.00	0.503		
Toluene*	<0.050	0.050	04/05/2017	ND	2.13	107	2.00	0.718		
Ethylbenzene*	<0.050	0.050	04/05/2017	ND	2.18	109	2.00	0.693		
Total Xylenes*	<0.150	0.150	04/05/2017	ND	6.19	103	6.00	0.676		
Total BTEX	<0.300	0.300	04/05/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.0 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3280	16.0	04/05/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	04/04/2017	ND	203	101	200	1.44		
DRO >C10-C28	<10.0	10.0	04/04/2017	ND	220	110	200	2.30		
EXT DRO >C28-C36	<10.0	10.0	04/04/2017	ND						

Surrogate: 1-Chlorooctane 89.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 94.3 % 34.7-157

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Received:	04/03/2017	Sampling Date:	03/31/2017
Reported:	04/10/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NOT GIVEN		

Sample ID: TT- 6 14' (H700868-07)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/05/2017	ND	2.19	110	2.00	0.503		
Toluene*	<0.050	0.050	04/05/2017	ND	2.13	107	2.00	0.718		
Ethylbenzene*	<0.050	0.050	04/05/2017	ND	2.18	109	2.00	0.693		
Total Xylenes*	<0.150	0.150	04/05/2017	ND	6.19	103	6.00	0.676		
Total BTEX	<0.300	0.300	04/05/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.1 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1420	16.0	04/05/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	04/04/2017	ND	203	101	200	1.44		
DRO >C10-C28	<10.0	10.0	04/04/2017	ND	220	110	200	2.30		
EXT DRO >C28-C36	<10.0	10.0	04/04/2017	ND						

Surrogate: 1-Chlorooctane 99.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 107 % 34.7-157

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Received:	04/03/2017	Sampling Date:	03/31/2017
Reported:	04/10/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NOT GIVEN		

Sample ID: TT- 6 16' (H700868-08)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/05/2017	ND	1.94	96.8	2.00	1.06	
Toluene*	<0.050	0.050	04/05/2017	ND	1.89	94.3	2.00	1.65	
Ethylbenzene*	<0.050	0.050	04/05/2017	ND	1.92	96.1	2.00	1.51	
Total Xylenes*	<0.150	0.150	04/05/2017	ND	5.48	91.3	6.00	1.38	
Total BTEX	<0.300	0.300	04/05/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.3 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2000	16.0	04/05/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/04/2017	ND	203	101	200	1.44	
DRO >C10-C28	<10.0	10.0	04/04/2017	ND	220	110	200	2.30	
EXT DRO >C28-C36	<10.0	10.0	04/04/2017	ND					

Surrogate: 1-Chlorooctane 95.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 101 % 34.7-157

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Received:	04/03/2017	Sampling Date:	03/31/2017
Reported:	04/10/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NOT GIVEN		

Sample ID: TT- 6 18' (H700868-09)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/05/2017	ND	1.94	96.8	2.00	1.06		
Toluene*	<0.050	0.050	04/05/2017	ND	1.89	94.3	2.00	1.65		
Ethylbenzene*	<0.050	0.050	04/05/2017	ND	1.92	96.1	2.00	1.51		
Total Xylenes*	<0.150	0.150	04/05/2017	ND	5.48	91.3	6.00	1.38		
Total BTEX	<0.300	0.300	04/05/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.6 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1720	16.0	04/05/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	04/05/2017	ND	203	101	200	1.44		
DRO >C10-C28	<10.0	10.0	04/05/2017	ND	220	110	200	2.30		
EXT DRO >C28-C36	<10.0	10.0	04/05/2017	ND						

Surrogate: 1-Chlorooctane 96.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 101 % 34.7-157

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Received:	04/03/2017	Sampling Date:	03/31/2017
Reported:	04/10/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NOT GIVEN		

Sample ID: TT- 6 20' (H700868-10)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/05/2017	ND	1.94	96.8	2.00	1.06		
Toluene*	<0.050	0.050	04/05/2017	ND	1.89	94.3	2.00	1.65		
Ethylbenzene*	<0.050	0.050	04/05/2017	ND	1.92	96.1	2.00	1.51		
Total Xylenes*	<0.150	0.150	04/05/2017	ND	5.48	91.3	6.00	1.38		
Total BTEX	<0.300	0.300	04/05/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.9 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2000	16.0	04/05/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	04/05/2017	ND	196	98.1	200	3.76		
DRO >C10-C28	<10.0	10.0	04/05/2017	ND	199	99.4	200	3.59		
EXT DRO >C28-C36	<10.0	10.0	04/05/2017	ND						

Surrogate: 1-Chlorooctane 90.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 99.5 % 34.7-157

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Received:	04/03/2017	Sampling Date:	03/31/2017
Reported:	04/10/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NOT GIVEN		

Sample ID: TT- 6 22' (H700868-11)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/05/2017	ND	1.94	96.8	2.00	1.06		
Toluene*	<0.050	0.050	04/05/2017	ND	1.89	94.3	2.00	1.65		
Ethylbenzene*	<0.050	0.050	04/05/2017	ND	1.92	96.1	2.00	1.51		
Total Xylenes*	<0.150	0.150	04/05/2017	ND	5.48	91.3	6.00	1.38		
Total BTEX	<0.300	0.300	04/05/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.4 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2560	16.0	04/05/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	04/05/2017	ND	196	98.1	200	3.76		
DRO >C10-C28	<10.0	10.0	04/05/2017	ND	199	99.4	200	3.59		
EXT DRO >C28-C36	<10.0	10.0	04/05/2017	ND						

Surrogate: 1-Chlorooctane 102 % 28.3-164

Surrogate: 1-Chlorooctadecane 105 % 34.7-157

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Received:	04/03/2017	Sampling Date:	03/31/2017
Reported:	04/10/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NOT GIVEN		

Sample ID: TT- 6 24' (H700868-12)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/05/2017	ND	1.94	96.8	2.00	1.06		
Toluene*	<0.050	0.050	04/05/2017	ND	1.89	94.3	2.00	1.65		
Ethylbenzene*	<0.050	0.050	04/05/2017	ND	1.92	96.1	2.00	1.51		
Total Xylenes*	<0.150	0.150	04/05/2017	ND	5.48	91.3	6.00	1.38		
Total BTEX	<0.300	0.300	04/05/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.8 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2400	16.0	04/05/2017	ND	448	112	400	3.51	QM-07	

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	04/05/2017	ND	196	98.1	200	3.76		
DRO >C10-C28	<10.0	10.0	04/05/2017	ND	199	99.4	200	3.59		
EXT DRO >C28-C36	<10.0	10.0	04/05/2017	ND						

Surrogate: 1-Chlorooctane 120 % 28.3-164

Surrogate: 1-Chlorooctadecane 121 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	04/03/2017	Sampling Date:	03/31/2017
Reported:	04/10/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NOT GIVEN		

Sample ID: TT- 8 4' (H700868-13)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/05/2017	ND	1.94	96.8	2.00	1.06	
Toluene*	<0.050	0.050	04/05/2017	ND	1.89	94.3	2.00	1.65	
Ethylbenzene*	<0.050	0.050	04/05/2017	ND	1.92	96.1	2.00	1.51	
Total Xylenes*	<0.150	0.150	04/05/2017	ND	5.48	91.3	6.00	1.38	
Total BTEX	<0.300	0.300	04/05/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.1 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	04/05/2017	ND	448	112	400	3.51	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/05/2017	ND	196	98.1	200	3.76	
DRO >C10-C28	<10.0	10.0	04/05/2017	ND	199	99.4	200	3.59	
EXT DRO >C28-C36	<10.0	10.0	04/05/2017	ND					

Surrogate: 1-Chlorooctane 105 % 28.3-164

Surrogate: 1-Chlorooctadecane 107 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	04/03/2017	Sampling Date:	03/31/2017
Reported:	04/10/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NOT GIVEN		

Sample ID: TT- 8 6' (H700868-14)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/05/2017	ND	1.94	96.8	2.00	1.06	
Toluene*	<0.050	0.050	04/05/2017	ND	1.89	94.3	2.00	1.65	
Ethylbenzene*	<0.050	0.050	04/05/2017	ND	1.92	96.1	2.00	1.51	
Total Xylenes*	<0.150	0.150	04/05/2017	ND	5.48	91.3	6.00	1.38	
Total BTEX	<0.300	0.300	04/05/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.6 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	04/05/2017	ND	448	112	400	3.51	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/05/2017	ND	196	98.1	200	3.76	
DRO >C10-C28	<10.0	10.0	04/05/2017	ND	199	99.4	200	3.59	
EXT DRO >C28-C36	<10.0	10.0	04/05/2017	ND					

Surrogate: 1-Chlorooctane 91.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 95.9 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	04/03/2017	Sampling Date:	03/31/2017
Reported:	04/10/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NOT GIVEN		

Sample ID: TT- 8 8' (H700868-15)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/05/2017	ND	1.94	96.8	2.00	1.06		
Toluene*	<0.050	0.050	04/05/2017	ND	1.89	94.3	2.00	1.65		
Ethylbenzene*	<0.050	0.050	04/05/2017	ND	1.92	96.1	2.00	1.51		
Total Xylenes*	<0.150	0.150	04/05/2017	ND	5.48	91.3	6.00	1.38		
Total BTEX	<0.300	0.300	04/05/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.8 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	04/05/2017	ND	448	112	400	3.51		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	04/05/2017	ND	196	98.1	200	3.76		
DRO >C10-C28	<10.0	10.0	04/05/2017	ND	199	99.4	200	3.59		
EXT DRO >C28-C36	<10.0	10.0	04/05/2017	ND						

Surrogate: 1-Chlorooctane 100 % 28.3-164

Surrogate: 1-Chlorooctadecane 105 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	04/03/2017	Sampling Date:	03/31/2017
Reported:	04/10/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NOT GIVEN		

Sample ID: TT- 8 10' (H700868-16)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/05/2017	ND	1.94	96.8	2.00	1.06		
Toluene*	<0.050	0.050	04/05/2017	ND	1.89	94.3	2.00	1.65		
Ethylbenzene*	<0.050	0.050	04/05/2017	ND	1.92	96.1	2.00	1.51		
Total Xylenes*	<0.150	0.150	04/05/2017	ND	5.48	91.3	6.00	1.38		
Total BTEX	<0.300	0.300	04/05/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.4 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	04/05/2017	ND	448	112	400	3.51		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	04/05/2017	ND	196	98.1	200	3.76		
DRO >C10-C28	<10.0	10.0	04/05/2017	ND	199	99.4	200	3.59		
EXT DRO >C28-C36	<10.0	10.0	04/05/2017	ND						

Surrogate: 1-Chlorooctane 114 % 28.3-164

Surrogate: 1-Chlorooctadecane 112 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1-2

BILL TO

ANALYSIS REQUEST

Company Name: Safety and Environmental Solutions
 Project Manager: Bob Allen
 Address: 703 East Clinton, PO Box 1613
 City: Hobbs State: NM Zip: 88240
 Phone #: 575 397-0510 Fax #: 575 393-4388
 Project #: BRE-17-002 Project Owner:
 Project Name:
 Project Location:
 Sampler Name:
 FOR LAB USE ONLY

P.O. #: Company: Same
 Attn: Address:
 City: State: Zip:
 Phone #: Fax #:

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							PRESERV			DATE	TIME	ANALYSIS REQUEST
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	SAMPLING			
H100 S&S																
1	TT-10		9										03/31	0900		BTEX
2	TT-10		9										03/31	0915		TPH (8015-EXT)
3	TT-10		9										03/31	0945		Chlorides
4	TT-10		9										03/31	1000		
5	TT-6		9										03/31	1045		
6	TT-6		9										03/31	1105		
7	TT-6		9										03/31	1125		
8	TT-6		9										03/31	1145		
9	TT-6		9										03/31	1205		

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Relinquished By: *Sam Jern*
 Date: 02/03/17
 Time: 10:57
 Received By: *[Signature]*
 Date: _____
 Time: _____

Phone Result: Yes No
 Fax Result: Yes No
 Add'l Phone #: _____
 Add'l Fax #: _____

Delivered By: (Circle One)
 Sampler - UPS - Bus - Other: *S.G.C.*
 Sample Condition
 Cool Intact
 Yes No
 Checked By: *[Signature]*

REMARKS:



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
 (575) 393-2326 FAX (575) 393-2476

2-2

BILL TO

ANALYSIS REQUEST

Company Name: Safety and Environmental Solutions		P.O. #:										
Project Manager: Bob Allen		Company: Same										
Address: 703 East Clinton, PO Box 1613		Attn:										
City: Hobbs State: NM zip: 88240		Address:										
Phone #: 575 397-0510 Fax #: 575 393-4388		City:										
Project #: BRE-17-002 Project Owner:		State: Zip:										
Project Location:		Phone #:										
Sampler Name:		Fax #:										
FOR LAB USE ONLY												
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	REMARKS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :			
#1208468	TT-6	1	1	0	0	0	0	0	03/31	1225	BTEX	
	TT-6	1	1	0	0	0	0	0	03/31	1245	TPH (8015 G/L)	
	TT-6	1	1	0	0	0	0	0	03/31	1330	Chloride	
	TT-8	1	1	0	0	0	0	0	03/31	1400		
	TT-8	1	1	0	0	0	0	0	03/31	1415		
	TT-8	1	1	0	0	0	0	0	03/31	1425		
	TT-8	1	1	0	0	0	0	0	03/31	1455		

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Relinquished By: *[Signature]* Date: 01/03/17
 Received By: *[Signature]* Date: 10/15/17

Delivered By: (Circle One) *S.O.*
 Sampler - UPS - Bus - Other:
 Sample Condition: Intact Cool Yes No
 CHECKED BY: *[Signature]* (Initials) *[Signature]*

Phone Result: Yes No Add'l Phone #:
 Fax Result: Yes No Add'l Fax #:
 REMARKS:



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

May 12, 2017

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: BRE-17-002

Enclosed are the results of analyses for samples received by the laboratory on 05/04/17 16:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	05/04/2017	Sampling Date:	04/27/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 1 24'-25' (H701208-01)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/08/2017	ND	2.29	114	2.00	1.36	
Toluene*	<0.050	0.050	05/08/2017	ND	2.23	111	2.00	0.391	
Ethylbenzene*	0.062	0.050	05/08/2017	ND	2.16	108	2.00	0.994	
Total Xylenes*	<0.150	0.150	05/08/2017	ND	6.38	106	6.00	1.26	
Total BTEX	<0.300	0.300	05/08/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 118 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1600	16.0	05/08/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/06/2017	ND	165	82.4	200	3.75	
DRO >C10-C28	<10.0	10.0	05/06/2017	ND	183	91.5	200	7.50	
EXT DRO >C28-C36	<10.0	10.0	05/06/2017	ND					

Surrogate: 1-Chlorooctane 86.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.1 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	05/04/2017	Sampling Date:	04/27/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 1 29'-30' (H701208-02)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/08/2017	ND	2.29	114	2.00	1.36	
Toluene*	<0.050	0.050	05/08/2017	ND	2.23	111	2.00	0.391	
Ethylbenzene*	0.067	0.050	05/08/2017	ND	2.16	108	2.00	0.994	
Total Xylenes*	<0.150	0.150	05/08/2017	ND	6.38	106	6.00	1.26	
Total BTEX	<0.300	0.300	05/08/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 120 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2960	16.0	05/09/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/06/2017	ND	165	82.4	200	3.75	
DRO >C10-C28	<10.0	10.0	05/06/2017	ND	183	91.5	200	7.50	
EXT DRO >C28-C36	<10.0	10.0	05/06/2017	ND					

Surrogate: 1-Chlorooctane 75.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 98.5 % 34.7-157

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 Fax To: (575) 393-4388

Received:	05/04/2017	Sampling Date:	04/27/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 1 39'-40' (H701208-03)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/09/2017	ND	2.29	114	2.00	1.36	
Toluene*	<0.050	0.050	05/09/2017	ND	2.23	111	2.00	0.391	
Ethylbenzene*	0.070	0.050	05/09/2017	ND	2.16	108	2.00	0.994	
Total Xylenes*	<0.150	0.150	05/09/2017	ND	6.38	106	6.00	1.26	
Total BTEX	<0.300	0.300	05/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 121 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1960	16.0	05/09/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/06/2017	ND	165	82.4	200	3.75	
DRO >C10-C28	<10.0	10.0	05/06/2017	ND	183	91.5	200	7.50	
EXT DRO >C28-C36	<10.0	10.0	05/06/2017	ND					

Surrogate: 1-Chlorooctane 78.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 101 % 34.7-157

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Received:	05/04/2017	Sampling Date:	04/27/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 1 49'-50' (H701208-04)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/09/2017	ND	2.29	114	2.00	1.36	
Toluene*	<0.050	0.050	05/09/2017	ND	2.23	111	2.00	0.391	
Ethylbenzene*	0.070	0.050	05/09/2017	ND	2.16	108	2.00	0.994	
Total Xylenes*	<0.150	0.150	05/09/2017	ND	6.38	106	6.00	1.26	
Total BTEX	<0.300	0.300	05/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 121 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	656	16.0	05/09/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/06/2017	ND	165	82.4	200	3.75	
DRO >C10-C28	<10.0	10.0	05/06/2017	ND	183	91.5	200	7.50	
EXT DRO >C28-C36	<10.0	10.0	05/06/2017	ND					

Surrogate: 1-Chlorooctane 61.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 80.8 % 34.7-157

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Received:	05/04/2017	Sampling Date:	04/27/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 1 54'-55' (H701208-05)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/09/2017	ND	2.29	114	2.00	1.36	
Toluene*	<0.050	0.050	05/09/2017	ND	2.23	111	2.00	0.391	
Ethylbenzene*	0.071	0.050	05/09/2017	ND	2.16	108	2.00	0.994	
Total Xylenes*	<0.150	0.150	05/09/2017	ND	6.38	106	6.00	1.26	
Total BTEX	<0.300	0.300	05/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 122 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	05/09/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/06/2017	ND	165	82.4	200	3.75	
DRO >C10-C28	<10.0	10.0	05/06/2017	ND	183	91.5	200	7.50	
EXT DRO >C28-C36	<10.0	10.0	05/06/2017	ND					

Surrogate: 1-Chlorooctane 80.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 83.3 % 34.7-157

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Received:	05/04/2017	Sampling Date:	04/27/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 1 59'-60' (H701208-06)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/09/2017	ND	2.29	114	2.00	1.36	
Toluene*	<0.050	0.050	05/09/2017	ND	2.23	111	2.00	0.391	
Ethylbenzene*	0.074	0.050	05/09/2017	ND	2.16	108	2.00	0.994	
Total Xylenes*	<0.150	0.150	05/09/2017	ND	6.38	106	6.00	1.26	
Total BTEX	<0.300	0.300	05/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 122 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	544	16.0	05/09/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/06/2017	ND	165	82.4	200	3.75	
DRO >C10-C28	<10.0	10.0	05/06/2017	ND	183	91.5	200	7.50	
EXT DRO >C28-C36	<10.0	10.0	05/06/2017	ND					

Surrogate: 1-Chlorooctane 77.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 99.5 % 34.7-157

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Received:	05/04/2017	Sampling Date:	04/27/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 1 64'-65' (H701208-07)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/09/2017	ND	2.29	114	2.00	1.36	
Toluene*	<0.050	0.050	05/09/2017	ND	2.23	111	2.00	0.391	
Ethylbenzene*	0.072	0.050	05/09/2017	ND	2.16	108	2.00	0.994	
Total Xylenes*	<0.150	0.150	05/09/2017	ND	6.38	106	6.00	1.26	
Total BTEX	<0.300	0.300	05/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 121 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	05/09/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/06/2017	ND	165	82.4	200	3.75	
DRO >C10-C28	<10.0	10.0	05/06/2017	ND	183	91.5	200	7.50	
EXT DRO >C28-C36	<10.0	10.0	05/06/2017	ND					

Surrogate: 1-Chlorooctane 75.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 79.5 % 34.7-157

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Received:	05/04/2017	Sampling Date:	04/27/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 2 5' (H701208-08)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/09/2017	ND	2.29	114	2.00	1.36	
Toluene*	<0.050	0.050	05/09/2017	ND	2.23	111	2.00	0.391	
Ethylbenzene*	0.072	0.050	05/09/2017	ND	2.16	108	2.00	0.994	
Total Xylenes*	<0.150	0.150	05/09/2017	ND	6.38	106	6.00	1.26	
Total BTEX	<0.300	0.300	05/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 120 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	05/09/2017	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/06/2017	ND	165	82.4	200	3.75	
DRO >C10-C28	<10.0	10.0	05/06/2017	ND	183	91.5	200	7.50	
EXT DRO >C28-C36	<10.0	10.0	05/06/2017	ND					

Surrogate: 1-Chlorooctane 72.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 76.9 % 34.7-157

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Received:	05/04/2017	Sampling Date:	04/27/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 2 14'-16' (H701208-09)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/09/2017	ND	2.29	114	2.00	1.36	
Toluene*	<0.050	0.050	05/09/2017	ND	2.23	111	2.00	0.391	
Ethylbenzene*	0.071	0.050	05/09/2017	ND	2.16	108	2.00	0.994	
Total Xylenes*	<0.150	0.150	05/09/2017	ND	6.38	106	6.00	1.26	
Total BTEX	<0.300	0.300	05/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 122 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	05/09/2017	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/09/2017	ND	192	96.2	200	0.280	
DRO >C10-C28	<10.0	10.0	05/09/2017	ND	215	108	200	1.40	
EXT DRO >C28-C36	<10.0	10.0	05/09/2017	ND					

Surrogate: 1-Chlorooctane 85.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.3 % 34.7-157

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Received:	05/04/2017	Sampling Date:	04/27/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 2 24'-26' (H701208-10)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/09/2017	ND	2.29	114	2.00	1.36	
Toluene*	<0.050	0.050	05/09/2017	ND	2.23	111	2.00	0.391	
Ethylbenzene*	0.072	0.050	05/09/2017	ND	2.16	108	2.00	0.994	
Total Xylenes*	<0.150	0.150	05/09/2017	ND	6.38	106	6.00	1.26	
Total BTEX	<0.300	0.300	05/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 122 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	05/09/2017	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/09/2017	ND	192	96.2	200	0.280	
DRO >C10-C28	<10.0	10.0	05/09/2017	ND	215	108	200	1.40	
EXT DRO >C28-C36	35.7	10.0	05/09/2017	ND					

Surrogate: 1-Chlorooctane 89.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 92.3 % 34.7-157

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Received:	05/04/2017	Sampling Date:	04/27/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 3 4'-6' (H701208-11)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/09/2017	ND	2.29	114	2.00	1.36	
Toluene*	<0.050	0.050	05/09/2017	ND	2.23	111	2.00	0.391	
Ethylbenzene*	0.072	0.050	05/09/2017	ND	2.16	108	2.00	0.994	
Total Xylenes*	<0.150	0.150	05/09/2017	ND	6.38	106	6.00	1.26	
Total BTEX	<0.300	0.300	05/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 122 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1230	16.0	05/09/2017	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/09/2017	ND	192	96.2	200	0.280	
DRO >C10-C28	<10.0	10.0	05/09/2017	ND	215	108	200	1.40	
EXT DRO >C28-C36	<10.0	10.0	05/09/2017	ND					

Surrogate: 1-Chlorooctane 87.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.8 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	05/04/2017	Sampling Date:	04/27/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 3 9'-11' (H701208-12)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/08/2017	ND	2.12	106	2.00	0.747	
Toluene*	<0.050	0.050	05/08/2017	ND	1.95	97.5	2.00	0.722	
Ethylbenzene*	<0.050	0.050	05/08/2017	ND	1.91	95.3	2.00	0.777	
Total Xylenes*	<0.150	0.150	05/08/2017	ND	5.37	89.5	6.00	0.512	
Total BTEX	<0.300	0.300	05/08/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.5 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2720	16.0	05/09/2017	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/09/2017	ND	192	96.2	200	0.280	
DRO >C10-C28	<10.0	10.0	05/09/2017	ND	215	108	200	1.40	
EXT DRO >C28-C36	22.3	10.0	05/09/2017	ND					

Surrogate: 1-Chlorooctane 87.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.8 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	05/04/2017	Sampling Date:	05/02/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 3 19'-20' (H701208-13)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/08/2017	ND	2.12	106	2.00	0.747	
Toluene*	<0.050	0.050	05/08/2017	ND	1.95	97.5	2.00	0.722	
Ethylbenzene*	<0.050	0.050	05/08/2017	ND	1.91	95.3	2.00	0.777	
Total Xylenes*	<0.150	0.150	05/08/2017	ND	5.37	89.5	6.00	0.512	
Total BTEX	<0.300	0.300	05/08/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.4 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2440	16.0	05/09/2017	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/09/2017	ND	192	96.2	200	0.280	
DRO >C10-C28	<10.0	10.0	05/09/2017	ND	215	108	200	1.40	
EXT DRO >C28-C36	<10.0	10.0	05/09/2017	ND					

Surrogate: 1-Chlorooctane 74.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 74.2 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	05/04/2017	Sampling Date:	05/02/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 3 24'-25' (H701208-14)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/08/2017	ND	2.12	106	2.00	0.747	
Toluene*	<0.050	0.050	05/08/2017	ND	1.95	97.5	2.00	0.722	
Ethylbenzene*	<0.050	0.050	05/08/2017	ND	1.91	95.3	2.00	0.777	
Total Xylenes*	<0.150	0.150	05/08/2017	ND	5.37	89.5	6.00	0.512	
Total BTEX	<0.300	0.300	05/08/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.5 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	05/09/2017	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/09/2017	ND	198	98.8	200	1.70	
DRO >C10-C28	<10.0	10.0	05/09/2017	ND	193	96.4	200	5.15	
EXT DRO >C28-C36	<10.0	10.0	05/09/2017	ND					

Surrogate: 1-Chlorooctane 82.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.4 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	05/04/2017	Sampling Date:	05/02/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 3 29'-30' (H701208-15)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/08/2017	ND	2.12	106	2.00	0.747	
Toluene*	<0.050	0.050	05/08/2017	ND	1.95	97.5	2.00	0.722	
Ethylbenzene*	<0.050	0.050	05/08/2017	ND	1.91	95.3	2.00	0.777	
Total Xylenes*	<0.150	0.150	05/08/2017	ND	5.37	89.5	6.00	0.512	
Total BTEX	<0.300	0.300	05/08/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.7 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	05/09/2017	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/09/2017	ND	198	98.8	200	1.70	
DRO >C10-C28	<10.0	10.0	05/09/2017	ND	193	96.4	200	5.15	
EXT DRO >C28-C36	<10.0	10.0	05/09/2017	ND					

Surrogate: 1-Chlorooctane 89.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 89.9 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	05/04/2017	Sampling Date:	05/02/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BH - 3 34'-35' (H701208-16)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/08/2017	ND	2.12	106	2.00	0.747	
Toluene*	<0.050	0.050	05/08/2017	ND	1.95	97.5	2.00	0.722	
Ethylbenzene*	<0.050	0.050	05/08/2017	ND	1.91	95.3	2.00	0.777	
Total Xylenes*	<0.150	0.150	05/08/2017	ND	5.37	89.5	6.00	0.512	
Total BTEX	<0.300	0.300	05/08/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.1 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	05/09/2017	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/09/2017	ND	198	98.8	200	1.70	
DRO >C10-C28	<10.0	10.0	05/09/2017	ND	193	96.4	200	5.15	
EXT DRO >C28-C36	<10.0	10.0	05/09/2017	ND					

Surrogate: 1-Chlorooctane 86.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 91.7 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

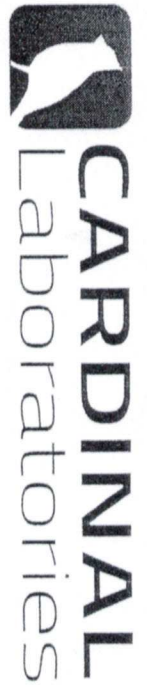
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
 (575) 393-2326 FAX (575) 393-2476

1082

BILL TO

ANALYSIS REQUEST

P.O. #:

Company: Same

Attn:

Address:

City:

State:

Phone #:

Fax #:

Company Name: Safety and Environmental Solutions

Project Manager: Bob Allen

Address: 703 East Clinton, PO Box 1613

City: Hobbs State: NM Zip: 88240

Phone #: 575 397-0510 Fax #: 575 393-4388

Project #: RE-17-002 Project Owner:

Project Name:

Project Location:

Sampler Name: David Boyer

FOR LAB USE ONLY

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	TPH (8015 EXT)	BTEX	Chloride
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :					
H7D120B	BH-1 24-25'	X	1							4/27	1012	X	X	X
	BH-1 29-30'	X	1								1112	X	X	X
	BH-1 39-40'	X	1								1220	X	X	X
	BH-1 49-50'	X	1								1235	X	X	X
	BH-1 54-55'	X	1								1245	X	X	X
	BH-1 59-60'	X	1								1255	X	X	X
	BH-1 64-65'	X	1								1340	X	X	X
	BH-2 14-16'	X	1								1515	X	X	X
	BH-2 14-16'	X	1								1535	X	X	X
	BH-2 24-26'	X	1								4/27	1615	X	X

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Relinquished By: *David Boyer*

Date: 4/11/17

Time: 4:55

Received By: *Jamara*

Date: 5/4/17

Time: 4:55

Phone Result: Yes No

Add'l Phone #:

Fax Result: Yes No

Add'l Fax #:

Delivered By: (Circle One)

UPS - Bus - Other:

1170

Sample Condition

CHECKED BY: *Jamara*

Initials: *70#15*

REMARKS: *dash head space.*



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
 (575) 393-2326 FAX (575) 393-2476

BILL TO

ANALYSIS REQUEST

Company Name: Safety and Environmental Solutions
 Project Manager: Bob Allen
 Address: 703 East Clinton, PO Box 1613
 City: Hobbs State: NM Zip: 88240

P.O. #: _____
 Company: Same
 Attn: _____
 Address: _____
 City: _____
 State: _____ Zip: _____
 Phone #: _____
 Fax #: _____

Phone #: 575 397-0510 Fax #: 575 393-4388

Project #: BRE-17-002 Project Owner: _____

Project Name: _____

Project Location: _____

Sampler Name: DAVID BOYER

FOR LAB USE ONLY

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV		DATE	TIME	TPH (BD15 EXJ)	BTEX	CHLORIDE
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL					
H201208	BH-3 4-6'	G	1			X						4/27	1715	X		
	BH-3 9-11'	G	1			X						4/25	1742	X		
	BH-3 19-20'	G	1			X						5/2	1620	X		
	BH-3 24-25'	G	1			X						5/2	1645	X		
	BH-3 29-30'	G	1			X						5/2	1130	X		
	BH-3 34-35'	G	1			X						5/2	1525	X		

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Relinquished By: [Signature] Date: 8/4/17 Time: 4:35

Received By: [Signature] Date: 8/4/17 Time: 4:55

Phone Result: Yes No Add'l Phone #: _____
 Fax Result: Yes No Add'l Fax #: _____
 REMARKS: _____

Delivered By: (Circle One) UPS Bus Other: _____
 Relinquished By: [Signature] Date: 8/4/17 Time: 4:55
 Received By: [Signature] Date: 8/4/17 Time: 4:55
 Sample Condition: Cool Intact
 Checked By: [Signature] (Initials) TP. #15
 Remarks: Has lead space



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

July 24, 2017

Bob Allen
Safety & Environmental Solutions
703 East Clinton
Hobbs, NM 88240

RE: BRE-17-002

Enclosed are the results of analyses for samples received by the laboratory on 07/17/17 16:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	07/17/2017	Sampling Date:	07/14/2017
Reported:	07/24/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: WSW -1 (H701853-01)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/20/2017	ND	1.88	93.8	2.00	0.312	
Toluene*	<0.050	0.050	07/20/2017	ND	1.92	96.1	2.00	0.0471	
Ethylbenzene*	<0.050	0.050	07/20/2017	ND	2.09	105	2.00	0.472	
Total Xylenes*	<0.150	0.150	07/20/2017	ND	6.23	104	6.00	0.302	
Total BTEX	<0.300	0.300	07/20/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	07/19/2017	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/18/2017	ND	199	99.5	200	2.81	
DRO >C10-C28	12.6	10.0	07/18/2017	ND	207	104	200	3.44	

Surrogate: 1-Chlorooctane 88.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 92.8 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	07/17/2017	Sampling Date:	07/14/2017
Reported:	07/24/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: WSW -2 (H701853-02)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/20/2017	ND	1.88	93.8	2.00	0.312	
Toluene*	<0.050	0.050	07/20/2017	ND	1.92	96.1	2.00	0.0471	
Ethylbenzene*	<0.050	0.050	07/20/2017	ND	2.09	105	2.00	0.472	
Total Xylenes*	<0.150	0.150	07/20/2017	ND	6.23	104	6.00	0.302	
Total BTEX	<0.300	0.300	07/20/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	07/19/2017	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/18/2017	ND	199	99.5	200	2.81	
DRO >C10-C28	<10.0	10.0	07/18/2017	ND	207	104	200	3.44	

Surrogate: 1-Chlorooctane 82.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 85.1 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	07/17/2017	Sampling Date:	07/14/2017
Reported:	07/24/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: ESW -1 (H701853-03)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/20/2017	ND	1.88	93.8	2.00	0.312	
Toluene*	<0.050	0.050	07/20/2017	ND	1.92	96.1	2.00	0.0471	
Ethylbenzene*	<0.050	0.050	07/20/2017	ND	2.09	105	2.00	0.472	
Total Xylenes*	<0.150	0.150	07/20/2017	ND	6.23	104	6.00	0.302	
Total BTEX	<0.300	0.300	07/20/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1360	16.0	07/19/2017	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/19/2017	ND	205	102	200	4.84	
DRO >C10-C28	<10.0	10.0	07/19/2017	ND	214	107	200	4.15	

Surrogate: 1-Chlorooctane 87.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 91.9 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	07/17/2017	Sampling Date:	07/14/2017
Reported:	07/24/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: ESW -2 (H701853-04)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/20/2017	ND	1.88	93.8	2.00	0.312		
Toluene*	<0.050	0.050	07/20/2017	ND	1.92	96.1	2.00	0.0471		
Ethylbenzene*	<0.050	0.050	07/20/2017	ND	2.09	105	2.00	0.472		
Total Xylenes*	<0.150	0.150	07/20/2017	ND	6.23	104	6.00	0.302		
Total BTEX	<0.300	0.300	07/20/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	288	16.0	07/19/2017	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	07/19/2017	ND	205	102	200	4.84		
DRO >C10-C28	<10.0	10.0	07/19/2017	ND	214	107	200	4.15		

Surrogate: 1-Chlorooctane 87.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.3 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	07/17/2017	Sampling Date:	07/14/2017
Reported:	07/24/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: ESW -3 (H701853-05)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/20/2017	ND	1.88	93.8	2.00	0.312	
Toluene*	<0.050	0.050	07/20/2017	ND	1.92	96.1	2.00	0.0471	
Ethylbenzene*	<0.050	0.050	07/20/2017	ND	2.09	105	2.00	0.472	
Total Xylenes*	<0.150	0.150	07/20/2017	ND	6.23	104	6.00	0.302	
Total BTEX	<0.300	0.300	07/20/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/19/2017	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/19/2017	ND	205	102	200	4.84	
DRO >C10-C28	<10.0	10.0	07/19/2017	ND	214	107	200	4.15	

Surrogate: 1-Chlorooctane 85.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 85.3 % 34.7-157

Sample ID: WSP -1 (H701853-06)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	704	16.0	07/19/2017	ND	448	112	400	0.00	

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	07/17/2017	Sampling Date:	07/14/2017
Reported:	07/24/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: WSP -2 (H701853-07)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	544	16.0	07/19/2017	ND	448	112	400	0.00	

Sample ID: WSP -3 (H701853-08)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	432	16.0	07/19/2017	ND	448	112	400	0.00	

Sample ID: WSP -4 (H701853-09)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	512	16.0	07/19/2017	ND	448	112	400	0.00	

Sample ID: ESP -1 (H701853-10)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	912	16.0	07/19/2017	ND	448	112	400	0.00	

Sample ID: ESP -2 (H701853-11)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	736	16.0	07/19/2017	ND	448	112	400	0.00	

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received:	07/17/2017	Sampling Date:	07/14/2017
Reported:	07/24/2017	Sampling Type:	Soil
Project Name:	BRE-17-002	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: ESP -3 (H701853-12)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	464	16.0	07/19/2017	ND	448	112	400	0.00	

Sample ID: ESP -4 (H701853-13)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1090	16.0	07/19/2017	ND	432	108	400	3.64	

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Notes and Definitions

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

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
 (575) 393-2326 FAX (575) 393-2476

Page 1 of 2

Company Name: Safety and Environmental Solutions		P.O. #:		BILL TO		ANALYSIS REQUEST	
Project Manager: Bob Allen		Company: Same					
Address: 703 East Clinton, PO Box 1613		Attn:					
City: Hobbs		Address:					
Phone #: 575 397-0510		City:					
Fax #: 575 393-4388		State:					
Project #: BBE-17-002		Project Owner:					
Project Name:		Phone #:					
Project Location:		Fax #:					
Sampler Name: David Royer		PRESERV		SAMPLING			
FOR LAB USE ONLY		ACID/BASE:		ICE / COOL		OTHER :	
Lab I.D.		# CONTAINERS		DATE		TIME	
Sample I.D.		GROUNDWATER		DATE		TIME	
H701853		WASTEWATER		07/14		11:09	
1		SOIL		07/14		11:24	
2		OIL		07/14		12:40	
3		SLUDGE		07/14		12:54	
4		OTHER :		07/14		13:06	
5		ACID/BASE:		07/14		10:28	
6		ICE / COOL		07/14		10:36	
7		OTHER :		07/14		10:46	
8		DATE		07/14		10:54	
9		TIME		07/14		11:56	
10		CHLORIDE (New Mex)					
		TPH					
		BTEX					

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Relinquished By: [Signature] Date: 7/17/17 Time: 4:50 PM Received By: [Signature] Date: 7-17-17 Time: 4:50 PM

Delivered By: (Circle One) - O.C. [Signature] Sample Condition: Cool Intact Yes No

Sampler - UPS - Bus - Other: [Signature] Checked - 0-888 [Signature] 70-7775

REMARKS: Phone Result: Yes No Add'l Phone #: Fax Result: Yes No Add'l Fax #:



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
 (575) 393-2326 FAX (575) 393-2476

Company Name: Safety and Environmental Solutions

Project Manager: Bob Allen

Address: 703 East Clinton, PO Box 1613

City: Hobbs State: NM Zip: 88240

Phone #: 575 397-0510 Fax #: 575 393-4388

Project #: ~~BAE-17-002~~ Project Owner:

Project Name:

Project Location:

Sampler Name: David Boyer

FOR LAB USE ONLY

BILL TO

P.O. #:

Company: Same

Attn:

Address:

City:

State:

Phone #:

Fax #:

ANALYSIS REQUEST

Page 1 of 2

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							PRESERV.	SAMPLING	DATE	TIME	REMARKS	
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:						ICE / COOL
<u>H901853</u>																
<u>11</u>	<u>ESP-2</u>		<u>61</u>			<u>X</u>							<u>07/14 1209</u>		<u>X</u>	<u>CHLORIDE (NM)</u>
<u>12</u>	<u>ESP-3</u>		<u>61</u>			<u>X</u>							<u>07/14 1217</u>		<u>X</u>	
<u>13</u>	<u>OSP-4</u>		<u>61</u>			<u>X</u>							<u>07/14 1226</u>		<u>X</u>	

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Relinquished By: David Boyer Date: _____ Time: _____
 Received By: Amara Clarke Date: 7-17-17 Time: 4:50
 Delivered By: (Circle One) -O.G.E Sample Condition Cool Yes No Intact Yes No
 Sampler - UPS - Bus - Other: Permitted - O.85c CHECKED BY: (Initials) TG.43

REMARKS: _____
 Phone Result: Yes No Add'l Phone #: _____
 Fax Result: Yes No Add'l Fax #: _____



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

August 04, 2017

Bob Allen
Safety & Environmental Solutions
703 East Clinton
Hobbs, NM 88240

RE: BRE-17-002

Enclosed are the results of analyses for samples received by the laboratory on 07/24/17 16:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-9. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/ga/lab_accred_certif.html.

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

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

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2 Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2 Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

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

Sincerely,

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: BRE-17-002 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 04-Aug-17 17:49
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Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
ESW -6	H701924-01	Soil	21-Jul-17 15:45	24-Jul-17 16:50
ESW -8	H701924-02	Soil	24-Jul-17 09:45	24-Jul-17 16:50
ESW -9	H701924-03	Soil	24-Jul-17 10:40	24-Jul-17 16:50
ESW -10	H701924-04	Soil	24-Jul-17 11:55	24-Jul-17 16:50

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*=Accredited Analyte

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Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: BRE-17-002 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 04-Aug-17 17:49
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**ESW -6
H701924-01 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	7072601	MS	26-Jul-17	8021B	
Toluene*	<0.050		0.050	mg/kg	50	7072601	MS	26-Jul-17	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	7072601	MS	26-Jul-17	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	7072601	MS	26-Jul-17	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	7072601	MS	26-Jul-17	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			113 %	72-148		7072601	MS	26-Jul-17	8021B	

Petroleum Hydrocarbons by GC FID

GRO C6-C10	<10.0		10.0	mg/kg	1	7072504	MS	26-Jul-17	8015B	
DRO >C10-C28	<10.0		10.0	mg/kg	1	7072504	MS	26-Jul-17	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	7072504	MS	26-Jul-17	8015B	
Surrogate: 1-Chlorooctane			109 %	28.3-164		7072504	MS	26-Jul-17	8015B	
Surrogate: 1-Chlorooctadecane			112 %	34.7-157		7072504	MS	26-Jul-17	8015B	

Green Analytical Laboratories

Soluble (DI Water Extraction)

Chloride	50.6		10.0	mg/kg wet	10	B707239	JDA	04-Aug-17	EPA300.0	
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PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: BRE-17-002 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 04-Aug-17 17:49
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**ESW -8
H701924-02 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	7072601	MS	26-Jul-17	8021B	
Toluene*	<0.050		0.050	mg/kg	50	7072601	MS	26-Jul-17	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	7072601	MS	26-Jul-17	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	7072601	MS	26-Jul-17	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	7072601	MS	26-Jul-17	8021B	
<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			109 %	72-148		7072601	MS	26-Jul-17	8021B	

Petroleum Hydrocarbons by GC FID

GRO C6-C10	<10.0		10.0	mg/kg	1	7072504	MS	26-Jul-17	8015B	
DRO >C10-C28	<10.0		10.0	mg/kg	1	7072504	MS	26-Jul-17	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	7072504	MS	26-Jul-17	8015B	
<i>Surrogate: 1-Chlorooctane</i>			115 %	28.3-164		7072504	MS	26-Jul-17	8015B	
<i>Surrogate: 1-Chlorooctadecane</i>			119 %	34.7-157		7072504	MS	26-Jul-17	8015B	

Green Analytical Laboratories

Soluble (DI Water Extraction)

Chloride	22.3		10.0	mg/kg wet	10	B707239	JDA	04-Aug-17	EPA300.0	
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Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: BRE-17-002 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 04-Aug-17 17:49
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**ESW -9
H701924-03 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	7072601	MS	26-Jul-17	8021B	
Toluene*	<0.050		0.050	mg/kg	50	7072601	MS	26-Jul-17	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	7072601	MS	26-Jul-17	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	7072601	MS	26-Jul-17	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	7072601	MS	26-Jul-17	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			111 %	72-148		7072601	MS	26-Jul-17	8021B	

Petroleum Hydrocarbons by GC FID

GRO C6-C10	<10.0		10.0	mg/kg	1	7072504	MS	26-Jul-17	8015B	
DRO >C10-C28	<10.0		10.0	mg/kg	1	7072504	MS	26-Jul-17	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	7072504	MS	26-Jul-17	8015B	
Surrogate: 1-Chlorooctane			116 %	28.3-164		7072504	MS	26-Jul-17	8015B	
Surrogate: 1-Chlorooctadecane			123 %	34.7-157		7072504	MS	26-Jul-17	8015B	

Green Analytical Laboratories

Soluble (DI Water Extraction)

Chloride	43.2		10.0	mg/kg wet	10	B707239	JDA	04-Aug-17	EPA300.0	
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Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: BRE-17-002 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 04-Aug-17 17:49
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**ESW -10
H701924-04 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	7072601	MS	26-Jul-17	8021B	
Toluene*	<0.050		0.050	mg/kg	50	7072601	MS	26-Jul-17	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	7072601	MS	26-Jul-17	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	7072601	MS	26-Jul-17	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	7072601	MS	26-Jul-17	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			109 %	72-148		7072601	MS	26-Jul-17	8021B	

Petroleum Hydrocarbons by GC FID

GRO C6-C10	<10.0		10.0	mg/kg	1	7072504	MS	26-Jul-17	8015B	
DRO >C10-C28	<10.0		10.0	mg/kg	1	7072504	MS	26-Jul-17	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	7072504	MS	26-Jul-17	8015B	
Surrogate: 1-Chlorooctane			101 %	28.3-164		7072504	MS	26-Jul-17	8015B	
Surrogate: 1-Chlorooctadecane			104 %	34.7-157		7072504	MS	26-Jul-17	8015B	

Green Analytical Laboratories

Soluble (DI Water Extraction)

Chloride	35.4		10.0	mg/kg wet	10	B707239	JDA	04-Aug-17	EPA300.0	
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Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: BRE-17-002 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 04-Aug-17 17:49
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Volatile Organic Compounds by EPA Method 8021 - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 7072601 - Volatiles

Blank (7072601-BLK1)		Prepared & Analyzed: 26-Jul-17								
Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
<i>Surrogate: 4-Bromofluorobenzene (PID)</i>	0.0538		mg/kg	0.0500		108	72-148			

LCS (7072601-BS1)		Prepared & Analyzed: 26-Jul-17								
Benzene	2.15	0.050	mg/kg	2.00		107	79.5-124			
Toluene	2.01	0.050	mg/kg	2.00		101	75.5-127			
Ethylbenzene	2.07	0.050	mg/kg	2.00		103	77.7-125			
Total Xylenes	6.23	0.150	mg/kg	6.00		104	70.9-124			
<i>Surrogate: 4-Bromofluorobenzene (PID)</i>	0.0529		mg/kg	0.0500		106	72-148			

LCS Dup (7072601-BSD1)		Prepared & Analyzed: 26-Jul-17								
Benzene	2.14	0.050	mg/kg	2.00		107	79.5-124	0.414	6.5	
Toluene	1.99	0.050	mg/kg	2.00		99.3	75.5-127	1.38	7.02	
Ethylbenzene	2.07	0.050	mg/kg	2.00		104	77.7-125	0.170	7.83	
Total Xylenes	6.25	0.150	mg/kg	6.00		104	70.9-124	0.372	7.78	
<i>Surrogate: 4-Bromofluorobenzene (PID)</i>	0.0533		mg/kg	0.0500		107	72-148			

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Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: BRE-17-002 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 04-Aug-17 17:49
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Petroleum Hydrocarbons by GC FID - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 7072504 - General Prep - Organics

Blank (7072504-BLK1)		Prepared: 25-Jul-17 Analyzed: 26-Jul-17								
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C35	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Total TPH C6-C28	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	57.1		mg/kg	50.0		114	28.3-164			
Surrogate: 1-Chlorooctadecane	61.9		mg/kg	50.0		124	34.7-157			

LCS (7072504-BS1)		Prepared: 25-Jul-17 Analyzed: 26-Jul-17								
GRO C6-C10	206	10.0	mg/kg	200		103	76.6-119			
DRO >C10-C28	213	10.0	mg/kg	200		107	81.4-124			
Total TPH C6-C28	419	10.0	mg/kg	400		105	79.4-121			
Surrogate: 1-Chlorooctane	58.3		mg/kg	50.0		117	28.3-164			
Surrogate: 1-Chlorooctadecane	64.3		mg/kg	50.0		129	34.7-157			

LCS Dup (7072504-BSD1)		Prepared: 25-Jul-17 Analyzed: 26-Jul-17								
GRO C6-C10	219	10.0	mg/kg	200		110	76.6-119	6.49	7.94	
DRO >C10-C28	232	10.0	mg/kg	200		116	81.4-124	8.22	9.83	
Total TPH C6-C28	451	10.0	mg/kg	400		113	79.4-121	7.37	8.57	
Surrogate: 1-Chlorooctane	63.2		mg/kg	50.0		126	28.3-164			
Surrogate: 1-Chlorooctadecane	69.4		mg/kg	50.0		139	34.7-157			

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Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: BRE-17-002 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 04-Aug-17 17:49
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Soluble (DI Water Extraction) - Quality Control

Green Analytical Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B707239 - General Prep - Wet Chem

Blank (B707239-BLK1)		Prepared: 31-Jul-17 Analyzed: 03-Aug-17								
Chloride	ND	10.0	mg/kg wet							
LCS (B707239-BS1)		Prepared: 31-Jul-17 Analyzed: 03-Aug-17								
Chloride	232	10.0	mg/kg wet	250		92.9	85-115			
LCS Dup (B707239-BSD1)		Prepared: 31-Jul-17 Analyzed: 03-Aug-17								
Chloride	232	10.0	mg/kg wet	250		92.8	85-115	0.0990	20	

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Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
 (575) 393-2326 FAX (575) 393-2476

BILL TO

ANALYSIS REQUEST

Company Name: Safety and Environmental Solutions		P.O. #:							
Project Manager: Bob Allen		Company: Same							
Address: 703 East Clinton, PO Box 1613		Attn:							
City: Hobbs		Address:							
State: NM Zip: 88240		City:							
Phone #: 575 397-0510 Fax #: 575 393-4388		State:							
Project #: BRE-17-002 Project Owner:		Zip:							
Project Name:									
Project Location:									
Sampler Name: <i>David Boyer</i>									
FOR LAB USE ONLY									
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	PRESERV.	SAMPLING	DATE	TIME	ANALYSIS
<i>H701984</i>	<i>ESW-6</i>	<i>G</i>	<i>1</i>	GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER:	ACID/BASE: ICE / COOL OTHER:	<i>X</i>	<i>7/21/15</i>	<i>4:45</i>	<i>Chloride (FPA 300)</i> <i>BTEX</i> <i>TPH (EXT)</i>
	<i>ESW-8</i>	<i>G</i>	<i>1</i>			<i>X</i>	<i>7/24/10</i>	<i>4:00</i>	
	<i>ESW-9</i>	<i>G</i>	<i>1</i>			<i>X</i>	<i>7/24/10</i>	<i>4:00</i>	
	<i>ESW-12</i>	<i>G</i>	<i>1</i>			<i>X</i>	<i>7/24/15</i>	<i>11:55</i>	

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Relinquished By: *David Boyer* Date: *7/21/17* Time: *4:50*

Received By: *Matthew [Signature]* Date: *7-24-17* Time: *4:50*

Delivered By: (Circle One) *1.08*

Sampler - UPS - Bus - Other: *Associated 1.852*

Sample Condition: Cool Intact

CHECKED BY: (Initials) *7/24/15*

Phone Result: Yes No Add'l Phone #: _____

Fax Result: Yes No Add'l Fax #: _____

REMARKS:

Appendix D Site Photos

**Breitburn Operating
Jalmat Trunk Line**



Excavated area with 3' of lines



Liner Installation



Lined Excavation



Backfill



Remediation Closure Request
Jalmat Field Yates Sand Unit #170
Incident ID# nOY1707658025

Breitburn Operating, LP
February 6, 2025

ATTACHMENT 4: ENSOLUM INCIDENT NAPP2233946698 CLOSURE REPORT



February 17, 2023

New Mexico Oil Conservation Division

New Mexico Energy, Minerals, and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

**Re: Closure Request
Jalmat Yates Sand Unit 170
Incident Number NAPP2233946698
Lea County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of Maverick Permian, LLC (Maverick), has prepared this *Closure Request* to document assessment, excavation, and soil sampling activities performed at the Jalmat Yates Sand Unit 170 (Site). The purpose of the Site assessment, excavation, and soil sampling activities was to address impairment to soil resulting from a release of crude oil and produced water. Based on the excavation activities and laboratory analytical results from the soil sampling events, Maverick is submitting this *Closure Request*, describing remediation that has occurred and requesting closure for Incident Number NAPP2233946698.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit H, Section 14, Township 22 South, Range 33 East, in Lea County, New Mexico (32.39512°, -103.33486°) and is associated with oil and gas exploration and production operations on private property.

On November 20, 2022, a flowline ruptured and resulted in the release of approximately 1.92 barrels (bbls) of crude oil and 7.7 bbls of produced water into the surrounding pasture. Released fluids were not recovered. The release occurred off pad and was attributed to internal corrosion of the flowline. The affected area was immediately secured and saturated soil was removed. Maverick reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on November 30, 2022. The release was assigned Incident Number NAPP2233946698.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized to assess applicability of *Table I*, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29, (19.15.29) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented on page 3 of the Form C-141, Site Assessment/Characterization. Potential Site receptors are identified on Figure 1.

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is New Mexico Office of State Engineer (NMOSE) well CP-00753, located approximately 1,178 feet northeast of the Site. The groundwater well has a reported depth to

groundwater of 185 feet bgs and a total depth of 215 feet bgs. All wells used for depth to groundwater determination are presented on Figure 1. The referenced well record is included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a freshwater pond, located approximately 2,008 feet northwest of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

Based on the results of the Site Characterization, the following NMOCD Table I Closure Criteria (Closure Criteria) apply:

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

A reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH was applied to the top 4 feet of pasture areas that will be reclaimed following remediation, per 19.15.29.13.D (1) NMAC.

SITE ASSESSMENT AND EXCAVATION ACTIVITIES

On December 15, 2022, Ensolum personnel were at the Site to conduct assessment activities including verifying the initial clean up of saturated soil had been completed by Maverick operations, and evaluate Site work. Approximately 100 cubic yards of saturated soil were removed prior to Ensolum personnel visiting the Site. The release extent was mapped using a handheld Global Positioning System (GPS) unit and is depicted on Figure 2.

Between January 6 and February 7, 2023, Ensolum personnel were on Site to oversee and direct excavation activities based on field screening activities. Excavation activities were performed via backhoe to a depth of approximately 2.5 feet bgs. To direct excavation activities, soil was field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride utilizing Hach[®] chloride QuanTab[®] test strips. Photographic documentation of excavation activities is included in Appendix B.

Following removal of waste-containing soil, 5-point composite soil samples were collected every 200 square feet from the floor and sidewalls of the excavation. Excavation composite soil samples (FS01 through FS34) and excavation sidewall samples (SW01 through SW06) were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of the following chemicals of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0. The excavation extent and excavation soil sample locations were mapped utilizing a handheld GPS unit and are depicted on Figure 3.

Laboratory analytical results for confirmation samples FS06, FS14, and SW06 indicated TPH and/or chloride concentrations exceeded the reclamation requirement. Additional excavation in the vicinity of these confirmation samples appeared warranted to address residual waste-containing soil. Additional soil was removed in the vicinity of those confirmation sample areas not meeting the reclamation requirement and subsequent samples FS06A, FS14A, and SW07 were collected. The excavation soil samples were collected, handled, and analyzed as described above. The final excavation extent and excavation soil sample locations are depicted on Figure 3.

The excavation measured approximately 6,800 square feet in areal extent. A total of approximately 320 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Disposal Facility in Hobbs, New Mexico. After completion of confirmation sampling, the excavation was secured with fencing.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for the final excavation floor samples FS01 through FS05, FS06A, FS07 through FS13, FS14A, and FS15 through FS34 and sidewall soil samples SW01 through SW05, and SW07 indicated benzene, all COC concentrations were compliant with the Site Closure Criteria and compliant with the reclamation requirements. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix C.

CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the November 2022 release of crude oil and produced water. Laboratory analytical results for the final excavation soil samples indicated all concentrations were compliant with the Site Closure Criteria and reclamation requirements. Additionally, the release was laterally delineated to the most stringent Table I Closure Criteria. Based on the soil sample analytical results, no further remediation was required. Maverick will backfill the excavation with material purchased locally and recontour the Site to match pre-existing site conditions.

Excavation of waste-containing soil has mitigated impacts at this Site. Depth to groundwater has been estimated to be greater than 100 feet bgs and no sensitive receptors were identified near the release extent. Maverick believes these remedial actions are protective of human health, the environment, and groundwater and respectfully requests closure for Incident Number NAPP2233946698. The Final C-141 is included in Appendix D.

Jalmat Yates Sand Unit 170
Maverick Permian, LLC



If you have any questions or comments, please contact Ms. Kalei Jennings at (817) 683-2503 or kjennings@ensolum.com.

Sincerely,
Ensolum, LLC

A handwritten signature in black ink that reads "Joe Gable".

Joe Gable, PG
Project Manager

A handwritten signature in black ink that reads "Daniel R. Moir".

Daniel, R. Moir, PG
Senior Managing Geologist

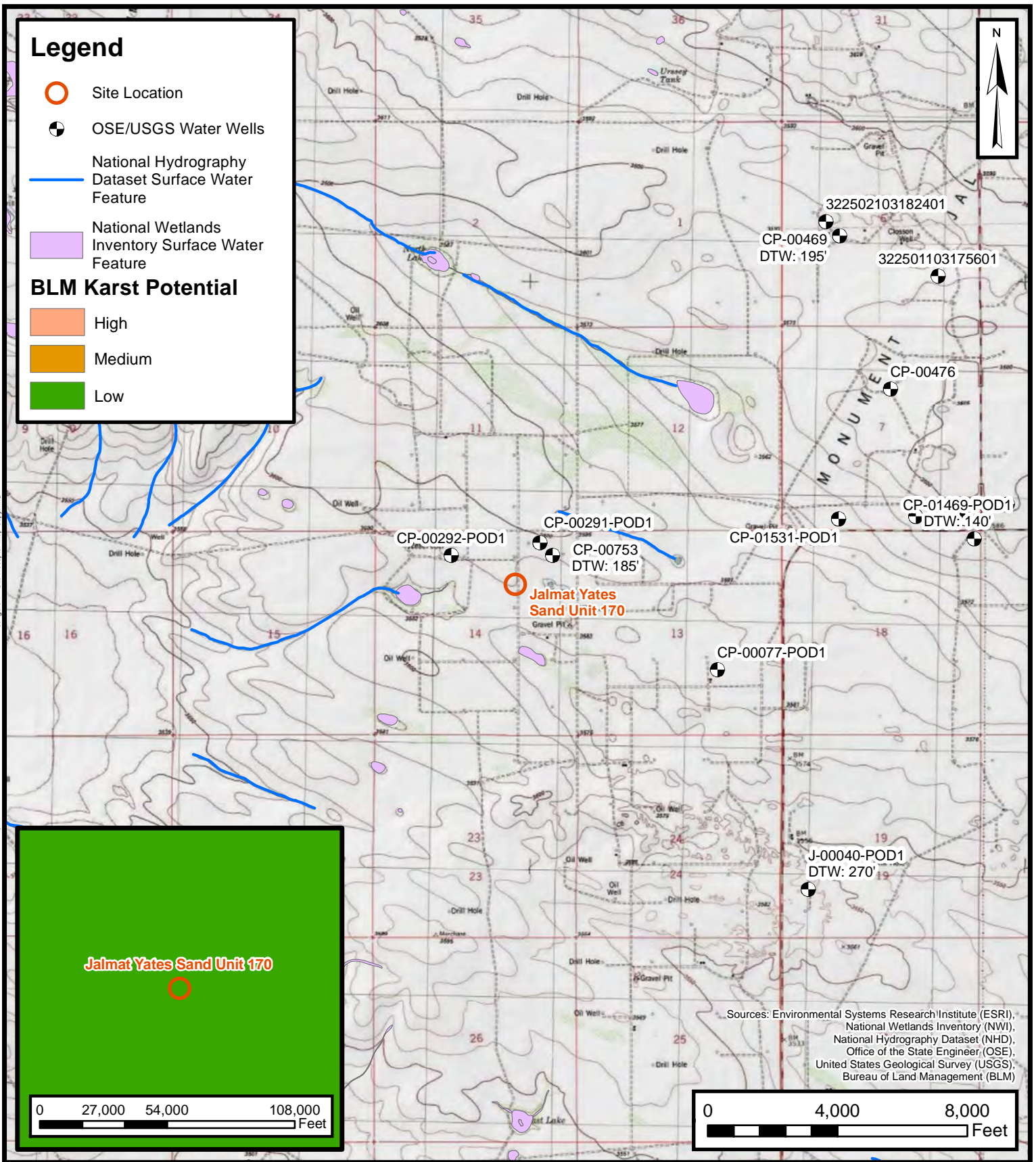
cc: Bryce Wagoner, Maverick Natural Resources
Bradley Blevins, Landowner

Appendices:

- Figure 1 Site Receptor Map
- Figure 2 Release Extent Map
- Figure 3 Excavation Soil Sample Locations
- Table 1 Soil Sample Analytical Results
- Appendix A Referenced Well Records
- Appendix B Photographic Log
- Appendix C Laboratory Analytical Reports & Chain-of-Custody Documentation
- Appendix D Final C-141
- Appendix E NMOCD Notifications



FIGURES



Document Path: C:\Users\jvaheer\OneDrive\GIS\ESRI\Map\Jalmat Yates Sand Unit 1701 - MCD\Figures 1 - Site Receptor Map Copy.mxd






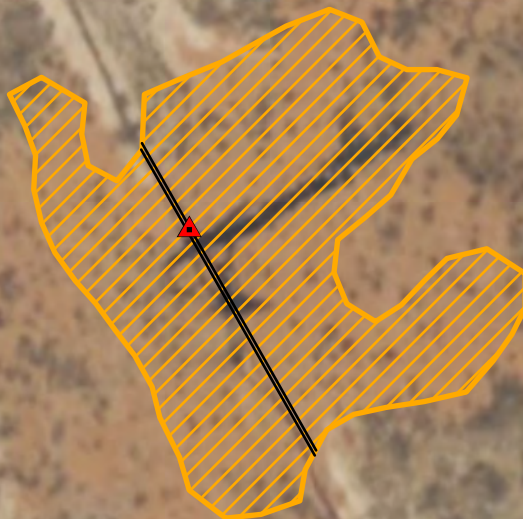
Site Receptor Map

Maverick Permian, LLC
 Jalmat Yates Sand Unit 170
 Incident Number: NAPP2233946698
 Unit H, Sec 14, T22S, R35E
 Lea County, New Mexico

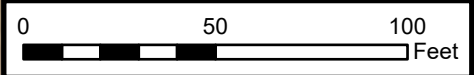
FIGURE
1

Legend

-  Release point
-  Pipeline/Line/Utility
-  Release Extent



Notes:
Sample ID @ Depth Below Ground Surface.



Sources: Environmental Systems Research Institute (ESRI)

Document Path: C:\Users\jvstin\Videos\GIS\ESR\esolum GIS1 - Durango\The Southern Ute Indian Tribe Department of Energy\07A2107002 - 2022 Annual Fracture Outcrop Monitoring\1 - MCDs\Main\Main.aprx



Release Extent Map

Maverick Permian, LLC
 Jalmat Yates Sand Unit 170
 Incident Number: NAPP2233946698
 Unit H, Sec 14, T22S, R35E
 Lea County, New Mexico

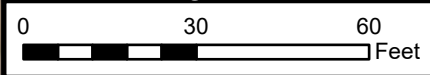
FIGURE
2

Legend

- Excavation Floor Sample in Compliance with Closure Criteria
- Excavation Sidewall Sample in Compliance with Closure Criteria
- Excavated Excavation Sidewall Sample
- Excavation Extent



Notes:
 Sample ID @ Depth Below Ground Surface.
 Samples in grey indicate sample was removed during excavation activities



Sources: Environmental Systems Research Institute (ESRI)



Excavation Soil Sample Locations

Maverick Permian, LLC
 Jalmat Yates Sand Unit 170
 Incident Number: NAPP2233946698
 Unit H, Sec 14, T22S, R35E
 Lea County, New Mexico

FIGURE
3



TABLES



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
 Jalmat Yates Sand Unit 170
 Maverick Permian, LLC
 Lea County, New Mexico

Sample Designation	Sample Date	Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Excavation Floor Samples										
FS01	01/18/2023	2.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	366*
FS02	01/18/2023	2.5	<0.00199	<0.00398	<49.9	<49.9	49.9	<49.9	<49.9	379*
FS03	12/15/2022	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	11.8*
FS04	01/06/2023	1	<0.00199	0.00579	<50.0	81.7	<50.0	81.7	81.7	543*
FS05	01/18/2023	2.5	<0.00202	<0.00404	<50.0	<49.9	<49.9	<49.9	<49.9	373*
FS06	01/06/2023	1	<0.00201	<0.00402	<50.0	543	83.5	543	627	1,460*
FS06A	01/18/2023	2.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	132*
FS07	12/15/2022	0.5	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	5.17*
FS08	12/15/2022	2	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	50.2*
FS09	01/18/2023	2.5	<0.00202	<0.00403	<49.9	54.8	<49.9	54.8	54.8	156*
FS10	01/18/2023	2.5	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	439*
FS11	01/18/2023	2.5	<0.00202	<0.00403	<50.0	<50.0	<50.0	<50.0	<50.0	57.1*
FS12	01/18/2023	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	14.1*
FS13	01/18/2023	0.5	<0.00198	<0.00397	<50.0	68.7	23.8	92.5	92.5	127*
FS14	01/06/2023	1	<0.00199	<0.00398	<49.8	953	125	953	1,080	428*
FS14A	02/07/2023	1.25	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	84.1*
FS15	01/06/2023	2	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	286*
FS16	01/06/2023	2	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	459*
FS17	01/18/2023	2.5	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	345*
FS18	01/18/2023	2.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	393*
FS19	01/18/2023	2	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	7.31*
FS20	01/18/2023	2	<0.00200	<0.00401	<49.9	76.3	<49.9	76.3	76.3	41.2*
FS21	01/18/2023	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	<49.9*
FS22	01/18/2023	2.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	474*
FS23	01/18/2023	0.5	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	12.3*
FS24	01/18/2023	0.5	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	<4.96*
FS25	01/18/2023	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	<4.98*

FS27	01/18/2023	0.5	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	<49.9	13.2*
FS28	01/18/2023	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	99.6*
FS29	01/18/2023	0.5	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	<5.05*
FS30	01/18/2023	0.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	<5.00*
FS31	01/18/2023	2	<0.00198	<0.00397	<49.9	<49.9	<49.9	<49.9	<49.9	71.7*
FS32	01/18/2023	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	5.05*
FS33	01/18/2023	0.5	<0.00202	<0.00404	<50.0	<50.0	<50.0	<50.0	<50.0	<4.97*
FS34	01/18/2023	0.5	<0.00198	<0.00397	<49.9	<49.9	<49.9	<49.9	<49.9	<4.99*
Excavation Sidewall Samples										
SW01	01/19/2023	0 - 2	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	87.8*
SW02	01/19/2023	0 - 2	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	36.3*
SW03	01/19/2023	0 - 2.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	363*
SW04	01/19/2023	0 - 2	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	41.5*
SW05	01/19/2023	0 - 2.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	69.7*
SW06	01/19/2023	0 - 2.5	<0.00201	<0.00402	221	<50.0	<50.0	<50.0	221	409*
SW07	02/07/2023	0 - 2.5	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	79.8*

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCDC: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

Concentrations in **bold** exceed the NMOCDC Table I Closure Criteria or reclamation standard where applicable.

* indicates sample was collected in area to be reclaimed after remediation complete; reclamation standard for TPH in the top 4 feet is 600 mg/kg

Grey text represents samples that have been excavated



APPENDIX A

Referenced Well Records



New Mexico Office of the State Engineer

Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)							
		(quarters are smallest to largest)					(NAD83 UTM in meters)		
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	CP 00753	2	2	14	22S	35E	656891	3585687*	

Driller License: 208	Driller Company: VAN NOY, W.L.	
Driller Name: VAN NOY, W.L.		
Drill Start Date: 07/11/1990	Drill Finish Date: 07/18/1990	Plug Date:
Log File Date: 07/23/1990	PCW Rev Date:	Source: Shallow
Pump Type:	Pipe Discharge Size:	Estimated Yield: 23 GPM
Casing Size: 5.00	Depth Well: 215 feet	Depth Water: 185 feet

Water Bearing Stratifications:	Top	Bottom	Description
	195	210	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	201	211

*UTM location was derived from PLSS - see Help

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

1/30/23 1:18 PM

POINT OF DIVERSION SUMMARY

Revised June 1972

STATE ENGINEER OFFICE
WELL RECORD

475984

Section 1. GENERAL INFORMATION

(A) Owner of well Merchant Livestock Company Owner's Well No. _____
Street or Post Office Address Box 1115
City and State Dunio, NM 88231

Well was drilled under Permit No. CP-753 and is located in the:
a. _____ ¼ _____ ¼ NE ¼ NE ¼ of Section 14 Township 22S Range 35 N.M.P.M.
b. Tract No. _____ of Map No. _____ of the _____
c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in Lea County.
d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in
the _____ Grant.

(B) Drilling Contractor W. L. VanNoy License No. WD_208
Address P.O. Box 7, Oil Center, NM 88266

Drilling Began 7-11-90 Completed 7-18-90 Type tools Cable Size of hole 10 in.
Elevation of land surface or _____ at well is _____ ft. Total depth of well 215 ft.
Completed well is shallow artesian. Depth to water upon completion of well 185 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			
195	210	15	water bearing sand	23

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To
5"	PVC		0	215			201	211

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Type of Placement
From	To				

90 SEP 7 AM 10 02
 STATE ENGINEER OFFICE
 SANTA FE NEW MEXICO

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by: _____
State Engineer Representative

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received **July 23, 1990** Quad _____ FWL _____ FSL _____
File No. CP-753 Use STOCK Location No. 22.35.14.22131



APPENDIX B

Photographic Log



Photographic Log
Maverick Permian, LLC
Jalmat Yates Sand Unit 170
Lea County, New Mexico



Photograph: 1 Date: 11/30/2022
Description: Initial soil stain
View: Northwest

Photograph: 2 Date: 1/10/2023
Description: Excavation activities
View: South



Photograph: 3 Date: 1/20/2023
Description: Excavation activities
View: Southeast

Photograph: 4 Date: 1/20/2023
Description: Excavation activities
View: Northwest



APPENDIX C

Laboratory Analytical Reports & Chain of Custody Documentation



Environment Testing

- 1
- 2
- 3
- 4
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ANALYTICAL REPORT

PREPARED FOR

Attn: Hadlie Green
 Ensolum
 601 N. Marienfeld St.
 Suite 400
 Midland, Texas 79701

Generated 2/3/2023 11:19:15 AM Revision 1

JOB DESCRIPTION

Jalmat Yates Sand Unit #170
 SDG NUMBER Lea County NM

JOB NUMBER

890-3809-1

Eurofins Carlsbad
 1089 N Canal St.
 Carlsbad NM 88220




Eurofins Carlsbad

Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
2/3/2023 11:19:15 AM
Revision 1

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

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Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Laboratory Job ID: 890-3809-1
SDG: Lea County NM

Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
Surrogate Summary	7
QC Sample Results	8
QC Association Summary	13
Lab Chronicle	15
Certification Summary	16
Method Summary	17
Sample Summary	18
Chain of Custody	19
Receipt Checklists	20

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

Definitions/Glossary

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3809-1
SDG: Lea County NM

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3809-1
SDG: Lea County NM

Job ID: 890-3809-1

Laboratory: Eurofins Carlsbad

Narrative

**Job Narrative
890-3809-1**

REVISION

The report being provided is a revision of the original report sent on 1/17/2023. The report (revision 1) is being revised due to Per client email, requesting chloride re run.

Report revision history

Receipt

The sample was received on 1/10/2023 9:05 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.6°C

Receipt Exceptions

The following sample was received and analyzed from an unpreserved bulk soil jar: FS16 (890-3809-1).

GC VOA

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

GC Semi VOA

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-43804 and analytical batch 880-43781 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (MB 880-43804/1-A). Evidence of matrix interferences is not obvious.

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

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-43792 and analytical batch 880-43924 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-45098 and analytical batch 880-45287 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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



Client Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3809-1
 SDG: Lea County NM

Client Sample ID: FS16
Date Collected: 01/06/23 13:45
Date Received: 01/10/23 09:05
Sample Depth: 2

Lab Sample ID: 890-3809-1
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/13/23 13:36	01/16/23 21:05	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/13/23 13:36	01/16/23 21:05	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/13/23 13:36	01/16/23 21:05	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		01/13/23 13:36	01/16/23 21:05	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/13/23 13:36	01/16/23 21:05	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		01/13/23 13:36	01/16/23 21:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130	01/13/23 13:36	01/16/23 21:05	1
1,4-Difluorobenzene (Surr)	104		70 - 130	01/13/23 13:36	01/16/23 21:05	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			01/17/23 14:44	1

Method: SW846 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			01/13/23 12:42	1

Method: SW846 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		01/12/23 11:42	01/12/23 22:16	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		01/12/23 11:42	01/12/23 22:16	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		01/12/23 11:42	01/12/23 22:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130	01/12/23 11:42	01/12/23 22:16	1
o-Terphenyl	116		70 - 130	01/12/23 11:42	01/12/23 22:16	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	459		4.98	mg/Kg			02/03/23 09:02	1

Surrogate Summary

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3809-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1	DFBZ1
		(70-130)	(70-130)
890-3808-A-1-D MS	Matrix Spike	111	102
890-3808-A-1-E MSD	Matrix Spike Duplicate	112	103
890-3809-1	FS16	114	104
LCS 880-43748/1-A	Lab Control Sample	111	100
LCSD 880-43748/2-A	Lab Control Sample Dup	112	105
MB 880-43748/5-A	Method Blank	112	100
MB 880-43960/8	Method Blank	110	99

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	1CO1	OTPH1
		(70-130)	(70-130)
890-3804-A-1-F MS	Matrix Spike	96	100
890-3804-A-1-G MSD	Matrix Spike Duplicate	98	102
890-3809-1	FS16	101	116
LCS 880-43804/2-A	Lab Control Sample	106	107
LCSD 880-43804/3-A	Lab Control Sample Dup	122	121
MB 880-43804/1-A	Method Blank	144 S1+	154 S1+

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3809-1
 SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-43748/5-A
 Matrix: Solid
 Analysis Batch: 43960

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 43748

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/13/23 13:36	01/16/23 19:34	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/13/23 13:36	01/16/23 19:34	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/13/23 13:36	01/16/23 19:34	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/13/23 13:36	01/16/23 19:34	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/13/23 13:36	01/16/23 19:34	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/13/23 13:36	01/16/23 19:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	01/13/23 13:36	01/16/23 19:34	1
1,4-Difluorobenzene (Surr)	100		70 - 130	01/13/23 13:36	01/16/23 19:34	1

Lab Sample ID: LCS 880-43748/1-A
 Matrix: Solid
 Analysis Batch: 43960

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 43748

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1121		mg/Kg		112	70 - 130
Toluene	0.100	0.1077		mg/Kg		108	70 - 130
Ethylbenzene	0.100	0.1052		mg/Kg		105	70 - 130
m-Xylene & p-Xylene	0.200	0.2165		mg/Kg		108	70 - 130
o-Xylene	0.100	0.1024		mg/Kg		102	70 - 130

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

Lab Sample ID: LCSD 880-43748/2-A
 Matrix: Solid
 Analysis Batch: 43960

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 43748

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1159		mg/Kg		116	70 - 130	3	35
Toluene	0.100	0.1086		mg/Kg		109	70 - 130	1	35
Ethylbenzene	0.100	0.1066		mg/Kg		107	70 - 130	1	35
m-Xylene & p-Xylene	0.200	0.2192		mg/Kg		110	70 - 130	1	35
o-Xylene	0.100	0.1045		mg/Kg		105	70 - 130	2	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	112		70 - 130
1,4-Difluorobenzene (Surr)	105		70 - 130

Lab Sample ID: 890-3808-A-1-D MS
 Matrix: Solid
 Analysis Batch: 43960

Client Sample ID: Matrix Spike
 Prep Type: Total/NA
 Prep Batch: 43748

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U	0.101	0.09870		mg/Kg		98	70 - 130
Toluene	<0.00200	U	0.101	0.09623		mg/Kg		95	70 - 130

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QC Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3809-1
 SDG: Lea County NM

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

Lab Sample ID: 890-3808-A-1-D MS
 Matrix: Solid
 Analysis Batch: 43960

Client Sample ID: Matrix Spike
 Prep Type: Total/NA
 Prep Batch: 43748

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.101	0.09472		mg/Kg		94	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.202	0.1946		mg/Kg		96	70 - 130
o-Xylene	<0.00200	U	0.101	0.09494		mg/Kg		94	70 - 130

Surrogate	MS %Recovery	MS Qualifier	MS Limits
4-Bromofluorobenzene (Surr)	111		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: 890-3808-A-1-E MSD
 Matrix: Solid
 Analysis Batch: 43960

Client Sample ID: Matrix Spike Duplicate
 Prep Type: Total/NA
 Prep Batch: 43748

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	<0.00200	U	0.0996	0.1006		mg/Kg		101	70 - 130	2	35
Toluene	<0.00200	U	0.0996	0.09733		mg/Kg		98	70 - 130	1	35
Ethylbenzene	<0.00200	U	0.0996	0.09546		mg/Kg		96	70 - 130	1	35
m-Xylene & p-Xylene	<0.00401	U	0.199	0.1956		mg/Kg		98	70 - 130	1	35
o-Xylene	<0.00200	U	0.0996	0.09472		mg/Kg		95	70 - 130	0	35

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
4-Bromofluorobenzene (Surr)	112		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Lab Sample ID: MB 880-43960/8
 Matrix: Solid
 Analysis Batch: 43960

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			01/16/23 12:24	1
Toluene	<0.00200	U	0.00200	mg/Kg			01/16/23 12:24	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg			01/16/23 12:24	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg			01/16/23 12:24	1
o-Xylene	<0.00200	U	0.00200	mg/Kg			01/16/23 12:24	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg			01/16/23 12:24	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130		01/16/23 12:24	1
1,4-Difluorobenzene (Surr)	99		70 - 130		01/16/23 12:24	1

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

Lab Sample ID: MB 880-43804/1-A
 Matrix: Solid
 Analysis Batch: 43781

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 43804

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		01/12/23 11:42	01/12/23 19:44	1

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QC Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3809-1
 SDG: Lea County NM

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

Lab Sample ID: MB 880-43804/1-A
Matrix: Solid
Analysis Batch: 43781

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 43804

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/12/23 11:42	01/12/23 19:44	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/12/23 11:42	01/12/23 19:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	144	S1+	70 - 130	01/12/23 11:42	01/12/23 19:44	1
o-Terphenyl	154	S1+	70 - 130	01/12/23 11:42	01/12/23 19:44	1

Lab Sample ID: LCS 880-43804/2-A
Matrix: Solid
Analysis Batch: 43781

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 43804

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	949.4		mg/Kg		95	70 - 130
Diesel Range Organics (Over C10-C28)	1000	934.9		mg/Kg		93	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	106		70 - 130
o-Terphenyl	107		70 - 130

Lab Sample ID: LCSD 880-43804/3-A
Matrix: Solid
Analysis Batch: 43781

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 43804

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	914.9		mg/Kg		91	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	1000	1075		mg/Kg		108	70 - 130	14	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	122		70 - 130
o-Terphenyl	121		70 - 130

Lab Sample ID: 890-3804-A-1-F MS
Matrix: Solid
Analysis Batch: 43781

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 43804

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 F2	998	891.6		mg/Kg		88	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	998	983.2		mg/Kg		99	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	96		70 - 130
o-Terphenyl	100		70 - 130

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QC Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3809-1
 SDG: Lea County NM

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

Lab Sample ID: 890-3804-A-1-G MSD
 Matrix: Solid
 Analysis Batch: 43781

Client Sample ID: Matrix Spike Duplicate
 Prep Type: Total/NA
 Prep Batch: 43804

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 F2	997	1139	F2	mg/Kg		113	70 - 130	24	20
Diesel Range Organics (Over C10-C28)	<49.9	U	997	1082		mg/Kg		109	70 - 130	10	20
Surrogate	%Recovery	MSD Qualifier	MSD	Limits							
1-Chlorooctane	98			70 - 130							
o-Terphenyl	102			70 - 130							

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-43792/1-A
 Matrix: Solid
 Analysis Batch: 43924

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			01/13/23 23:50	1

Lab Sample ID: LCS 880-43792/2-A
 Matrix: Solid
 Analysis Batch: 43924

Client Sample ID: Lab Control Sample
 Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	255.0		mg/Kg		102	90 - 110

Lab Sample ID: LCSD 880-43792/3-A
 Matrix: Solid
 Analysis Batch: 43924

Client Sample ID: Lab Control Sample Dup
 Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	251.6		mg/Kg		101	90 - 110	1	20

Lab Sample ID: 890-3804-A-1-C MS
 Matrix: Solid
 Analysis Batch: 43924

Client Sample ID: Matrix Spike
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	53.1	F1	252	347.0	F1	mg/Kg		117	90 - 110

Lab Sample ID: 890-3804-A-1-D MSD
 Matrix: Solid
 Analysis Batch: 43924

Client Sample ID: Matrix Spike Duplicate
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	53.1	F1	252	344.0	F1	mg/Kg		116	90 - 110	1	20

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QC Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3809-1
 SDG: Lea County NM

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 880-45098/1-A
 Matrix: Solid
 Analysis Batch: 45287

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			02/03/23 05:57	1

Lab Sample ID: LCS 880-45098/2-A
 Matrix: Solid
 Analysis Batch: 45287

Client Sample ID: Lab Control Sample
 Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	269.4		mg/Kg		108	90 - 110

Lab Sample ID: LCSD 880-45098/3-A
 Matrix: Solid
 Analysis Batch: 45287

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	270.0		mg/Kg		108	90 - 110	0	20

Lab Sample ID: 890-3970-A-5-C MS
 Matrix: Solid
 Analysis Batch: 45287

Client Sample ID: Matrix Spike
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	102	F1	250	382.4	F1	mg/Kg		112	90 - 110

Lab Sample ID: 890-3970-A-5-D MSD
 Matrix: Solid
 Analysis Batch: 45287

Client Sample ID: Matrix Spike Duplicate
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	102	F1	250	382.4	F1	mg/Kg		112	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3809-1
SDG: Lea County NM

GC VOA

Prep Batch: 43748

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3809-1	FS16	Total/NA	Solid	5035	
MB 880-43748/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-43748/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-43748/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3808-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
890-3808-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 43960

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3809-1	FS16	Total/NA	Solid	8021B	43748
MB 880-43748/5-A	Method Blank	Total/NA	Solid	8021B	43748
MB 880-43960/8	Method Blank	Total/NA	Solid	8021B	
LCS 880-43748/1-A	Lab Control Sample	Total/NA	Solid	8021B	43748
LCSD 880-43748/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	43748
890-3808-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	43748
890-3808-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	43748

Analysis Batch: 44181

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3809-1	FS16	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 43781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3809-1	FS16	Total/NA	Solid	8015B NM	43804
MB 880-43804/1-A	Method Blank	Total/NA	Solid	8015B NM	43804
LCS 880-43804/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	43804
LCSD 880-43804/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	43804
890-3804-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	43804
890-3804-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	43804

Prep Batch: 43804

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3809-1	FS16	Total/NA	Solid	8015NM Prep	
MB 880-43804/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-43804/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-43804/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3804-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3804-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 43882

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3809-1	FS16	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 43792

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-43792/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-43792/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-43792/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3809-1
SDG: Lea County NM

HPLC/IC (Continued)

Leach Batch: 43792 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3804-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3804-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 43924

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-43792/1-A	Method Blank	Soluble	Solid	300.0	43792
LCS 880-43792/2-A	Lab Control Sample	Soluble	Solid	300.0	43792
LCSD 880-43792/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	43792
890-3804-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	43792
890-3804-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	43792

Leach Batch: 45098

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3809-1	FS16	Soluble	Solid	DI Leach	
MB 880-45098/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-45098/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-45098/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3970-A-5-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3970-A-5-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 45287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3809-1	FS16	Soluble	Solid	300.0	45098
MB 880-45098/1-A	Method Blank	Soluble	Solid	300.0	45098
LCS 880-45098/2-A	Lab Control Sample	Soluble	Solid	300.0	45098
LCSD 880-45098/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	45098
890-3970-A-5-C MS	Matrix Spike	Soluble	Solid	300.0	45098
890-3970-A-5-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	45098

Lab Chronicle

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3809-1
 SDG: Lea County NM

Client Sample ID: FS16
Date Collected: 01/06/23 13:45
Date Received: 01/10/23 09:05

Lab Sample ID: 890-3809-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	43748	01/13/23 13:36	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43960	01/16/23 21:05	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			44181	01/17/23 14:44	SM	EET MID
Total/NA	Analysis	8015 NM		1			43882	01/13/23 12:42	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	43804	01/12/23 11:42	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43781	01/12/23 22:16	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	45098	01/30/23 16:20	KS	EET MID
Soluble	Analysis	300.0		1			45287	02/03/23 09:02	CH	EET MID

Laboratory References:

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

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Accreditation/Certification Summary

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3809-1
SDG: Lea County NM

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	T104704400-22-25	06-30-23

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

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Method Summary

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3809-1
SDG: Lea County NM

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

- ASTM = ASTM International
- EPA = US Environmental Protection Agency
- 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:

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



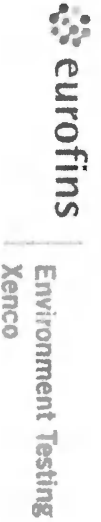
Sample Summary

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3809-1
SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3809-1	FS16	Solid	01/06/23 13:45	01/10/23 09:05	2

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Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
 Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
 El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
 Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager: Hadlie Green **Bill to: (if different):** Kalei Jennings
Company Name: Ensolum, LLC **Company Name:** Ensolum, LLC
Address: 601 N Marientfield St Suite 400 **Address:** 601 N Marientfield St Suite 400
City, State ZIP: Midland, TX 79701 **City, State ZIP:** Midland, TX 79701
Phone: 432-557-8895 **Email:** kjennings@ensolum.com, hgreen@ensolum.com

Work Order Comments:
 Program: UST/PST PRP Brownfields RRC Superfund
 State of Project:
 Reporting: Level II Level III PST/UST TRRP Level IV
 Deliverables: EDD ADAPT Other: _____

ANALYSIS REQUEST

Project Name:	Jalmat Yates Sand Unit 170	Turn Around	Pres. Code	Parameters	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Preservative Codes
Project Number:	03D2057047	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush			FS16	S	1/6/2023	13:45	2'	Comp	1	X	X	X	None: NO DI Water: H ₂ O Cool: Cool MeOH: Me HCL: HC HNO ₃ : HN H ₂ SO ₄ : H ₂ NaOH: Na H ₃ PO ₄ : HP NaHSO ₄ : NABIS Na ₂ S ₂ O ₃ : NASO ₃ Zn Acetate+NaOH: Zn NaOH+Ascorbic Acid: SAPC
Project Location:	Lea County, NM	Due Date:													
Sampler's Name:	Dmitry Nikanorov	TAT starts the day received by the lab, if received by 4:30pm													
PO #:															
SAMPLE RECEIPT	Temp Blank:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Wet Ice:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>											
Samples Received In tact:	Thermometer ID:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Correction Factor:	N/A											
Cooler Custody Seals:	Temperature Reading:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Corrected Temperature:	2.8											
Sample Custody Seals:	Temperature Reading:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Corrected Temperature:	2.4											
Total Containers:															



890-3809 Chain of Custody

Circle Method(s) and Metal(s) to be analyzed	8RCRA 13PPM Texas 11	AI	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	SiO ₂	Na	Sr	Tl	Sn	U	V	Zn

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature) [Signature] **Received by: (Signature)** [Signature] **Date/Time** 1.10.23 9:05

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3809-1
SDG Number: Lea County NM

Login Number: 3809
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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.	N/A	Refer to Job Narrative for details.
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	

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Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3809-1
SDG Number: Lea County NM

Login Number: 3809
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 01/11/23 11:43 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

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Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Hadlie Green
 Ensolum
 601 N. Marienfeld St.
 Suite 400
 Midland, Texas 79701
 Generated 1/16/2023 6:20:13 PM

JOB DESCRIPTION

Jalmat Yates Sand Unit #170
 SDG NUMBER Lea County NM

JOB NUMBER

890-3810-1

Eurofins Carlsbad
 1089 N Canal St.
 Carlsbad NM 88220



Eurofins Carlsbad

Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
1/16/2023 6:20:13 PM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

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- 12
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- 14

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Laboratory Job ID: 890-3810-1
SDG: Lea County NM

Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
Surrogate Summary	7
QC Sample Results	8
QC Association Summary	12
Lab Chronicle	14
Certification Summary	15
Method Summary	16
Sample Summary	17
Chain of Custody	18
Receipt Checklists	19

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

Definitions/Glossary

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3810-1
SDG: Lea County NM

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3810-1
SDG: Lea County NM

Job ID: 890-3810-1

Laboratory: Eurofins Carlsbad

Narrative

**Job Narrative
890-3810-1**

Receipt

The sample was received on 1/10/2023 9:05 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.6°C

Receipt Exceptions

The following sample was received and analyzed from an unpreserved bulk soil jar: FS14 (890-3810-1).

GC VOA

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

GC Semi VOA

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-43804 and analytical batch 880-43781 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (MB 880-43804/1-A). Evidence of matrix interferences is not obvious.

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

HPLC/IC

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



Client Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3810-1
 SDG: Lea County NM

Client Sample ID: FS14

Lab Sample ID: 890-3810-1

Date Collected: 01/06/23 13:20

Matrix: Solid

Date Received: 01/10/23 09:05

Sample Depth: 1

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/11/23 12:26	01/14/23 01:03	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/11/23 12:26	01/14/23 01:03	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		01/11/23 12:26	01/14/23 01:03	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		01/11/23 12:26	01/14/23 01:03	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		01/11/23 12:26	01/14/23 01:03	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/11/23 12:26	01/14/23 01:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	01/11/23 12:26	01/14/23 01:03	1
1,4-Difluorobenzene (Surr)	99		70 - 130	01/11/23 12:26	01/14/23 01:03	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			01/16/23 16:58	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	1080		49.8	mg/Kg			01/13/23 12:42	1

Method: SW846 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		01/12/23 11:42	01/13/23 03:23	1
Diesel Range Organics (Over C10-C28)	953		49.8	mg/Kg		01/12/23 11:42	01/13/23 03:23	1
Oil Range Organics (Over C28-C36)	125		49.8	mg/Kg		01/12/23 11:42	01/13/23 03:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130	01/12/23 11:42	01/13/23 03:23	1
o-Terphenyl	118		70 - 130	01/12/23 11:42	01/13/23 03:23	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	428		5.00	mg/Kg			01/14/23 01:22	1

Surrogate Summary

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3810-1
 SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-3783-A-1-A MS	Matrix Spike	97	104
890-3783-A-1-B MSD	Matrix Spike Duplicate	80	88
890-3810-1	FS14	112	99
LCS 880-43732/1-A	Lab Control Sample	104	103
LCSD 880-43732/2-A	Lab Control Sample Dup	90	94
MB 880-43732/5-A	Method Blank	71	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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-3804-A-1-F MS	Matrix Spike	96	100
890-3804-A-1-G MSD	Matrix Spike Duplicate	98	102
890-3810-1	FS14	106	118
LCS 880-43804/2-A	Lab Control Sample	106	107
LCSD 880-43804/3-A	Lab Control Sample Dup	122	121
MB 880-43804/1-A	Method Blank	144 S1+	154 S1+

Surrogate Legend
 1CO = 1-Chlorooctane
 OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3810-1
 SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-43732/5-A
 Matrix: Solid
 Analysis Batch: 43878

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 43732

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/11/23 12:26	01/13/23 17:05	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/11/23 12:26	01/13/23 17:05	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/11/23 12:26	01/13/23 17:05	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/11/23 12:26	01/13/23 17:05	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/11/23 12:26	01/13/23 17:05	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/11/23 12:26	01/13/23 17:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	71		70 - 130	01/11/23 12:26	01/13/23 17:05	1
1,4-Difluorobenzene (Surr)	89		70 - 130	01/11/23 12:26	01/13/23 17:05	1

Lab Sample ID: LCS 880-43732/1-A
 Matrix: Solid
 Analysis Batch: 43878

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 43732

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1063		mg/Kg		106	70 - 130
Toluene	0.100	0.1068		mg/Kg		107	70 - 130
Ethylbenzene	0.100	0.1090		mg/Kg		109	70 - 130
m-Xylene & p-Xylene	0.200	0.2280		mg/Kg		114	70 - 130
o-Xylene	0.100	0.1083		mg/Kg		108	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Lab Sample ID: LCSD 880-43732/2-A
 Matrix: Solid
 Analysis Batch: 43878

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 43732

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.08286		mg/Kg		83	70 - 130	25	35
Toluene	0.100	0.07825		mg/Kg		78	70 - 130	31	35
Ethylbenzene	0.100	0.08311		mg/Kg		83	70 - 130	27	35
m-Xylene & p-Xylene	0.200	0.1720		mg/Kg		86	70 - 130	28	35
o-Xylene	0.100	0.08557		mg/Kg		86	70 - 130	23	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

Lab Sample ID: 890-3783-A-1-A MS
 Matrix: Solid
 Analysis Batch: 43878

Client Sample ID: Matrix Spike
 Prep Type: Total/NA
 Prep Batch: 43732

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00202	U	0.0998	0.09041		mg/Kg		91	70 - 130
Toluene	<0.00202	U	0.0998	0.08508		mg/Kg		85	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3810-1
SDG: Lea County NM

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

Lab Sample ID: 890-3783-A-1-A MS
Matrix: Solid
Analysis Batch: 43878

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 43732

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier		Result	Qualifier				
Ethylbenzene	<0.00202	U	0.0998	0.08917		mg/Kg		89	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.200	0.1833		mg/Kg		92	70 - 130
o-Xylene	<0.00202	U	0.0998	0.08757		mg/Kg		88	70 - 130

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	97		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: 890-3783-A-1-B MSD
Matrix: Solid
Analysis Batch: 43878

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 43732

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier		Result	Qualifier						
Benzene	<0.00202	U	0.100	0.08380		mg/Kg		83	70 - 130	8	35
Toluene	<0.00202	U	0.100	0.07632		mg/Kg		76	70 - 130	11	35
Ethylbenzene	<0.00202	U	0.100	0.08294		mg/Kg		83	70 - 130	7	35
m-Xylene & p-Xylene	<0.00403	U	0.201	0.1702		mg/Kg		85	70 - 130	7	35
o-Xylene	<0.00202	U	0.100	0.07939		mg/Kg		79	70 - 130	10	35

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	80		70 - 130
1,4-Difluorobenzene (Surr)	88		70 - 130

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

Lab Sample ID: MB 880-43804/1-A
Matrix: Solid
Analysis Batch: 43781

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 43804

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		01/12/23 11:42	01/12/23 19:44	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/12/23 11:42	01/12/23 19:44	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/12/23 11:42	01/12/23 19:44	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1-Chlorooctane	144	S1+	70 - 130	01/12/23 11:42	01/12/23 19:44	1
o-Terphenyl	154	S1+	70 - 130	01/12/23 11:42	01/12/23 19:44	1

Lab Sample ID: LCS 880-43804/2-A
Matrix: Solid
Analysis Batch: 43781

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 43804

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec
Gasoline Range Organics (GRO)-C6-C10	1000	949.4		mg/Kg		95	70 - 130
Diesel Range Organics (Over C10-C28)	1000	934.9		mg/Kg		93	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3810-1
 SDG: Lea County NM

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

Lab Sample ID: LCS 880-43804/2-A
Matrix: Solid
Analysis Batch: 43781

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 43804

Surrogate	LCS		Limits
	%Recovery	Qualifier	
1-Chlorooctane	106		70 - 130
o-Terphenyl	107		70 - 130

Lab Sample ID: LCSD 880-43804/3-A
Matrix: Solid
Analysis Batch: 43781

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 43804

Analyte	Spike Added	LCSD		Unit	D	%Rec	%Rec		RPD	Limit
		Result	Qualifier				Limits	RPD		
Gasoline Range Organics (GRO)-C6-C10	1000	914.9		mg/Kg		91	70 - 130	4	20	
Diesel Range Organics (Over C10-C28)	1000	1075		mg/Kg		108	70 - 130	14	20	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
1-Chlorooctane	122		70 - 130
o-Terphenyl	121		70 - 130

Lab Sample ID: 890-3804-A-1-F MS
Matrix: Solid
Analysis Batch: 43781

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 43804

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec	
				Result	Qualifier				Limits	RPD
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F2	998	891.6		mg/Kg		88	70 - 130	
Diesel Range Organics (Over C10-C28)	<49.9	U	998	983.2		mg/Kg		99	70 - 130	

Surrogate	MS		Limits
	%Recovery	Qualifier	
1-Chlorooctane	96		70 - 130
o-Terphenyl	100		70 - 130

Lab Sample ID: 890-3804-A-1-G MSD
Matrix: Solid
Analysis Batch: 43781

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 43804

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F2	997	1139	F2	mg/Kg		113	70 - 130	24	20	
Diesel Range Organics (Over C10-C28)	<49.9	U	997	1082		mg/Kg		109	70 - 130	10	20	

Surrogate	MSD		Limits
	%Recovery	Qualifier	
1-Chlorooctane	98		70 - 130
o-Terphenyl	102		70 - 130

QC Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3810-1
 SDG: Lea County NM

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-43792/1-A
 Matrix: Solid
 Analysis Batch: 43924

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			01/13/23 23:50	1

Lab Sample ID: LCS 880-43792/2-A
 Matrix: Solid
 Analysis Batch: 43924

Client Sample ID: Lab Control Sample
 Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	255.0		mg/Kg		102	90 - 110

Lab Sample ID: LCSD 880-43792/3-A
 Matrix: Solid
 Analysis Batch: 43924

Client Sample ID: Lab Control Sample Dup
 Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	251.6		mg/Kg		101	90 - 110	1	20

Lab Sample ID: 890-3810-1 MS
 Matrix: Solid
 Analysis Batch: 43924

Client Sample ID: FS14
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	428		250	673.4		mg/Kg		98	90 - 110

Lab Sample ID: 890-3810-1 MSD
 Matrix: Solid
 Analysis Batch: 43924

Client Sample ID: FS14
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	428		250	670.2		mg/Kg		97	90 - 110	0	20

QC Association Summary

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3810-1
 SDG: Lea County NM

GC VOA

Prep Batch: 43732

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3810-1	FS14	Total/NA	Solid	5035	
MB 880-43732/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-43732/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-43732/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3783-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
890-3783-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 43878

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3810-1	FS14	Total/NA	Solid	8021B	43732
MB 880-43732/5-A	Method Blank	Total/NA	Solid	8021B	43732
LCS 880-43732/1-A	Lab Control Sample	Total/NA	Solid	8021B	43732
LCSD 880-43732/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	43732
890-3783-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	43732
890-3783-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	43732

Analysis Batch: 44089

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3810-1	FS14	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 43781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3810-1	FS14	Total/NA	Solid	8015B NM	43804
MB 880-43804/1-A	Method Blank	Total/NA	Solid	8015B NM	43804
LCS 880-43804/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	43804
LCSD 880-43804/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	43804
890-3804-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	43804
890-3804-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	43804

Prep Batch: 43804

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3810-1	FS14	Total/NA	Solid	8015NM Prep	
MB 880-43804/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-43804/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-43804/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3804-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3804-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 43888

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3810-1	FS14	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 43792

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3810-1	FS14	Soluble	Solid	DI Leach	
MB 880-43792/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-43792/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-43792/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3810-1
SDG: Lea County NM

HPLC/IC (Continued)

Leach Batch: 43792 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3810-1 MS	FS14	Soluble	Solid	DI Leach	
890-3810-1 MSD	FS14	Soluble	Solid	DI Leach	

Analysis Batch: 43924

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3810-1	FS14	Soluble	Solid	300.0	43792
MB 880-43792/1-A	Method Blank	Soluble	Solid	300.0	43792
LCS 880-43792/2-A	Lab Control Sample	Soluble	Solid	300.0	43792
LCSD 880-43792/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	43792
890-3810-1 MS	FS14	Soluble	Solid	300.0	43792
890-3810-1 MSD	FS14	Soluble	Solid	300.0	43792

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Lab Chronicle

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3810-1
 SDG: Lea County NM

Client Sample ID: FS14

Lab Sample ID: 890-3810-1

Date Collected: 01/06/23 13:20

Matrix: Solid

Date Received: 01/10/23 09:05

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	43732	01/11/23 12:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43878	01/14/23 01:03	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			44089	01/16/23 16:58	AJ	EET MID
Total/NA	Analysis	8015 NM		1			43888	01/13/23 12:42	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	43804	01/12/23 11:42	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43781	01/13/23 03:23	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	43792	01/12/23 09:21	KS	EET MID
Soluble	Analysis	300.0		1			43924	01/14/23 01:22	CH	EET MID

Laboratory References:

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

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Accreditation/Certification Summary

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3810-1
SDG: Lea County NM

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	T104704400-22-25	06-30-23

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

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- 14

Method Summary

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3810-1
 SDG: Lea County NM

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	MCAWW	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET 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:

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



Sample Summary

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3810-1
SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3810-1	FS14	Solid	01/06/23 13:20	01/10/23 09:05	1

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Environment Testing
Xenoco

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Chain of Custody

Work Order No: _____


www.xenoco.com Page 1 of 1

Project Manager:	Hadlie Green	Bill to: (if different)	Kate Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marientfield St Suite 400	Address:	601 N Marientfield St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	432-557-8895	Email:	klennings@ensolum.com, lgreen@ensolum.com

Work Order Comments	
Program: UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>	
State of Project:	
Reporting: Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>	
Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other: _____	

Project Name:	Jalmit Yates Sand Unit 170	Turn Around	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	Pres. Code	
Project Number:	03D2057047	Due Date:			
Project Location:	Lea County, NM	TAT starts the day received by the lab, if received by 4:30pm			
Sampler's Name:	Dmitry Nikanorov	Wet Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
PO #:		Thermometer ID:	70111207		
SAMPLE RECEIPT	Temp Blank:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Correction Factor:	0.8	
Samples Received Intact:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Temperature Reading:	2.8		
Cooler Custody Seals:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Corrected Temperature:	2.6		
Sample Custody Seals:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				
Total Containers:					

ANALYSIS REQUEST



890-3810 Chain of Custody

None: NO	DI Water: H ₂ O
Cool: Cool	MeOH: Me
HCL: HC	HNO ₃ : HN
H ₂ SO ₄ : H ₂	NaOH: Na
H ₃ PO ₄ : HP	
NaHSO ₄ : NABIS	
Na ₂ S ₂ O ₃ : NaSO ₃	
Zn Acetate+NaOH: Zn	
NaOH+Ascorbic Acid: SAPC	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	Sample Comments	Incident Number
FS14	S	1/6/2023	13:20	1'	Comp	1	CHLORIDES (EPA: 300.0) TPH (8015) BTEX (8021)		
DN									

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO₂ Na Sr Ti Sn U V Zn
 Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631 / 2451 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenoco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenoco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenoco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenoco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	1-16-23 905			

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3810-1
SDG Number: Lea County NM

Login Number: 3810
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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.	N/A	Refer to Job Narrative for details.
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	

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Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3810-1
SDG Number: Lea County NM

Login Number: 3810
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 01/11/23 11:43 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

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Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Hadlie Green
 Ensolum
 601 N. Marienfeld St.
 Suite 400
 Midland, Texas 79701
 Generated 1/16/2023 6:20:07 PM

JOB DESCRIPTION

Jalmat Yates Sand Unit #170
 SDG NUMBER Lea County NM

JOB NUMBER

890-3811-1

Eurofins Carlsbad
 1089 N Canal St.
 Carlsbad NM 88220



Eurofins Carlsbad

Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
1/16/2023 6:20:07 PM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Laboratory Job ID: 890-3811-1
SDG: Lea County NM

Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
Surrogate Summary	7
QC Sample Results	8
QC Association Summary	12
Lab Chronicle	14
Certification Summary	15
Method Summary	16
Sample Summary	17
Chain of Custody	18
Receipt Checklists	19

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

Definitions/Glossary

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3811-1
SDG: Lea County NM

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3811-1
SDG: Lea County NM

Job ID: 890-3811-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3811-1

Receipt

The sample was received on 1/10/2023 9:05 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.6°C

Receipt Exceptions

The following sample was received and analyzed from an unpreserved bulk soil jar: FS15 (890-3811-1).

GC VOA

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

GC Semi VOA

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-43804 and analytical batch 880-43781 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (MB 880-43804/1-A). Evidence of matrix interferences is not obvious.

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

HPLC/IC

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



Client Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3811-1
 SDG: Lea County NM

Client Sample ID: FS15

Lab Sample ID: 890-3811-1

Date Collected: 01/06/23 13:35

Matrix: Solid

Date Received: 01/10/23 09:05

Sample Depth: 2

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/11/23 12:26	01/14/23 01:30	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/11/23 12:26	01/14/23 01:30	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/11/23 12:26	01/14/23 01:30	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		01/11/23 12:26	01/14/23 01:30	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/11/23 12:26	01/14/23 01:30	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		01/11/23 12:26	01/14/23 01:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130	01/11/23 12:26	01/14/23 01:30	1
1,4-Difluorobenzene (Surr)	96		70 - 130	01/11/23 12:26	01/14/23 01:30	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			01/16/23 16:58	1

Method: SW846 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			01/13/23 12:42	1

Method: SW846 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		01/12/23 11:42	01/12/23 22:38	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		01/12/23 11:42	01/12/23 22:38	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		01/12/23 11:42	01/12/23 22:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	113		70 - 130	01/12/23 11:42	01/12/23 22:38	1
o-Terphenyl	126		70 - 130	01/12/23 11:42	01/12/23 22:38	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	286		5.02	mg/Kg			01/14/23 01:39	1

Surrogate Summary

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3811-1
 SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-3783-A-1-A MS	Matrix Spike	97	104
890-3783-A-1-B MSD	Matrix Spike Duplicate	80	88
890-3811-1	FS15	109	96
LCS 880-43732/1-A	Lab Control Sample	104	103
LCSD 880-43732/2-A	Lab Control Sample Dup	90	94
MB 880-43732/5-A	Method Blank	71	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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-3804-A-1-F MS	Matrix Spike	96	100
890-3804-A-1-G MSD	Matrix Spike Duplicate	98	102
890-3811-1	FS15	113	126
LCS 880-43804/2-A	Lab Control Sample	106	107
LCSD 880-43804/3-A	Lab Control Sample Dup	122	121
MB 880-43804/1-A	Method Blank	144 S1+	154 S1+

Surrogate Legend
 1CO = 1-Chlorooctane
 OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3811-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-43732/5-A
Matrix: Solid
Analysis Batch: 43878

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 43732

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/11/23 12:26	01/13/23 17:05	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/11/23 12:26	01/13/23 17:05	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/11/23 12:26	01/13/23 17:05	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/11/23 12:26	01/13/23 17:05	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/11/23 12:26	01/13/23 17:05	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/11/23 12:26	01/13/23 17:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	71		70 - 130	01/11/23 12:26	01/13/23 17:05	1
1,4-Difluorobenzene (Surr)	89		70 - 130	01/11/23 12:26	01/13/23 17:05	1

Lab Sample ID: LCS 880-43732/1-A
Matrix: Solid
Analysis Batch: 43878

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 43732

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1063		mg/Kg		106	70 - 130
Toluene	0.100	0.1068		mg/Kg		107	70 - 130
Ethylbenzene	0.100	0.1090		mg/Kg		109	70 - 130
m-Xylene & p-Xylene	0.200	0.2280		mg/Kg		114	70 - 130
o-Xylene	0.100	0.1083		mg/Kg		108	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Lab Sample ID: LCSD 880-43732/2-A
Matrix: Solid
Analysis Batch: 43878

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 43732

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	0.100	0.08286		mg/Kg		83	70 - 130	25	35
Toluene	0.100	0.07825		mg/Kg		78	70 - 130	31	35
Ethylbenzene	0.100	0.08311		mg/Kg		83	70 - 130	27	35
m-Xylene & p-Xylene	0.200	0.1720		mg/Kg		86	70 - 130	28	35
o-Xylene	0.100	0.08557		mg/Kg		86	70 - 130	23	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

Lab Sample ID: 890-3783-A-1-A MS
Matrix: Solid
Analysis Batch: 43878

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 43732

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00202	U	0.0998	0.09041		mg/Kg		91	70 - 130
Toluene	<0.00202	U	0.0998	0.08508		mg/Kg		85	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3811-1
SDG: Lea County NM

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

Lab Sample ID: 890-3783-A-1-A MS
Matrix: Solid
Analysis Batch: 43878

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 43732

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	
	Result	Qualifier		Result	Qualifier					Limits
Ethylbenzene	<0.00202	U	0.0998	0.08917		mg/Kg		89	70 - 130	
m-Xylene & p-Xylene	<0.00403	U	0.200	0.1833		mg/Kg		92	70 - 130	
o-Xylene	<0.00202	U	0.0998	0.08757		mg/Kg		88	70 - 130	
		MS	MS							
Surrogate	%Recovery	Qualifier	Limits							
4-Bromofluorobenzene (Surr)	97		70 - 130							
1,4-Difluorobenzene (Surr)	104		70 - 130							

Lab Sample ID: 890-3783-A-1-B MSD
Matrix: Solid
Analysis Batch: 43878

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 43732

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier		Result	Qualifier						
Benzene	<0.00202	U	0.100	0.08380		mg/Kg		83	70 - 130	8	35
Toluene	<0.00202	U	0.100	0.07632		mg/Kg		76	70 - 130	11	35
Ethylbenzene	<0.00202	U	0.100	0.08294		mg/Kg		83	70 - 130	7	35
m-Xylene & p-Xylene	<0.00403	U	0.201	0.1702		mg/Kg		85	70 - 130	7	35
o-Xylene	<0.00202	U	0.100	0.07939		mg/Kg		79	70 - 130	10	35
		MSD	MSD								
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	80		70 - 130								
1,4-Difluorobenzene (Surr)	88		70 - 130								

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

Lab Sample ID: MB 880-43804/1-A
Matrix: Solid
Analysis Batch: 43781

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 43804

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		01/12/23 11:42	01/12/23 19:44	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/12/23 11:42	01/12/23 19:44	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/12/23 11:42	01/12/23 19:44	1
		MB	MB					
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac		
1-Chlorooctane	144	S1+	70 - 130	01/12/23 11:42	01/12/23 19:44	1		
o-Terphenyl	154	S1+	70 - 130	01/12/23 11:42	01/12/23 19:44	1		

Lab Sample ID: LCS 880-43804/2-A
Matrix: Solid
Analysis Batch: 43781

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 43804

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec
Gasoline Range Organics (GRO)-C6-C10	1000	949.4		mg/Kg		95	70 - 130
Diesel Range Organics (Over C10-C28)	1000	934.9		mg/Kg		93	70 - 130

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QC Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3811-1
 SDG: Lea County NM

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

Lab Sample ID: LCS 880-43804/2-A
Matrix: Solid
Analysis Batch: 43781

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 43804

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1-Chlorooctane	106		70 - 130
o-Terphenyl	107		70 - 130

Lab Sample ID: LCSD 880-43804/3-A
Matrix: Solid
Analysis Batch: 43781

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 43804

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec		RPD	Limit
		Result	Qualifier				Limits	RPD		
Gasoline Range Organics (GRO)-C6-C10	1000	914.9		mg/Kg		91	70 - 130	4	20	
Diesel Range Organics (Over C10-C28)	1000	1075		mg/Kg		108	70 - 130	14	20	

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
1-Chlorooctane	122		70 - 130
o-Terphenyl	121		70 - 130

Lab Sample ID: 890-3804-A-1-F MS
Matrix: Solid
Analysis Batch: 43781

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 43804

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec	
				Result	Qualifier				Limits	RPD
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F2	998	891.6		mg/Kg		88	70 - 130	
Diesel Range Organics (Over C10-C28)	<49.9	U	998	983.2		mg/Kg		99	70 - 130	

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1-Chlorooctane	96		70 - 130
o-Terphenyl	100		70 - 130

Lab Sample ID: 890-3804-A-1-G MSD
Matrix: Solid
Analysis Batch: 43781

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 43804

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD MSD		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F2	997	1139	F2	mg/Kg		113	70 - 130	24	20	
Diesel Range Organics (Over C10-C28)	<49.9	U	997	1082		mg/Kg		109	70 - 130	10	20	

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
1-Chlorooctane	98		70 - 130
o-Terphenyl	102		70 - 130

QC Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3811-1
 SDG: Lea County NM

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-43792/1-A
 Matrix: Solid
 Analysis Batch: 43924

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			01/13/23 23:50	1

Lab Sample ID: LCS 880-43792/2-A
 Matrix: Solid
 Analysis Batch: 43924

Client Sample ID: Lab Control Sample
 Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	255.0		mg/Kg		102	90 - 110

Lab Sample ID: LCSD 880-43792/3-A
 Matrix: Solid
 Analysis Batch: 43924

Client Sample ID: Lab Control Sample Dup
 Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	251.6		mg/Kg		101	90 - 110	1	20

Lab Sample ID: 890-3810-A-1-C MS
 Matrix: Solid
 Analysis Batch: 43924

Client Sample ID: Matrix Spike
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	428		250	673.4		mg/Kg		98	90 - 110

Lab Sample ID: 890-3810-A-1-D MSD
 Matrix: Solid
 Analysis Batch: 43924

Client Sample ID: Matrix Spike Duplicate
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	428		250	670.2		mg/Kg		97	90 - 110	0	20

QC Association Summary

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3811-1
 SDG: Lea County NM

GC VOA

Prep Batch: 43732

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3811-1	FS15	Total/NA	Solid	5035	
MB 880-43732/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-43732/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-43732/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3783-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
890-3783-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 43878

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3811-1	FS15	Total/NA	Solid	8021B	43732
MB 880-43732/5-A	Method Blank	Total/NA	Solid	8021B	43732
LCS 880-43732/1-A	Lab Control Sample	Total/NA	Solid	8021B	43732
LCSD 880-43732/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	43732
890-3783-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	43732
890-3783-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	43732

Analysis Batch: 44090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3811-1	FS15	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 43781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3811-1	FS15	Total/NA	Solid	8015B NM	43804
MB 880-43804/1-A	Method Blank	Total/NA	Solid	8015B NM	43804
LCS 880-43804/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	43804
LCSD 880-43804/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	43804
890-3804-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	43804
890-3804-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	43804

Prep Batch: 43804

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3811-1	FS15	Total/NA	Solid	8015NM Prep	
MB 880-43804/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-43804/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-43804/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3804-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3804-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 43883

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3811-1	FS15	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 43792

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3811-1	FS15	Soluble	Solid	DI Leach	
MB 880-43792/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-43792/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-43792/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3811-1
SDG: Lea County NM

HPLC/IC (Continued)

Leach Batch: 43792 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3810-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3810-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 43924

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3811-1	FS15	Soluble	Solid	300.0	43792
MB 880-43792/1-A	Method Blank	Soluble	Solid	300.0	43792
LCS 880-43792/2-A	Lab Control Sample	Soluble	Solid	300.0	43792
LCSD 880-43792/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	43792
890-3810-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	43792
890-3810-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	43792

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Lab Chronicle

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3811-1
 SDG: Lea County NM

Client Sample ID: FS15

Lab Sample ID: 890-3811-1

Date Collected: 01/06/23 13:35

Matrix: Solid

Date Received: 01/10/23 09:05

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	43732	01/11/23 12:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43878	01/14/23 01:30	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			44090	01/16/23 16:58	AJ	EET MID
Total/NA	Analysis	8015 NM		1			43883	01/13/23 12:42	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	43804	01/12/23 11:42	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43781	01/12/23 22:38	AJ	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	43792	01/12/23 09:21	KS	EET MID
Soluble	Analysis	300.0		1			43924	01/14/23 01:39	CH	EET MID

Laboratory References:

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

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Accreditation/Certification Summary

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3811-1
SDG: Lea County NM

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	T104704400-22-25	06-30-23

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

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Method Summary

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3811-1
 SDG: Lea County NM

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	MCAWW	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET 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:

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



Sample Summary

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3811-1
SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3811-1	FS15	Solid	01/06/23 13:35	01/10/23 09:05	2

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Environment Testing
Xenco

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Chain of Custody

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Hadlie Green	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marlenfeld St Suite 400	Address:	601 N Marlenfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	432-557-8895	Email:	kjennings@ensolum.com, hgreen@ensolum.com

Work Order Comments	
Program: UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>	State of Project:
Reporting Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>	Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:

Project Name:	Jalmat Yates Sand Unit 170	Turn Around	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	Pres. Code	
Project Number:	03D2057047	Due Date:			
Project Location:	Lea County, NM	TAT starts the day received by the lab, if received by 4:30pm			
Sampler's Name:	Dmitry Nikanorov	Well Ice	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
PO #:		Thermometer ID:	11111111		
SAMPLE RECEIPT		Temp Blank:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Samples Received Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Correction Factor:	N/A		
Cooler Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Temperature Reading:	20.8		
Sample Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Corrected Temperature:	20.10		
Total Containers:					



890-3811 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	ANALYSIS REQUEST	Preservative Codes	Sample Comments	Incident Number
FS15	S	1/6/2023	13:35	2'	Comp	1	CHLORIDES (EPA: 300.0) <input checked="" type="checkbox"/> TPH (8015) <input checked="" type="checkbox"/> BTEX (8021) <input checked="" type="checkbox"/>	None: NO <input type="checkbox"/> DI Water: H ₂ O <input type="checkbox"/> Cool: Cool <input type="checkbox"/> MeOH: Me <input type="checkbox"/> HCL: HC <input type="checkbox"/> HNO ₃ : HN <input type="checkbox"/> H ₂ SO ₄ : H ₂ <input type="checkbox"/> NaOH: Na <input type="checkbox"/> H ₃ PO ₄ : HP <input type="checkbox"/> NaHSO ₄ : NABIS <input type="checkbox"/> Na ₂ S ₂ O ₅ : NASO ₃ <input type="checkbox"/> Zn Acetate+NaOH: Zn <input type="checkbox"/> NaOH+Ascorbic Acid: SAPC <input type="checkbox"/>		
<i>DN 01106112</i>										

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO₂ Na Sr Ti Sn U V Zn
 Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag TI U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	1-10-23 905			

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3811-1
SDG Number: Lea County NM

Login Number: 3811
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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.	N/A	Refer to Job Narrative for details.
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	

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Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3811-1
SDG Number: Lea County NM

Login Number: 3811
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 01/11/23 11:43 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

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Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Hadlie Green
 Ensolum
 601 N. Marienfeld St.
 Suite 400
 Midland, Texas 79701
 Generated 1/16/2023 6:20:57 PM

JOB DESCRIPTION

Jalmat Yates Sand Unit #170
 SDG NUMBER Lea County NM

JOB NUMBER

890-3812-1

Eurofins Carlsbad
 1089 N Canal St.
 Carlsbad NM 88220



Eurofins Carlsbad

Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
1/16/2023 6:20:57 PM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

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- 12
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- 14

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Laboratory Job ID: 890-3812-1
SDG: Lea County NM

Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
Surrogate Summary	7
QC Sample Results	8
QC Association Summary	12
Lab Chronicle	14
Certification Summary	15
Method Summary	16
Sample Summary	17
Chain of Custody	18
Receipt Checklists	19

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

Definitions/Glossary

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3812-1
SDG: Lea County NM

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3812-1
SDG: Lea County NM

Job ID: 890-3812-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3812-1

Receipt

The sample was received on 1/10/2023 9:05 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.6°C

Receipt Exceptions

The following sample was received and analyzed from an unpreserved bulk soil jar: FS04 (890-3812-1).

GC VOA

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

GC Semi VOA

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-43804 and analytical batch 880-43781 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (MB 880-43804/1-A). Evidence of matrix interferences is not obvious.

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

HPLC/IC

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



Client Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3812-1
 SDG: Lea County NM

Client Sample ID: FS04

Lab Sample ID: 890-3812-1

Date Collected: 01/06/23 09:55

Matrix: Solid

Date Received: 01/10/23 09:05

Sample Depth: 1

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/11/23 12:26	01/14/23 01:57	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/11/23 12:26	01/14/23 01:57	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		01/11/23 12:26	01/14/23 01:57	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		01/11/23 12:26	01/14/23 01:57	1
o-Xylene	0.00579		0.00199	mg/Kg		01/11/23 12:26	01/14/23 01:57	1
Xylenes, Total	0.00579		0.00398	mg/Kg		01/11/23 12:26	01/14/23 01:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130	01/11/23 12:26	01/14/23 01:57	1
1,4-Difluorobenzene (Surr)	90		70 - 130	01/11/23 12:26	01/14/23 01:57	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.00579		0.00398	mg/Kg			01/16/23 16:58	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	81.7		50.0	mg/Kg			01/13/23 12:42	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		01/12/23 11:42	01/13/23 03:02	1
Diesel Range Organics (Over C10-C28)	81.7		50.0	mg/Kg		01/12/23 11:42	01/13/23 03:02	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/12/23 11:42	01/13/23 03:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	87		70 - 130	01/12/23 11:42	01/13/23 03:02	1
o-Terphenyl	92		70 - 130	01/12/23 11:42	01/13/23 03:02	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	543		5.00	mg/Kg			01/14/23 01:44	1

Surrogate Summary

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3812-1
 SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-3783-A-1-A MS	Matrix Spike	97	104
890-3783-A-1-B MSD	Matrix Spike Duplicate	80	88
890-3812-1	FS04	104	90
LCS 880-43732/1-A	Lab Control Sample	104	103
LCSD 880-43732/2-A	Lab Control Sample Dup	90	94
MB 880-43732/5-A	Method Blank	71	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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-3804-A-1-F MS	Matrix Spike	96	100
890-3804-A-1-G MSD	Matrix Spike Duplicate	98	102
890-3812-1	FS04	87	92
LCS 880-43804/2-A	Lab Control Sample	106	107
LCSD 880-43804/3-A	Lab Control Sample Dup	122	121
MB 880-43804/1-A	Method Blank	144 S1+	154 S1+

Surrogate Legend
 1CO = 1-Chlorooctane
 OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3812-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-43732/5-A
Matrix: Solid
Analysis Batch: 43878

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 43732

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/11/23 12:26	01/13/23 17:05	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/11/23 12:26	01/13/23 17:05	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/11/23 12:26	01/13/23 17:05	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/11/23 12:26	01/13/23 17:05	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/11/23 12:26	01/13/23 17:05	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/11/23 12:26	01/13/23 17:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	71		70 - 130	01/11/23 12:26	01/13/23 17:05	1
1,4-Difluorobenzene (Surr)	89		70 - 130	01/11/23 12:26	01/13/23 17:05	1

Lab Sample ID: LCS 880-43732/1-A
Matrix: Solid
Analysis Batch: 43878

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 43732

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1063		mg/Kg		106	70 - 130
Toluene	0.100	0.1068		mg/Kg		107	70 - 130
Ethylbenzene	0.100	0.1090		mg/Kg		109	70 - 130
m-Xylene & p-Xylene	0.200	0.2280		mg/Kg		114	70 - 130
o-Xylene	0.100	0.1083		mg/Kg		108	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Lab Sample ID: LCSD 880-43732/2-A
Matrix: Solid
Analysis Batch: 43878

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 43732

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	0.100	0.08286		mg/Kg		83	70 - 130	25	35
Toluene	0.100	0.07825		mg/Kg		78	70 - 130	31	35
Ethylbenzene	0.100	0.08311		mg/Kg		83	70 - 130	27	35
m-Xylene & p-Xylene	0.200	0.1720		mg/Kg		86	70 - 130	28	35
o-Xylene	0.100	0.08557		mg/Kg		86	70 - 130	23	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

Lab Sample ID: 890-3783-A-1-A MS
Matrix: Solid
Analysis Batch: 43878

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 43732

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00202	U	0.0998	0.09041		mg/Kg		91	70 - 130
Toluene	<0.00202	U	0.0998	0.08508		mg/Kg		85	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3812-1
SDG: Lea County NM

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

Lab Sample ID: 890-3783-A-1-A MS
Matrix: Solid
Analysis Batch: 43878

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 43732

Analyte	Sample	Sample	Spike	MS		Unit	D	%Rec	%Rec
	Result	Qualifier		Result	Qualifier				
Ethylbenzene	<0.00202	U	0.0998	0.08917		mg/Kg		89	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.200	0.1833		mg/Kg		92	70 - 130
o-Xylene	<0.00202	U	0.0998	0.08757		mg/Kg		88	70 - 130

Surrogate	MS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	97		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: 890-3783-A-1-B MSD
Matrix: Solid
Analysis Batch: 43878

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 43732

Analyte	Sample	Sample	Spike	MSD		Unit	D	%Rec	%Rec	RPD	
	Result	Qualifier		Result	Qualifier					Limits	RPD
Benzene	<0.00202	U	0.100	0.08380		mg/Kg		83	70 - 130	8	35
Toluene	<0.00202	U	0.100	0.07632		mg/Kg		76	70 - 130	11	35
Ethylbenzene	<0.00202	U	0.100	0.08294		mg/Kg		83	70 - 130	7	35
m-Xylene & p-Xylene	<0.00403	U	0.201	0.1702		mg/Kg		85	70 - 130	7	35
o-Xylene	<0.00202	U	0.100	0.07939		mg/Kg		79	70 - 130	10	35

Surrogate	MSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	80		70 - 130
1,4-Difluorobenzene (Surr)	88		70 - 130

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

Lab Sample ID: MB 880-43804/1-A
Matrix: Solid
Analysis Batch: 43781

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 43804

Analyte	MB		RL	Unit	D	Prepared		Analyzed		Dil Fac
	Result	Qualifier								
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		01/12/23 11:42	01/12/23 19:44			1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/12/23 11:42	01/12/23 19:44			1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/12/23 11:42	01/12/23 19:44			1

Surrogate	MB		Limits	Prepared		Analyzed		Dil Fac
	%Recovery	Qualifier						
1-Chlorooctane	144	S1+	70 - 130	01/12/23 11:42		01/12/23 19:44		1
o-Terphenyl	154	S1+	70 - 130	01/12/23 11:42		01/12/23 19:44		1

Lab Sample ID: LCS 880-43804/2-A
Matrix: Solid
Analysis Batch: 43781

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 43804

Analyte	Spike	LCS		Unit	D	%Rec	%Rec
		Result	Qualifier				
Gasoline Range Organics (GRO)-C6-C10	1000	949.4		mg/Kg		95	70 - 130
Diesel Range Organics (Over C10-C28)	1000	934.9		mg/Kg		93	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3812-1
 SDG: Lea County NM

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

Lab Sample ID: LCS 880-43804/2-A
Matrix: Solid
Analysis Batch: 43781

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 43804

Surrogate	LCS		Limits
	%Recovery	Qualifier	
1-Chlorooctane	106		70 - 130
o-Terphenyl	107		70 - 130

Lab Sample ID: LCSD 880-43804/3-A
Matrix: Solid
Analysis Batch: 43781

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 43804

Analyte	Spike Added	LCSD		Unit	D	%Rec	%Rec		RPD	Limit
		Result	Qualifier				Limits	RPD		
Gasoline Range Organics (GRO)-C6-C10	1000	914.9		mg/Kg		91	70 - 130	4	20	
Diesel Range Organics (Over C10-C28)	1000	1075		mg/Kg		108	70 - 130	14	20	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
1-Chlorooctane	122		70 - 130
o-Terphenyl	121		70 - 130

Lab Sample ID: 890-3804-A-1-F MS
Matrix: Solid
Analysis Batch: 43781

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 43804

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec	
				Result	Qualifier				Limits	RPD
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F2	998	891.6		mg/Kg		88	70 - 130	
Diesel Range Organics (Over C10-C28)	<49.9	U	998	983.2		mg/Kg		99	70 - 130	

Surrogate	MS		Limits
	%Recovery	Qualifier	
1-Chlorooctane	96		70 - 130
o-Terphenyl	100		70 - 130

Lab Sample ID: 890-3804-A-1-G MSD
Matrix: Solid
Analysis Batch: 43781

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 43804

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F2	997	1139	F2	mg/Kg		113	70 - 130	24	20	
Diesel Range Organics (Over C10-C28)	<49.9	U	997	1082		mg/Kg		109	70 - 130	10	20	

Surrogate	MSD		Limits
	%Recovery	Qualifier	
1-Chlorooctane	98		70 - 130
o-Terphenyl	102		70 - 130

QC Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3812-1
 SDG: Lea County NM

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-43792/1-A
 Matrix: Solid
 Analysis Batch: 43924

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			01/13/23 23:50	1

Lab Sample ID: LCS 880-43792/2-A
 Matrix: Solid
 Analysis Batch: 43924

Client Sample ID: Lab Control Sample
 Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	255.0		mg/Kg		102	90 - 110

Lab Sample ID: LCSD 880-43792/3-A
 Matrix: Solid
 Analysis Batch: 43924

Client Sample ID: Lab Control Sample Dup
 Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	251.6		mg/Kg		101	90 - 110	1	20

Lab Sample ID: 890-3810-A-1-C MS
 Matrix: Solid
 Analysis Batch: 43924

Client Sample ID: Matrix Spike
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	428		250	673.4		mg/Kg		98	90 - 110

Lab Sample ID: 890-3810-A-1-D MSD
 Matrix: Solid
 Analysis Batch: 43924

Client Sample ID: Matrix Spike Duplicate
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	428		250	670.2		mg/Kg		97	90 - 110	0	20

QC Association Summary

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3812-1
 SDG: Lea County NM

GC VOA

Prep Batch: 43732

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3812-1	FS04	Total/NA	Solid	5035	
MB 880-43732/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-43732/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-43732/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3783-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
890-3783-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 43878

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3812-1	FS04	Total/NA	Solid	8021B	43732
MB 880-43732/5-A	Method Blank	Total/NA	Solid	8021B	43732
LCS 880-43732/1-A	Lab Control Sample	Total/NA	Solid	8021B	43732
LCSD 880-43732/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	43732
890-3783-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	43732
890-3783-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	43732

Analysis Batch: 44091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3812-1	FS04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 43781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3812-1	FS04	Total/NA	Solid	8015B NM	43804
MB 880-43804/1-A	Method Blank	Total/NA	Solid	8015B NM	43804
LCS 880-43804/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	43804
LCSD 880-43804/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	43804
890-3804-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	43804
890-3804-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	43804

Prep Batch: 43804

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3812-1	FS04	Total/NA	Solid	8015NM Prep	
MB 880-43804/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-43804/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-43804/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3804-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3804-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 43887

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3812-1	FS04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 43792

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3812-1	FS04	Soluble	Solid	DI Leach	
MB 880-43792/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-43792/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-43792/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3812-1
 SDG: Lea County NM

HPLC/IC (Continued)

Leach Batch: 43792 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3810-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3810-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 43924

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3812-1	FS04	Soluble	Solid	300.0	43792
MB 880-43792/1-A	Method Blank	Soluble	Solid	300.0	43792
LCS 880-43792/2-A	Lab Control Sample	Soluble	Solid	300.0	43792
LCSD 880-43792/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	43792
890-3810-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	43792
890-3810-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	43792

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Lab Chronicle

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3812-1
 SDG: Lea County NM

Client Sample ID: FS04

Lab Sample ID: 890-3812-1

Date Collected: 01/06/23 09:55

Matrix: Solid

Date Received: 01/10/23 09:05

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	43732	01/11/23 12:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43878	01/14/23 01:57	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			44091	01/16/23 16:58	AJ	EET MID
Total/NA	Analysis	8015 NM		1			43887	01/13/23 12:42	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	43804	01/12/23 11:42	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43781	01/13/23 03:02	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	43792	01/12/23 09:21	KS	EET MID
Soluble	Analysis	300.0		1			43924	01/14/23 01:44	CH	EET MID

Laboratory References:

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

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Accreditation/Certification Summary

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3812-1
SDG: Lea County NM

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	T104704400-22-25	06-30-23

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

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Method Summary

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3812-1
SDG: Lea County NM

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	MCAWW	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET 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:

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



Sample Summary

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3812-1
SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3812-1	FS04	Solid	01/06/23 09:55	01/10/23 09:05	1

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Environment Testing
Xenco

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Chain of Custody

Work Order No: _____


www.xenco.com Page 1 of 1

Project Manager:	Hadlie Green	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marientfield St Suite 400	Address:	601 N Marientfield St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	432-557-8895	Email:	kiennings@ensolum.com, hgreen@ensolum.com

Work Order Comments	
Program: UST/PST	<input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>
State of Project:	Reporting Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables: EDD	<input type="checkbox"/> ADAPT <input type="checkbox"/> Other: _____

Project Name:	Jalmat Yates Sand Unit 170	Turn Around	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	Pres. Code	
Project Number:	03D2057047	Due Date:			
Project Location:	Lea County, NM	TAT starts the day received by the lab, if received by 4:30pm			
Sampler's Name:	Dmitry Nikanorov	Wet Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
PO #:		Thermometer ID:	710007		
SAMPLE RECEIPT	Temp Blank:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Correction Factor:	-0.2	
Samples Received Intact:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Temperature Reading:	2.5		
Cooler Custody Seals:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Corrected Temperature:	2.3		
Sample Custody Seals:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				
Total Containers:					

ANALYSIS REQUEST



890-3812 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	Preservative Codes	Sample Comments	Incident Number
FS04	S	1/6/2023	9:55	1'	Comp	1	CHLORIDES (EPA: 300.0) X TPH (8015) X BTEX (8021) X	None: NO DI Water: H ₂ O Cool: Cool HCL: HC HNO ₃ : HN H ₂ SO ₄ : H ₂ H ₃ PO ₄ : HP NaHSO ₄ : NABIS Na ₂ S ₂ O ₃ : NASO ₃ Zn Acetate+NaOH: Zn NaOH+Ascorbic Acid: SAFC		
<i>PHOTO</i>										

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO₂ Na Sr Ti Sn U V Zn
 Circle Method(s) and Metal(s) to be analyzed: TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	1-10-23 905			

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3812-1
SDG Number: Lea County NM

Login Number: 3812
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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.	N/A	Refer to Job Narrative for details.
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	

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Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3812-1
SDG Number: Lea County NM

Login Number: 3812
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 01/11/23 11:43 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

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Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Hadlie Green
 Ensolum
 601 N. Marienfeld St.
 Suite 400
 Midland, Texas 79701
 Generated 1/17/2023 2:04:25 PM

JOB DESCRIPTION

Jalmat Yates Sand Unit #170
 SDG NUMBER Lea County NM

JOB NUMBER

890-3813-1

Eurofins Carlsbad
 1089 N Canal St.
 Carlsbad NM 88220



Eurofins Carlsbad

Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
1/17/2023 2:04:25 PM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Laboratory Job ID: 890-3813-1
SDG: Lea County NM

Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
Surrogate Summary	7
QC Sample Results	8
QC Association Summary	12
Lab Chronicle	14
Certification Summary	15
Method Summary	16
Sample Summary	17
Chain of Custody	18
Receipt Checklists	19

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

Definitions/Glossary

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3813-1
 SDG: Lea County NM

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3813-1
SDG: Lea County NM

Job ID: 890-3813-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3813-1

Receipt

The sample was received on 1/10/2023 9:05 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.6°C

Receipt Exceptions

The following sample was received and analyzed from an unpreserved bulk soil jar: FS06 (890-3813-1).

GC VOA

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

GC Semi VOA

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-43804 and analytical batch 880-43781 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (MB 880-43804/1-A). Evidence of matrix interferences is not obvious.

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

HPLC/IC

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



Client Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3813-1
 SDG: Lea County NM

Client Sample ID: FS06

Lab Sample ID: 890-3813-1

Date Collected: 01/06/23 10:25

Matrix: Solid

Date Received: 01/10/23 09:05

Sample Depth: 1

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		01/13/23 13:36	01/16/23 21:25	1
Toluene	<0.00201	U	0.00201	mg/Kg		01/13/23 13:36	01/16/23 21:25	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		01/13/23 13:36	01/16/23 21:25	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		01/13/23 13:36	01/16/23 21:25	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		01/13/23 13:36	01/16/23 21:25	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		01/13/23 13:36	01/16/23 21:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	118		70 - 130	01/13/23 13:36	01/16/23 21:25	1
1,4-Difluorobenzene (Surr)	104		70 - 130	01/13/23 13:36	01/16/23 21:25	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			01/17/23 14:44	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	627		50.0	mg/Kg			01/13/23 12:42	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		01/12/23 11:42	01/13/23 03:45	1
Diesel Range Organics (Over C10-C28)	543		50.0	mg/Kg		01/12/23 11:42	01/13/23 03:45	1
Oil Range Organics (Over C28-C36)	83.5		50.0	mg/Kg		01/12/23 11:42	01/13/23 03:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	94		70 - 130	01/12/23 11:42	01/13/23 03:45	1
o-Terphenyl	102		70 - 130	01/12/23 11:42	01/13/23 03:45	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1460		4.98	mg/Kg			01/14/23 02:01	1

Surrogate Summary

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3813-1
 SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-3808-A-1-D MS	Matrix Spike	111	102
890-3808-A-1-E MSD	Matrix Spike Duplicate	112	103
890-3813-1	FS06	118	104
LCS 880-43748/1-A	Lab Control Sample	111	100
LCSD 880-43748/2-A	Lab Control Sample Dup	112	105
MB 880-43748/5-A	Method Blank	112	100
MB 880-43960/8	Method Blank	110	99

Surrogate Legend
 BFB = 4-Bromofluorobenzene (Surr)
 DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-3804-A-1-F MS	Matrix Spike	96	100
890-3804-A-1-G MSD	Matrix Spike Duplicate	98	102
890-3813-1	FS06	94	102
LCS 880-43804/2-A	Lab Control Sample	106	107
LCSD 880-43804/3-A	Lab Control Sample Dup	122	121
MB 880-43804/1-A	Method Blank	144 S1+	154 S1+

Surrogate Legend
 1CO = 1-Chlorooctane
 OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3813-1
 SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-43748/5-A
 Matrix: Solid
 Analysis Batch: 43960

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 43748

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/13/23 13:36	01/16/23 19:34	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/13/23 13:36	01/16/23 19:34	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/13/23 13:36	01/16/23 19:34	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/13/23 13:36	01/16/23 19:34	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/13/23 13:36	01/16/23 19:34	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/13/23 13:36	01/16/23 19:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	01/13/23 13:36	01/16/23 19:34	1
1,4-Difluorobenzene (Surr)	100		70 - 130	01/13/23 13:36	01/16/23 19:34	1

Lab Sample ID: LCS 880-43748/1-A
 Matrix: Solid
 Analysis Batch: 43960

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 43748

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1121		mg/Kg		112	70 - 130
Toluene	0.100	0.1077		mg/Kg		108	70 - 130
Ethylbenzene	0.100	0.1052		mg/Kg		105	70 - 130
m-Xylene & p-Xylene	0.200	0.2165		mg/Kg		108	70 - 130
o-Xylene	0.100	0.1024		mg/Kg		102	70 - 130

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

Lab Sample ID: LCSD 880-43748/2-A
 Matrix: Solid
 Analysis Batch: 43960

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 43748

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1159		mg/Kg		116	70 - 130	3	35
Toluene	0.100	0.1086		mg/Kg		109	70 - 130	1	35
Ethylbenzene	0.100	0.1066		mg/Kg		107	70 - 130	1	35
m-Xylene & p-Xylene	0.200	0.2192		mg/Kg		110	70 - 130	1	35
o-Xylene	0.100	0.1045		mg/Kg		105	70 - 130	2	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	112		70 - 130
1,4-Difluorobenzene (Surr)	105		70 - 130

Lab Sample ID: 890-3808-A-1-D MS
 Matrix: Solid
 Analysis Batch: 43960

Client Sample ID: Matrix Spike
 Prep Type: Total/NA
 Prep Batch: 43748

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U	0.101	0.09870		mg/Kg		98	70 - 130
Toluene	<0.00200	U	0.101	0.09623		mg/Kg		95	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3813-1
SDG: Lea County NM

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

Lab Sample ID: 890-3808-A-1-D MS
Matrix: Solid
Analysis Batch: 43960

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 43748

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier				
Ethylbenzene	<0.00200	U	0.101	0.09472		mg/Kg		94	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.202	0.1946		mg/Kg		96	70 - 130
o-Xylene	<0.00200	U	0.101	0.09494		mg/Kg		94	70 - 130

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	111		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: 890-3808-A-1-E MSD
Matrix: Solid
Analysis Batch: 43960

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 43748

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
Benzene	<0.00200	U	0.0996	0.1006		mg/Kg		101	70 - 130	2	35
Toluene	<0.00200	U	0.0996	0.09733		mg/Kg		98	70 - 130	1	35
Ethylbenzene	<0.00200	U	0.0996	0.09546		mg/Kg		96	70 - 130	1	35
m-Xylene & p-Xylene	<0.00401	U	0.199	0.1956		mg/Kg		98	70 - 130	1	35
o-Xylene	<0.00200	U	0.0996	0.09472		mg/Kg		95	70 - 130	0	35

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	112		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Lab Sample ID: MB 880-43960/8
Matrix: Solid
Analysis Batch: 43960

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Benzene	<0.00200	U	0.00200	mg/Kg			01/16/23 12:24	1
Toluene	<0.00200	U	0.00200	mg/Kg			01/16/23 12:24	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg			01/16/23 12:24	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg			01/16/23 12:24	1
o-Xylene	<0.00200	U	0.00200	mg/Kg			01/16/23 12:24	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg			01/16/23 12:24	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	110		70 - 130		01/16/23 12:24	1
1,4-Difluorobenzene (Surr)	99		70 - 130		01/16/23 12:24	1

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

Lab Sample ID: MB 880-43804/1-A
Matrix: Solid
Analysis Batch: 43781

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 43804

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		01/12/23 11:42	01/12/23 19:44	1

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QC Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3813-1
 SDG: Lea County NM

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

Lab Sample ID: MB 880-43804/1-A
Matrix: Solid
Analysis Batch: 43781

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 43804

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/12/23 11:42	01/12/23 19:44	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/12/23 11:42	01/12/23 19:44	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1-Chlorooctane	144	S1+	70 - 130	01/12/23 11:42	01/12/23 19:44	1
o-Terphenyl	154	S1+	70 - 130	01/12/23 11:42	01/12/23 19:44	1

Lab Sample ID: LCS 880-43804/2-A
Matrix: Solid
Analysis Batch: 43781

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 43804

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Gasoline Range Organics (GRO)-C6-C10	1000	949.4		mg/Kg		95	70 - 130
Diesel Range Organics (Over C10-C28)	1000	934.9		mg/Kg		93	70 - 130

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1-Chlorooctane	106		70 - 130
o-Terphenyl	107		70 - 130

Lab Sample ID: LCSD 880-43804/3-A
Matrix: Solid
Analysis Batch: 43781

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 43804

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
		Result	Qualifier						
Gasoline Range Organics (GRO)-C6-C10	1000	914.9		mg/Kg		91	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	1000	1075		mg/Kg		108	70 - 130	14	20

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
1-Chlorooctane	122		70 - 130
o-Terphenyl	121		70 - 130

Lab Sample ID: 890-3804-A-1-F MS
Matrix: Solid
Analysis Batch: 43781

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 43804

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier		Result	Qualifier				
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F2	998	891.6		mg/Kg		88	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	998	983.2		mg/Kg		99	70 - 130

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1-Chlorooctane	96		70 - 130
o-Terphenyl	100		70 - 130

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QC Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3813-1
 SDG: Lea County NM

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

Lab Sample ID: 890-3804-A-1-G MSD
 Matrix: Solid
 Analysis Batch: 43781

Client Sample ID: Matrix Spike Duplicate
 Prep Type: Total/NA
 Prep Batch: 43804

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 F2	997	1139	F2	mg/Kg		113	70 - 130	24	20
Diesel Range Organics (Over C10-C28)	<49.9	U	997	1082		mg/Kg		109	70 - 130	10	20
Surrogate	%Recovery	MSD Qualifier		MSD						Limits	
1-Chlorooctane	98									70 - 130	
o-Terphenyl	102									70 - 130	

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-43792/1-A
 Matrix: Solid
 Analysis Batch: 43924

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			01/13/23 23:50	1

Lab Sample ID: LCS 880-43792/2-A
 Matrix: Solid
 Analysis Batch: 43924

Client Sample ID: Lab Control Sample
 Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	255.0		mg/Kg		102	90 - 110

Lab Sample ID: LCSD 880-43792/3-A
 Matrix: Solid
 Analysis Batch: 43924

Client Sample ID: Lab Control Sample Dup
 Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	251.6		mg/Kg		101	90 - 110	1	20

Lab Sample ID: 890-3810-A-1-C MS
 Matrix: Solid
 Analysis Batch: 43924

Client Sample ID: Matrix Spike
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	428		250	673.4		mg/Kg		98	90 - 110

Lab Sample ID: 890-3810-A-1-D MSD
 Matrix: Solid
 Analysis Batch: 43924

Client Sample ID: Matrix Spike Duplicate
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	428		250	670.2		mg/Kg		97	90 - 110	0	20

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3813-1
 SDG: Lea County NM

GC VOA

Prep Batch: 43748

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3813-1	FS06	Total/NA	Solid	5035	
MB 880-43748/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-43748/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-43748/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3808-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
890-3808-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 43960

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3813-1	FS06	Total/NA	Solid	8021B	43748
MB 880-43748/5-A	Method Blank	Total/NA	Solid	8021B	43748
MB 880-43960/8	Method Blank	Total/NA	Solid	8021B	
LCS 880-43748/1-A	Lab Control Sample	Total/NA	Solid	8021B	43748
LCSD 880-43748/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	43748
890-3808-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	43748
890-3808-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	43748

Analysis Batch: 44182

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3813-1	FS06	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 43781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3813-1	FS06	Total/NA	Solid	8015B NM	43804
MB 880-43804/1-A	Method Blank	Total/NA	Solid	8015B NM	43804
LCS 880-43804/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	43804
LCSD 880-43804/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	43804
890-3804-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	43804
890-3804-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	43804

Prep Batch: 43804

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3813-1	FS06	Total/NA	Solid	8015NM Prep	
MB 880-43804/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-43804/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-43804/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3804-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3804-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 43889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3813-1	FS06	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 43792

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3813-1	FS06	Soluble	Solid	DI Leach	
MB 880-43792/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-43792/2-A	Lab Control Sample	Soluble	Solid	DI Leach	

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3813-1
SDG: Lea County NM

HPLC/IC (Continued)

Leach Batch: 43792 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-43792/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3810-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3810-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 43924

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3813-1	FS06	Soluble	Solid	300.0	43792
MB 880-43792/1-A	Method Blank	Soluble	Solid	300.0	43792
LCS 880-43792/2-A	Lab Control Sample	Soluble	Solid	300.0	43792
LCSD 880-43792/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	43792
890-3810-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	43792
890-3810-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	43792

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Lab Chronicle

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3813-1
 SDG: Lea County NM

Client Sample ID: FS06

Lab Sample ID: 890-3813-1

Date Collected: 01/06/23 10:25

Matrix: Solid

Date Received: 01/10/23 09:05

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	43748	01/13/23 13:36	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43960	01/16/23 21:25	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			44182	01/17/23 14:44	SM	EET MID
Total/NA	Analysis	8015 NM		1			43889	01/13/23 12:42	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	43804	01/12/23 11:42	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43781	01/13/23 03:45	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	43792	01/12/23 09:21	KS	EET MID
Soluble	Analysis	300.0		1			43924	01/14/23 02:01	CH	EET MID

Laboratory References:

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

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Accreditation/Certification Summary

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3813-1
SDG: Lea County NM

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	T104704400-22-25	06-30-23

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

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- 2
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- 4
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- 13
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Method Summary

Client: Ensolum
 Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3813-1
 SDG: Lea County NM

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	MCAWW	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET 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:

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



Sample Summary

Client: Ensolum
Project/Site: Jalmat Yates Sand Unit #170

Job ID: 890-3813-1
SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3813-1	FS06	Solid	01/06/23 10:25	01/10/23 09:05	1

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Environment Testing
Xenco

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Chain of Custody

Work Order No: _____

www.xenco.com Page _____ of _____

Project Manager:	Hadlie Green	Bill to: (if different)	Kate Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marientfield St Suite 400	Address:	601 N Marientfield St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	432-557-8895	Email:	kjennings@ensolum.com; hgreen@ensolum.com

Work Order Comments	
Program:	UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>
State of Project:	
Reporting Level:	Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables:	EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other: _____

ANALYSIS REQUEST

Preservative Codes



890-3813 Chain of Custody

None: NO DI Water: H₂O
 Cool: Cool MeOH: Me
 HCL: HC HNO₃: HN
 H₂SO₄: H₂ NaOH: Na
 H₃PO₄: HP
 NaHSO₄: NABIS
 Na₂S₂O₃: NaSO₃
 Zn Acetate+NaOH: Zn
 NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters		Sample Comments	Incident Number
							CHLORIDES (EPA: 300.0)	TPH (8015)		
FS06	S	1/6/2023	10:25	1'	Comp	1	X	X		
<i>DTN 01106123</i>										

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO₂ Na Sr Ti Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed TCLP / S/PLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag TI U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	1/10/23 9:05			

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3813-1
SDG Number: Lea County NM

Login Number: 3813
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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.	N/A	Refer to Job Narrative for details.
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	

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Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3813-1
SDG Number: Lea County NM

Login Number: 3813
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 01/11/23 11:43 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

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Environment Testing

- 1
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ANALYTICAL REPORT

PREPARED FOR

Attn: Hadlie Green
 Ensolum
 601 N. Marienfeld St.
 Suite 400
 Midland, Texas 79701
 Generated 2/5/2023 9:38:17 AM

JOB DESCRIPTION

Jalmat Yates Sant Unit 170
 SDG NUMBER 03D2057047

JOB NUMBER

890-3924-1

Eurofins Carlsbad
 1089 N Canal St.
 Carlsbad NM 88220



Eurofins Carlsbad

Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
2/5/2023 9:38:17 AM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

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- 11
- 12
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- 14

Client: Ensolum
Project/Site: Jalmat Yates Sant Unit 170

Laboratory Job ID: 890-3924-1
SDG: 03D2057047

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

Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
Surrogate Summary	28
QC Sample Results	30
QC Association Summary	41
Lab Chronicle	48
Certification Summary	57
Method Summary	58
Sample Summary	59
Chain of Custody	60
Receipt Checklists	63

Definitions/Glossary

Client: Ensolum
Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
SDG: 03D2057047

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
SDG: 03D2057047

Job ID: 890-3924-1

Laboratory: Eurofins Carlsbad**Narrative**

**Job Narrative
890-3924-1****Receipt**

The samples were received on 1/23/2023 4:24 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.0°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: FS01 (890-3924-1), FS02 (890-3924-2), FS05 (890-3924-3), FS06 (890-3924-4), FS09 (890-3924-5), FS10 (890-3924-6), FS11 (890-3924-7), FS12 (890-3924-8), FS13 (890-3924-9), FS17 (890-3924-10), FS18 (890-3924-11), FS19 (890-3924-12), FS20 (890-3924-13), FS21 (890-3924-14), FS22 (890-3924-15), FS23 (890-3924-16), FS24 (890-3924-17), FS25 (890-3924-18), FS26 (890-3924-19), FS27 (890-3924-20), FS28 (890-3924-21), FS29 (890-3924-22), FS30 (890-3924-23), FS31 (890-3924-24), FS32 (890-3924-25), FS33 (890-3924-26) and FS34 (890-3924-27).

GC VOA

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-45146 and analytical batch 880-45131 was outside the control limits.

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

GC Semi VOA

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (890-3898-A-1-F MS). Evidence of matrix interferences is not obvious.

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

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-44791 and analytical batch 880-44924 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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



Client Sample Results

Client: Ensolum
Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
SDG: 03D2057047

Client Sample ID: FS01

Lab Sample ID: 890-3924-1

Date Collected: 01/18/23 10:00

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 2.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/31/23 16:30	02/01/23 05:56	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/31/23 16:30	02/01/23 05:56	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		01/31/23 16:30	02/01/23 05:56	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		01/31/23 16:30	02/01/23 05:56	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		01/31/23 16:30	02/01/23 05:56	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/31/23 16:30	02/01/23 05:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130	01/31/23 16:30	02/01/23 05:56	1
1,4-Difluorobenzene (Surr)	113		70 - 130	01/31/23 16:30	02/01/23 05:56	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			02/01/23 12:53	1

Method: SW846 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			02/03/23 11:49	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/01/23 12:51	02/03/23 03:27	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/01/23 12:51	02/03/23 03:27	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/01/23 12:51	02/03/23 03:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	90		70 - 130	02/01/23 12:51	02/03/23 03:27	1
o-Terphenyl	87		70 - 130	02/01/23 12:51	02/03/23 03:27	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	366		5.02	mg/Kg			01/27/23 15:42	1

Client Sample ID: FS02

Lab Sample ID: 890-3924-2

Date Collected: 01/18/23 10:10

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 2.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/31/23 16:30	02/01/23 06:16	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/31/23 16:30	02/01/23 06:16	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		01/31/23 16:30	02/01/23 06:16	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		01/31/23 16:30	02/01/23 06:16	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		01/31/23 16:30	02/01/23 06:16	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/31/23 16:30	02/01/23 06:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130	01/31/23 16:30	02/01/23 06:16	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

Client Sample ID: FS02

Lab Sample ID: 890-3924-2

Date Collected: 01/18/23 10:10

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 2.5'

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	116		70 - 130	01/31/23 16:30	02/01/23 06:16	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			02/01/23 12:53	1

Method: SW846 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			02/03/23 11:49	1

Method: SW846 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		02/01/23 12:51	02/03/23 03:47	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 12:51	02/03/23 03:47	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 12:51	02/03/23 03:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	87		70 - 130	02/01/23 12:51	02/03/23 03:47	1
o-Terphenyl	84		70 - 130	02/01/23 12:51	02/03/23 03:47	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	379		4.98	mg/Kg			01/27/23 16:01	1

Client Sample ID: FS05

Lab Sample ID: 890-3924-3

Date Collected: 01/18/23 10:45

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 2.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		01/31/23 16:30	02/01/23 06:37	1
Toluene	<0.00202	U	0.00202	mg/Kg		01/31/23 16:30	02/01/23 06:37	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		01/31/23 16:30	02/01/23 06:37	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		01/31/23 16:30	02/01/23 06:37	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		01/31/23 16:30	02/01/23 06:37	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		01/31/23 16:30	02/01/23 06:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	117		70 - 130	01/31/23 16:30	02/01/23 06:37	1
1,4-Difluorobenzene (Surr)	111		70 - 130	01/31/23 16:30	02/01/23 06:37	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404	mg/Kg			02/01/23 12:53	1

Method: SW846 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			02/03/23 11:49	1

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Client Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

Client Sample ID: FS05

Lab Sample ID: 890-3924-3

Date Collected: 01/18/23 10:45

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 2.5'

Method: SW846 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		02/01/23 12:51	02/03/23 04:07	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 12:51	02/03/23 04:07	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 12:51	02/03/23 04:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	84		70 - 130	02/01/23 12:51	02/03/23 04:07	1
o-Terphenyl	83		70 - 130	02/01/23 12:51	02/03/23 04:07	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	373		5.00	mg/Kg			01/27/23 16:07	1

Client Sample ID: FS06

Lab Sample ID: 890-3924-4

Date Collected: 01/18/23 13:20

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 2.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/31/23 16:30	02/01/23 06:57	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/31/23 16:30	02/01/23 06:57	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		01/31/23 16:30	02/01/23 06:57	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		01/31/23 16:30	02/01/23 06:57	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		01/31/23 16:30	02/01/23 06:57	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/31/23 16:30	02/01/23 06:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130	01/31/23 16:30	02/01/23 06:57	1
1,4-Difluorobenzene (Surr)	114		70 - 130	01/31/23 16:30	02/01/23 06:57	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			02/01/23 12:53	1

Method: SW846 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			02/03/23 11:49	1

Method: SW846 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		02/01/23 12:51	02/03/23 04:27	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 12:51	02/03/23 04:27	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 12:51	02/03/23 04:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	91		70 - 130	02/01/23 12:51	02/03/23 04:27	1
o-Terphenyl	88		70 - 130	02/01/23 12:51	02/03/23 04:27	1

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Client Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

Client Sample ID: FS06

Lab Sample ID: 890-3924-4

Date Collected: 01/18/23 13:20
 Date Received: 01/23/23 16:24
 Sample Depth: 2.5'

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	132		4.95	mg/Kg			01/27/23 16:13	1

Client Sample ID: FS09

Lab Sample ID: 890-3924-5

Date Collected: 01/18/23 13:25
 Date Received: 01/23/23 16:24
 Sample Depth: 2.5'

Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		01/31/23 16:30	02/01/23 07:17	1
Toluene	<0.00202	U	0.00202	mg/Kg		01/31/23 16:30	02/01/23 07:17	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		01/31/23 16:30	02/01/23 07:17	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		01/31/23 16:30	02/01/23 07:17	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		01/31/23 16:30	02/01/23 07:17	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		01/31/23 16:30	02/01/23 07:17	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130			01/31/23 16:30	02/01/23 07:17	1
1,4-Difluorobenzene (Surr)	118		70 - 130			01/31/23 16:30	02/01/23 07:17	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			02/01/23 12:53	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	54.8		49.9	mg/Kg			02/03/23 11:49	1

Method: SW846 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		02/01/23 12:51	02/03/23 04:47	1
Diesel Range Organics (Over C10-C28)	54.8		49.9	mg/Kg		02/01/23 12:51	02/03/23 04:47	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 12:51	02/03/23 04:47	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	89		70 - 130			02/01/23 12:51	02/03/23 04:47	1
o-Terphenyl	85		70 - 130			02/01/23 12:51	02/03/23 04:47	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	156		5.01	mg/Kg			01/27/23 16:19	1

Client Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

Client Sample ID: FS10

Lab Sample ID: 890-3924-6

Date Collected: 01/18/23 13:30

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 2.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 16:30	02/01/23 07:38	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 16:30	02/01/23 07:38	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 16:30	02/01/23 07:38	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		01/31/23 16:30	02/01/23 07:38	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 16:30	02/01/23 07:38	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		01/31/23 16:30	02/01/23 07:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130	01/31/23 16:30	02/01/23 07:38	1
1,4-Difluorobenzene (Surr)	115		70 - 130	01/31/23 16:30	02/01/23 07:38	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			02/01/23 12:53	1

Method: SW846 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			02/03/23 11:49	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/01/23 12:51	02/03/23 05:07	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/01/23 12:51	02/03/23 05:07	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/01/23 12:51	02/03/23 05:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130	02/01/23 12:51	02/03/23 05:07	1
o-Terphenyl	96		70 - 130	02/01/23 12:51	02/03/23 05:07	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	439		5.01	mg/Kg			01/27/23 16:38	1

Client Sample ID: FS11

Lab Sample ID: 890-3924-7

Date Collected: 01/19/23 08:30

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 2.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:29	01/31/23 17:36	1
Toluene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:29	01/31/23 17:36	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:29	01/31/23 17:36	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		01/31/23 14:29	01/31/23 17:36	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:29	01/31/23 17:36	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		01/31/23 14:29	01/31/23 17:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		70 - 130	01/31/23 14:29	01/31/23 17:36	1

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Client Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

Client Sample ID: FS11

Lab Sample ID: 890-3924-7

Date Collected: 01/19/23 08:30

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 2.5'

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	95		70 - 130	01/31/23 14:29	01/31/23 17:36	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			02/01/23 12:31	1

Method: SW846 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			02/03/23 16:54	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/01/23 14:47	02/03/23 11:16	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/01/23 14:47	02/03/23 11:16	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/01/23 14:47	02/03/23 11:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	121		70 - 130	02/01/23 14:47	02/03/23 11:16	1
o-Terphenyl	131	S1+	70 - 130	02/01/23 14:47	02/03/23 11:16	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	57.1		4.97	mg/Kg			01/27/23 16:44	1

Client Sample ID: FS12

Lab Sample ID: 890-3924-8

Date Collected: 01/19/23 08:35

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:29	01/31/23 17:56	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:29	01/31/23 17:56	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:29	01/31/23 17:56	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		01/31/23 14:29	01/31/23 17:56	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:29	01/31/23 17:56	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/31/23 14:29	01/31/23 17:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		70 - 130	01/31/23 14:29	01/31/23 17:56	1
1,4-Difluorobenzene (Surr)	92		70 - 130	01/31/23 14:29	01/31/23 17:56	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			02/01/23 12:31	1

Method: SW846 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			02/03/23 16:54	1

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Client Sample Results

Client: Ensolum
Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
SDG: 03D2057047

Client Sample ID: FS12

Lab Sample ID: 890-3924-8

Date Collected: 01/19/23 08:35

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 0.5'

Method: SW846 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		02/01/23 14:47	02/03/23 12:22	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 14:47	02/03/23 12:22	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 14:47	02/03/23 12:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	109		70 - 130	02/01/23 14:47	02/03/23 12:22	1
o-Terphenyl	116		70 - 130	02/01/23 14:47	02/03/23 12:22	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14.1		4.99	mg/Kg			01/27/23 16:50	1

Client Sample ID: FS13

Lab Sample ID: 890-3924-9

Date Collected: 01/19/23 08:40

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:29	01/31/23 18:17	1
Toluene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:29	01/31/23 18:17	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:29	01/31/23 18:17	1
m-Xylene & p-Xylene	<0.00397	U	0.00397	mg/Kg		01/31/23 14:29	01/31/23 18:17	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:29	01/31/23 18:17	1
Xylenes, Total	<0.00397	U	0.00397	mg/Kg		01/31/23 14:29	01/31/23 18:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		70 - 130	01/31/23 14:29	01/31/23 18:17	1
1,4-Difluorobenzene (Surr)	103		70 - 130	01/31/23 14:29	01/31/23 18:17	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397	mg/Kg			02/01/23 12:31	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	92.5		50.0	mg/Kg			02/03/23 16:54	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/01/23 14:47	02/03/23 12:45	1
Diesel Range Organics (Over C10-C28)	68.7		50.0	mg/Kg		02/01/23 14:47	02/03/23 12:45	1
Oil Range Organics (Over C28-C36)	23.8		50.0	mg/Kg		02/01/23 14:47	02/03/23 12:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130	02/01/23 14:47	02/03/23 12:45	1
o-Terphenyl	105		70 - 130	02/01/23 14:47	02/03/23 12:45	1

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Client Sample Results

Client: Ensolum
Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
SDG: 03D2057047

Client Sample ID: FS13

Lab Sample ID: 890-3924-9

Date Collected: 01/19/23 08:40
Date Received: 01/23/23 16:24
Sample Depth: 0.5'

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	127		5.00	mg/Kg			01/27/23 16:56	1

Client Sample ID: FS17

Lab Sample ID: 890-3924-10

Date Collected: 01/19/23 09:10
Date Received: 01/23/23 16:24
Sample Depth: 2.5'

Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 18:37	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 18:37	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 18:37	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/31/23 14:29	01/31/23 18:37	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 18:37	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/31/23 14:29	01/31/23 18:37	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130			01/31/23 14:29	01/31/23 18:37	1
1,4-Difluorobenzene (Surr)	85		70 - 130			01/31/23 14:29	01/31/23 18:37	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/Kg			02/01/23 12:31	1

Method: SW846 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			02/03/23 16:54	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/01/23 14:47	02/03/23 13:06	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/01/23 14:47	02/03/23 13:06	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/01/23 14:47	02/03/23 13:06	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	112		70 - 130			02/01/23 14:47	02/03/23 13:06	1
o-Terphenyl	122		70 - 130			02/01/23 14:47	02/03/23 13:06	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	345		5.00	mg/Kg			01/27/23 17:02	1

Client Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

Client Sample ID: FS18

Lab Sample ID: 890-3924-11

Date Collected: 01/19/23 09:15

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 2.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 18:58	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 18:58	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 18:58	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		01/31/23 14:29	01/31/23 18:58	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 18:58	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		01/31/23 14:29	01/31/23 18:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130	01/31/23 14:29	01/31/23 18:58	1
1,4-Difluorobenzene (Surr)	83		70 - 130	01/31/23 14:29	01/31/23 18:58	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			02/01/23 12:31	1

Method: SW846 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			02/03/23 16:54	1

Method: SW846 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		02/01/23 14:47	02/03/23 13:28	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 14:47	02/03/23 13:28	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 14:47	02/03/23 13:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	94		70 - 130	02/01/23 14:47	02/03/23 13:28	1
o-Terphenyl	105		70 - 130	02/01/23 14:47	02/03/23 13:28	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	393	F1	4.97	mg/Kg			01/27/23 17:08	1

Client Sample ID: FS19

Lab Sample ID: 890-3924-12

Date Collected: 01/19/23 09:20

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 2'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:29	01/31/23 19:18	1
Toluene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:29	01/31/23 19:18	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:29	01/31/23 19:18	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		01/31/23 14:29	01/31/23 19:18	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:29	01/31/23 19:18	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		01/31/23 14:29	01/31/23 19:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130	01/31/23 14:29	01/31/23 19:18	1

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Client Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

Client Sample ID: FS19

Lab Sample ID: 890-3924-12

Date Collected: 01/19/23 09:20

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 2'

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	86		70 - 130	01/31/23 14:29	01/31/23 19:18	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			02/01/23 12:31	1

Method: SW846 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			02/03/23 16:54	1

Method: SW846 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		02/01/23 14:47	02/03/23 13:51	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 14:47	02/03/23 13:51	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 14:47	02/03/23 13:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	94		70 - 130	02/01/23 14:47	02/03/23 13:51	1
o-Terphenyl	106		70 - 130	02/01/23 14:47	02/03/23 13:51	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.31		5.05	mg/Kg			01/27/23 17:27	1

Client Sample ID: FS20

Lab Sample ID: 890-3924-13

Date Collected: 01/19/23 09:25

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 19:39	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 19:39	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 19:39	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		01/31/23 14:29	01/31/23 19:39	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 19:39	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		01/31/23 14:29	01/31/23 19:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130	01/31/23 14:29	01/31/23 19:39	1
1,4-Difluorobenzene (Surr)	79		70 - 130	01/31/23 14:29	01/31/23 19:39	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			02/01/23 12:31	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	76.3		49.9	mg/Kg			02/03/23 16:54	1

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Client Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

Client Sample ID: FS20

Lab Sample ID: 890-3924-13

Date Collected: 01/19/23 09:25

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 0.5'

Method: SW846 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		02/01/23 14:47	02/03/23 14:12	1
Diesel Range Organics (Over C10-C28)	76.3		49.9	mg/Kg		02/01/23 14:47	02/03/23 14:12	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 14:47	02/03/23 14:12	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	52	S1-	70 - 130			02/01/23 14:47	02/03/23 14:12	1
o-Terphenyl	112		70 - 130			02/01/23 14:47	02/03/23 14:12	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	41.2		5.00	mg/Kg			01/27/23 17:33	1

Client Sample ID: FS21

Lab Sample ID: 890-3924-14

Date Collected: 01/19/23 11:00

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 2.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:29	01/31/23 19:59	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:29	01/31/23 19:59	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:29	01/31/23 19:59	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		01/31/23 14:29	01/31/23 19:59	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:29	01/31/23 19:59	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/31/23 14:29	01/31/23 19:59	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		70 - 130			01/31/23 14:29	01/31/23 19:59	1
1,4-Difluorobenzene (Surr)	90		70 - 130			01/31/23 14:29	01/31/23 19:59	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			02/01/23 12:31	1

Method: SW846 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			02/03/23 16:54	1

Method: SW846 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		02/01/23 14:47	02/03/23 14:34	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 14:47	02/03/23 14:34	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 14:47	02/03/23 14:34	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130			02/01/23 14:47	02/03/23 14:34	1
o-Terphenyl	106		70 - 130			02/01/23 14:47	02/03/23 14:34	1

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Client Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

Client Sample ID: FS21

Lab Sample ID: 890-3924-14

Date Collected: 01/19/23 11:00

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 2.5'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.86		4.98	mg/Kg			01/27/23 17:51	1

Client Sample ID: FS22

Lab Sample ID: 890-3924-15

Date Collected: 01/19/23 11:05

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		01/31/23 14:29	01/31/23 20:20	1
Toluene	<0.00201	U	0.00201	mg/Kg		01/31/23 14:29	01/31/23 20:20	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		01/31/23 14:29	01/31/23 20:20	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		01/31/23 14:29	01/31/23 20:20	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		01/31/23 14:29	01/31/23 20:20	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		01/31/23 14:29	01/31/23 20:20	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130			01/31/23 14:29	01/31/23 20:20	1
1,4-Difluorobenzene (Surr)	83		70 - 130			01/31/23 14:29	01/31/23 20:20	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			02/01/23 12:31	1

Method: SW846 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			02/03/23 16:54	1

Method: SW846 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		02/01/23 14:47	02/03/23 14:55	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 14:47	02/03/23 14:55	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 14:47	02/03/23 14:55	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130			02/01/23 14:47	02/03/23 14:55	1
o-Terphenyl	110		70 - 130			02/01/23 14:47	02/03/23 14:55	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	474		5.02	mg/Kg			01/27/23 17:58	1

Client Sample Results

Client: Ensolum
Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
SDG: 03D2057047

Client Sample ID: FS23

Lab Sample ID: 890-3924-16

Date Collected: 01/19/23 11:25

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		01/31/23 14:29	01/31/23 20:40	1
Toluene	<0.00201	U	0.00201	mg/Kg		01/31/23 14:29	01/31/23 20:40	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		01/31/23 14:29	01/31/23 20:40	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		01/31/23 14:29	01/31/23 20:40	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		01/31/23 14:29	01/31/23 20:40	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		01/31/23 14:29	01/31/23 20:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130	01/31/23 14:29	01/31/23 20:40	1
1,4-Difluorobenzene (Surr)	82		70 - 130	01/31/23 14:29	01/31/23 20:40	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			02/01/23 12:31	1

Method: SW846 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			02/03/23 16:54	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/01/23 14:47	02/03/23 15:16	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/01/23 14:47	02/03/23 15:16	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/01/23 14:47	02/03/23 15:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	109		70 - 130	02/01/23 14:47	02/03/23 15:16	1
o-Terphenyl	117		70 - 130	02/01/23 14:47	02/03/23 15:16	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12.3		4.98	mg/Kg			01/27/23 18:04	1

Client Sample ID: FS24

Lab Sample ID: 890-3924-17

Date Collected: 01/19/23 11:30

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 22:03	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 22:03	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 22:03	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		01/31/23 14:29	01/31/23 22:03	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 22:03	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		01/31/23 14:29	01/31/23 22:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130	01/31/23 14:29	01/31/23 22:03	1

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Client Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

Client Sample ID: FS24

Lab Sample ID: 890-3924-17

Date Collected: 01/19/23 11:30

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	82		70 - 130	01/31/23 14:29	01/31/23 22:03	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			02/01/23 12:31	1

Method: SW846 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			02/03/23 16:54	1

Method: SW846 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		02/01/23 14:47	02/03/23 16:00	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 14:47	02/03/23 16:00	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 14:47	02/03/23 16:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	108		70 - 130	02/01/23 14:47	02/03/23 16:00	1
o-Terphenyl	115		70 - 130	02/01/23 14:47	02/03/23 16:00	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<4.96	U	4.96	mg/Kg			01/27/23 18:10	1

Client Sample ID: FS25

Lab Sample ID: 890-3924-18

Date Collected: 01/19/23 11:35

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:29	01/31/23 22:24	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:29	01/31/23 22:24	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:29	01/31/23 22:24	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		01/31/23 14:29	01/31/23 22:24	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:29	01/31/23 22:24	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/31/23 14:29	01/31/23 22:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	80		70 - 130	01/31/23 14:29	01/31/23 22:24	1
1,4-Difluorobenzene (Surr)	97		70 - 130	01/31/23 14:29	01/31/23 22:24	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			02/01/23 12:31	1

Method: SW846 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			02/03/23 16:54	1

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Client Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

Client Sample ID: FS25

Lab Sample ID: 890-3924-18

Date Collected: 01/19/23 11:35

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 0.5'

Method: SW846 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		02/01/23 14:47	02/03/23 16:22	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 14:47	02/03/23 16:22	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 14:47	02/03/23 16:22	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	94		70 - 130			02/01/23 14:47	02/03/23 16:22	1
o-Terphenyl	106		70 - 130			02/01/23 14:47	02/03/23 16:22	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<4.98	U	4.98	mg/Kg			01/27/23 18:16	1

Client Sample ID: FS26

Lab Sample ID: 890-3924-19

Date Collected: 01/19/23 12:00

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:29	01/31/23 22:44	1
Toluene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:29	01/31/23 22:44	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:29	01/31/23 22:44	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		01/31/23 14:29	01/31/23 22:44	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:29	01/31/23 22:44	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		01/31/23 14:29	01/31/23 22:44	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130			01/31/23 14:29	01/31/23 22:44	1
1,4-Difluorobenzene (Surr)	78		70 - 130			01/31/23 14:29	01/31/23 22:44	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			02/01/23 12:31	1

Method: SW846 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			02/05/23 09:15	1

Method: SW846 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		02/01/23 14:47	02/03/23 16:43	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 14:47	02/03/23 16:43	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 14:47	02/03/23 16:43	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	92		70 - 130			02/01/23 14:47	02/03/23 16:43	1
o-Terphenyl	104		70 - 130			02/01/23 14:47	02/03/23 16:43	1

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Client Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

Client Sample ID: FS26

Lab Sample ID: 890-3924-19

Date Collected: 01/19/23 12:00
 Date Received: 01/23/23 16:24
 Sample Depth: 0.5'

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	59.2		4.99	mg/Kg			01/27/23 18:22	1

Client Sample ID: FS27

Lab Sample ID: 890-3924-20

Date Collected: 01/19/23 12:05
 Date Received: 01/23/23 16:24
 Sample Depth: 0.5'

Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 23:05	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 23:05	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 23:05	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/31/23 14:29	01/31/23 23:05	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 23:05	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/31/23 14:29	01/31/23 23:05	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		70 - 130			01/31/23 14:29	01/31/23 23:05	1
1,4-Difluorobenzene (Surr)	89		70 - 130			01/31/23 14:29	01/31/23 23:05	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/Kg			02/01/23 12:31	1

Method: SW846 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			02/05/23 09:15	1

Method: SW846 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		02/01/23 14:47	02/03/23 17:05	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 14:47	02/03/23 17:05	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 14:47	02/03/23 17:05	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130			02/01/23 14:47	02/03/23 17:05	1
o-Terphenyl	108		70 - 130			02/01/23 14:47	02/03/23 17:05	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	13.2		4.96	mg/Kg			01/27/23 19:18	1

Client Sample Results

Client: Ensolum
Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
SDG: 03D2057047

Client Sample ID: FS28

Lab Sample ID: 890-3924-21

Date Collected: 01/19/23 12:10

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:29	01/31/23 23:26	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:29	01/31/23 23:26	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:29	01/31/23 23:26	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		01/31/23 14:29	01/31/23 23:26	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:29	01/31/23 23:26	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/31/23 14:29	01/31/23 23:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	81		70 - 130	01/31/23 14:29	01/31/23 23:26	1
1,4-Difluorobenzene (Surr)	97		70 - 130	01/31/23 14:29	01/31/23 23:26	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			02/01/23 12:31	1

Method: SW846 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			02/05/23 09:15	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/01/23 14:47	02/03/23 17:26	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/01/23 14:47	02/03/23 17:26	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/01/23 14:47	02/03/23 17:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	111		70 - 130	02/01/23 14:47	02/03/23 17:26	1
o-Terphenyl	118		70 - 130	02/01/23 14:47	02/03/23 17:26	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	99.6		5.01	mg/Kg			01/27/23 19:36	1

Client Sample ID: FS29

Lab Sample ID: 890-3924-22

Date Collected: 01/19/23 12:30

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:29	01/31/23 23:46	1
Toluene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:29	01/31/23 23:46	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:29	01/31/23 23:46	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		01/31/23 14:29	01/31/23 23:46	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:29	01/31/23 23:46	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		01/31/23 14:29	01/31/23 23:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	81		70 - 130	01/31/23 14:29	01/31/23 23:46	1

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Client Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

Client Sample ID: FS29

Lab Sample ID: 890-3924-22

Date Collected: 01/19/23 12:30

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	92		70 - 130	01/31/23 14:29	01/31/23 23:46	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			02/01/23 12:31	1

Method: SW846 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			02/05/23 09:15	1

Method: SW846 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		02/01/23 14:47	02/03/23 17:48	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 14:47	02/03/23 17:48	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 14:47	02/03/23 17:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	109		70 - 130	02/01/23 14:47	02/03/23 17:48	1
o-Terphenyl	118		70 - 130	02/01/23 14:47	02/03/23 17:48	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.05	U	5.05	mg/Kg			01/27/23 19:43	1

Client Sample ID: FS30

Lab Sample ID: 890-3924-23

Date Collected: 01/19/23 12:35

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		01/31/23 14:29	02/01/23 00:07	1
Toluene	<0.00201	U	0.00201	mg/Kg		01/31/23 14:29	02/01/23 00:07	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		01/31/23 14:29	02/01/23 00:07	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		01/31/23 14:29	02/01/23 00:07	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		01/31/23 14:29	02/01/23 00:07	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		01/31/23 14:29	02/01/23 00:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 130	01/31/23 14:29	02/01/23 00:07	1
1,4-Difluorobenzene (Surr)	89		70 - 130	01/31/23 14:29	02/01/23 00:07	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			02/01/23 12:31	1

Method: SW846 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			02/05/23 09:15	1

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Client Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

Client Sample ID: FS30

Lab Sample ID: 890-3924-23

Date Collected: 01/19/23 12:35

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 0.5'

Method: SW846 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		02/01/23 14:47	02/03/23 18:09	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 14:47	02/03/23 18:09	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 14:47	02/03/23 18:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	92		70 - 130	02/01/23 14:47	02/03/23 18:09	1
o-Terphenyl	103		70 - 130	02/01/23 14:47	02/03/23 18:09	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			01/27/23 19:49	1

Client Sample ID: FS31

Lab Sample ID: 890-3924-24

Date Collected: 01/19/23 12:40

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:29	02/01/23 00:27	1
Toluene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:29	02/01/23 00:27	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:29	02/01/23 00:27	1
m-Xylene & p-Xylene	<0.00397	U	0.00397	mg/Kg		01/31/23 14:29	02/01/23 00:27	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:29	02/01/23 00:27	1
Xylenes, Total	<0.00397	U	0.00397	mg/Kg		01/31/23 14:29	02/01/23 00:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	81		70 - 130	01/31/23 14:29	02/01/23 00:27	1
1,4-Difluorobenzene (Surr)	93		70 - 130	01/31/23 14:29	02/01/23 00:27	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397	mg/Kg			02/01/23 12:31	1

Method: SW846 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			02/05/23 09:15	1

Method: SW846 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		02/01/23 14:47	02/03/23 18:31	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 14:47	02/03/23 18:31	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 14:47	02/03/23 18:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	90		70 - 130	02/01/23 14:47	02/03/23 18:31	1
o-Terphenyl	100		70 - 130	02/01/23 14:47	02/03/23 18:31	1

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Client Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

Client Sample ID: FS31

Lab Sample ID: 890-3924-24

Date Collected: 01/19/23 12:40
 Date Received: 01/23/23 16:24
 Sample Depth: 0.5'

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	71.7		4.97	mg/Kg			01/27/23 19:55	1

Client Sample ID: FS32

Lab Sample ID: 890-3924-25

Date Collected: 01/19/23 13:40
 Date Received: 01/23/23 16:24
 Sample Depth: 2'

Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	02/01/23 00:48	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	02/01/23 00:48	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	02/01/23 00:48	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		01/31/23 14:29	02/01/23 00:48	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	02/01/23 00:48	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		01/31/23 14:29	02/01/23 00:48	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130			01/31/23 14:29	02/01/23 00:48	1
1,4-Difluorobenzene (Surr)	88		70 - 130			01/31/23 14:29	02/01/23 00:48	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			02/01/23 12:31	1

Method: SW846 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			02/05/23 09:15	1

Method: SW846 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		02/01/23 14:47	02/03/23 18:54	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 14:47	02/03/23 18:54	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 14:47	02/03/23 18:54	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	89		70 - 130			02/01/23 14:47	02/03/23 18:54	1
o-Terphenyl	97		70 - 130			02/01/23 14:47	02/03/23 18:54	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.05		4.98	mg/Kg			01/27/23 20:13	1

Client Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

Client Sample ID: FS33

Lab Sample ID: 890-3924-26

Date Collected: 01/19/23 13:45

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:29	02/01/23 01:08	1
Toluene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:29	02/01/23 01:08	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:29	02/01/23 01:08	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		01/31/23 14:29	02/01/23 01:08	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:29	02/01/23 01:08	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		01/31/23 14:29	02/01/23 01:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		70 - 130	01/31/23 14:29	02/01/23 01:08	1
1,4-Difluorobenzene (Surr)	96		70 - 130	01/31/23 14:29	02/01/23 01:08	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404	mg/Kg			02/01/23 12:31	1

Method: SW846 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			02/05/23 09:15	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/01/23 14:47	02/03/23 19:16	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/01/23 14:47	02/03/23 19:16	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/01/23 14:47	02/03/23 19:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	85		70 - 130	02/01/23 14:47	02/03/23 19:16	1
o-Terphenyl	96		70 - 130	02/01/23 14:47	02/03/23 19:16	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<4.97	U	4.97	mg/Kg			01/27/23 20:20	1

Client Sample ID: FS34

Lab Sample ID: 890-3924-27

Date Collected: 01/19/23 13:50

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:43	02/01/23 11:45	1
Toluene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:43	02/01/23 11:45	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:43	02/01/23 11:45	1
m-Xylene & p-Xylene	<0.00397	U	0.00397	mg/Kg		01/31/23 14:43	02/01/23 11:45	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:43	02/01/23 11:45	1
Xylenes, Total	<0.00397	U	0.00397	mg/Kg		01/31/23 14:43	02/01/23 11:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	81		70 - 130	01/31/23 14:43	02/01/23 11:45	1

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Client Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

Client Sample ID: FS34

Lab Sample ID: 890-3924-27

Date Collected: 01/19/23 13:50

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	95		70 - 130	01/31/23 14:43	02/01/23 11:45	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397	mg/Kg			02/01/23 12:31	1

Method: SW846 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			02/04/23 09:40	1

Method: SW846 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		02/01/23 15:22	02/03/23 17:15	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 17:15	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 17:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	85		70 - 130	02/01/23 15:22	02/03/23 17:15	1
o-Terphenyl	89		70 - 130	02/01/23 15:22	02/03/23 17:15	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<4.99	U	4.99	mg/Kg			01/27/23 20:26	1

Surrogate Summary

Client: Ensolum
Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
SDG: 03D2057047

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1	DFBZ1
		(70-130)	(70-130)
890-3916-A-1-C MS	Matrix Spike	100	109
890-3916-A-1-D MSD	Matrix Spike Duplicate	104	110
890-3924-1	FS01	107	113
890-3924-2	FS02	116	116
890-3924-3	FS05	117	111
890-3924-4	FS06	111	114
890-3924-5	FS09	109	118
890-3924-6	FS10	107	115
890-3924-7	FS11	84	95
890-3924-7 MS	FS11	112	114
890-3924-7 MSD	FS11	110	86
890-3924-8	FS12	84	92
890-3924-9	FS13	88	103
890-3924-10	FS17	111	85
890-3924-11	FS18	103	83
890-3924-12	FS19	110	86
890-3924-13	FS20	109	79
890-3924-14	FS21	91	90
890-3924-15	FS22	101	83
890-3924-16	FS23	103	82
890-3924-17	FS24	108	82
890-3924-18	FS25	80	97
890-3924-19	FS26	105	78
890-3924-20	FS27	89	89
890-3924-21	FS28	81	97
890-3924-22	FS29	81	92
890-3924-23	FS30	90	89
890-3924-24	FS31	81	93
890-3924-25	FS32	108	88
890-3924-26	FS33	85	96
890-3924-27	FS34	81	95
LCS 880-45146/1-A	Lab Control Sample	108	107
LCS 880-45149/1-A	Lab Control Sample	101	108
LCS 880-45157/1-A	Lab Control Sample	97	112
LCSD 880-45146/2-A	Lab Control Sample Dup	104	108
LCSD 880-45149/2-A	Lab Control Sample Dup	103	104
LCSD 880-45157/2-A	Lab Control Sample Dup	103	112
MB 880-45146/5-A	Method Blank	68 S1-	92
MB 880-45147/5-A	Method Blank	102	105
MB 880-45149/5-A	Method Blank	74	91
MB 880-45157/5-A	Method Blank	106	110

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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Surrogate Summary

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

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)
890-3898-A-1-F MS	Matrix Spike	81	69 S1-
890-3898-A-1-G MSD	Matrix Spike Duplicate	86	70
890-3911-A-1-F MS	Matrix Spike	84	75
890-3911-A-1-G MSD	Matrix Spike Duplicate	87	75
890-3924-1	FS01	90	87
890-3924-2	FS02	87	84
890-3924-3	FS05	84	83
890-3924-4	FS06	91	88
890-3924-5	FS09	89	85
890-3924-6	FS10	97	96
890-3924-7	FS11	121	131 S1+
890-3924-7 MS	FS11	105	105
890-3924-7 MSD	FS11	108	107
890-3924-8	FS12	109	116
890-3924-9	FS13	93	105
890-3924-10	FS17	112	122
890-3924-11	FS18	94	105
890-3924-12	FS19	94	106
890-3924-13	FS20	52 S1-	112
890-3924-14	FS21	93	106
890-3924-15	FS22	97	110
890-3924-16	FS23	109	117
890-3924-17	FS24	108	115
890-3924-18	FS25	94	106
890-3924-19	FS26	92	104
890-3924-20	FS27	96	108
890-3924-21	FS28	111	118
890-3924-22	FS29	109	118
890-3924-23	FS30	92	103
890-3924-24	FS31	90	100
890-3924-25	FS32	89	97
890-3924-26	FS33	85	96
890-3924-27	FS34	85	89
LCS 880-45202/2-A	Lab Control Sample	87	78
LCS 880-45213/2-A	Lab Control Sample	91	93
LCS 880-45214/2-A	Lab Control Sample	87	84
LCSD 880-45202/3-A	Lab Control Sample Dup	89	79
LCSD 880-45213/3-A	Lab Control Sample Dup	90	94
LCSD 880-45214/3-A	Lab Control Sample Dup	87	84
MB 880-45202/1-A	Method Blank	95	94
MB 880-45213/1-A	Method Blank	123	139 S1+
MB 880-45214/1-A	Method Blank	96	102

Surrogate Legend

1CO = 1-Chlorooctane
 OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
SDG: 03D2057047

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-45146/5-A
Matrix: Solid
Analysis Batch: 45131

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 45146

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 17:14	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 17:14	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 17:14	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/31/23 14:29	01/31/23 17:14	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 17:14	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/31/23 14:29	01/31/23 17:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	68	S1-	70 - 130	01/31/23 14:29	01/31/23 17:14	1
1,4-Difluorobenzene (Surr)	92		70 - 130	01/31/23 14:29	01/31/23 17:14	1

Lab Sample ID: LCS 880-45146/1-A
Matrix: Solid
Analysis Batch: 45131

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45146

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1030		mg/Kg		103	70 - 130
Toluene	0.100	0.09513		mg/Kg		95	70 - 130
Ethylbenzene	0.100	0.09787		mg/Kg		98	70 - 130
m-Xylene & p-Xylene	0.200	0.2053		mg/Kg		103	70 - 130
o-Xylene	0.100	0.1016		mg/Kg		102	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	108		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: LCSD 880-45146/2-A
Matrix: Solid
Analysis Batch: 45131

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 45146

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1024		mg/Kg		102	70 - 130	1	35
Toluene	0.100	0.08982		mg/Kg		90	70 - 130	6	35
Ethylbenzene	0.100	0.09116		mg/Kg		91	70 - 130	7	35
m-Xylene & p-Xylene	0.200	0.1915		mg/Kg		96	70 - 130	7	35
o-Xylene	0.100	0.09568		mg/Kg		96	70 - 130	6	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	108		70 - 130

Lab Sample ID: 890-3924-7 MS
Matrix: Solid
Analysis Batch: 45131

Client Sample ID: FS11
Prep Type: Total/NA
Prep Batch: 45146

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00202	U	0.101	0.1100		mg/Kg		109	70 - 130
Toluene	<0.00202	U	0.101	0.1029		mg/Kg		102	70 - 130

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QC Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

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

Lab Sample ID: 890-3924-7 MS

Client Sample ID: FS11

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 45131

Prep Batch: 45146

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier		Result	Qualifier				
Ethylbenzene	<0.00202	U	0.101	0.1076		mg/Kg		107	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.202	0.2281		mg/Kg		113	70 - 130
o-Xylene	<0.00202	U	0.101	0.1105		mg/Kg		110	70 - 130

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	112		70 - 130
1,4-Difluorobenzene (Surr)	114		70 - 130

Lab Sample ID: 890-3924-7 MSD

Client Sample ID: FS11

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 45131

Prep Batch: 45146

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier		Result	Qualifier						
Benzene	<0.00202	U	0.0990	0.09093		mg/Kg		92	70 - 130	19	35
Toluene	<0.00202	U	0.0990	0.08781		mg/Kg		89	70 - 130	16	35
Ethylbenzene	<0.00202	U	0.0990	0.08939		mg/Kg		90	70 - 130	18	35
m-Xylene & p-Xylene	<0.00403	U	0.198	0.1870		mg/Kg		94	70 - 130	20	35
o-Xylene	<0.00202	U	0.0990	0.09094		mg/Kg		92	70 - 130	19	35

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	110		70 - 130
1,4-Difluorobenzene (Surr)	86		70 - 130

Lab Sample ID: MB 880-45147/5-A

Client Sample ID: Method Blank

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 45129

Prep Batch: 45147

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 17:29	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 17:29	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 17:29	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/31/23 14:36	01/31/23 17:29	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 17:29	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/31/23 14:36	01/31/23 17:29	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	102		70 - 130	01/31/23 14:36	01/31/23 17:29	1
1,4-Difluorobenzene (Surr)	105		70 - 130	01/31/23 14:36	01/31/23 17:29	1

Lab Sample ID: MB 880-45149/5-A

Client Sample ID: Method Blank

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 45131

Prep Batch: 45149

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 03:51	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 03:51	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 03:51	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/31/23 14:43	02/01/23 03:51	1

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QC Sample Results

Client: Ensolum
Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
SDG: 03D2057047

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

Lab Sample ID: MB 880-45149/5-A
Matrix: Solid
Analysis Batch: 45131

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 45149

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 03:51	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/31/23 14:43	02/01/23 03:51	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	74		70 - 130	01/31/23 14:43	02/01/23 03:51	1
1,4-Difluorobenzene (Surr)	91		70 - 130	01/31/23 14:43	02/01/23 03:51	1

Lab Sample ID: LCS 880-45149/1-A
Matrix: Solid
Analysis Batch: 45131

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45149

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Benzene	0.100	0.1036		mg/Kg		104	70 - 130
Toluene	0.100	0.09150		mg/Kg		92	70 - 130
Ethylbenzene	0.100	0.09043		mg/Kg		90	70 - 130
m-Xylene & p-Xylene	0.200	0.1882		mg/Kg		94	70 - 130
o-Xylene	0.100	0.09431		mg/Kg		94	70 - 130

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	108		70 - 130

Lab Sample ID: LCSD 880-45149/2-A
Matrix: Solid
Analysis Batch: 45131

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 45149

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec Limits	RPD	Limit
		Result	Qualifier						
Benzene	0.100	0.1062		mg/Kg		106	70 - 130	2	35
Toluene	0.100	0.09716		mg/Kg		97	70 - 130	6	35
Ethylbenzene	0.100	0.09608		mg/Kg		96	70 - 130	6	35
m-Xylene & p-Xylene	0.200	0.2004		mg/Kg		100	70 - 130	6	35
o-Xylene	0.100	0.1003		mg/Kg		100	70 - 130	6	35

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	103		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: MB 880-45157/5-A
Matrix: Solid
Analysis Batch: 45129

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 45157

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 16:30	02/01/23 05:07	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 16:30	02/01/23 05:07	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 16:30	02/01/23 05:07	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/31/23 16:30	02/01/23 05:07	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 16:30	02/01/23 05:07	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/31/23 16:30	02/01/23 05:07	1

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QC Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

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

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	106		70 - 130	01/31/23 16:30	02/01/23 05:07	1
1,4-Difluorobenzene (Surr)	110		70 - 130	01/31/23 16:30	02/01/23 05:07	1

Lab Sample ID: LCS 880-45157/1-A
 Matrix: Solid
 Analysis Batch: 45129

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 45157

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Toluene	0.100	0.09370		mg/Kg		94	70 - 130
Ethylbenzene	0.100	0.09046		mg/Kg		90	70 - 130
m-Xylene & p-Xylene	0.200	0.1882		mg/Kg		94	70 - 130
o-Xylene	0.100	0.09035		mg/Kg		90	70 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	97		70 - 130
1,4-Difluorobenzene (Surr)	112		70 - 130

Lab Sample ID: LCSD 880-45157/2-A
 Matrix: Solid
 Analysis Batch: 45129

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 45157

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	
								RPD	Limit
Benzene	0.100	0.1032		mg/Kg		103	70 - 130	2	35
Toluene	0.100	0.09625		mg/Kg		96	70 - 130	3	35
Ethylbenzene	0.100	0.09512		mg/Kg		95	70 - 130	5	35
m-Xylene & p-Xylene	0.200	0.2003		mg/Kg		100	70 - 130	6	35
o-Xylene	0.100	0.09750		mg/Kg		98	70 - 130	8	35

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	103		70 - 130
1,4-Difluorobenzene (Surr)	112		70 - 130

Lab Sample ID: 890-3916-A-1-C MS
 Matrix: Solid
 Analysis Batch: 45129

Client Sample ID: Matrix Spike
 Prep Type: Total/NA
 Prep Batch: 45157

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Toluene	<0.00202	U	0.0996	0.09662		mg/Kg		97	70 - 130
Ethylbenzene	<0.00202	U	0.0996	0.09350		mg/Kg		94	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1944		mg/Kg		98	70 - 130
o-Xylene	<0.00202	U	0.0996	0.09358		mg/Kg		94	70 - 130

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
SDG: 03D2057047

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

Lab Sample ID: 890-3916-A-1-D MSD
Matrix: Solid
Analysis Batch: 45129

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 45157

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Benzene	<0.00202	U	0.0990	0.1041		mg/Kg		105	70 - 130	1	35
Toluene	<0.00202	U	0.0990	0.09728		mg/Kg		98	70 - 130	1	35
Ethylbenzene	<0.00202	U	0.0990	0.09370		mg/Kg		95	70 - 130	0	35
m-Xylene & p-Xylene	<0.00403	U	0.198	0.1958		mg/Kg		99	70 - 130	1	35
o-Xylene	<0.00202	U	0.0990	0.09393		mg/Kg		95	70 - 130	0	35
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	104		70 - 130								
1,4-Difluorobenzene (Surr)	110		70 - 130								

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

Lab Sample ID: MB 880-45202/1-A
Matrix: Solid
Analysis Batch: 45222

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 45202

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 12:51	02/02/23 20:43	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 12:51	02/02/23 20:43	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 12:51	02/02/23 20:43	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130			02/01/23 12:51	02/02/23 20:43	1
o-Terphenyl	94		70 - 130			02/01/23 12:51	02/02/23 20:43	1

Lab Sample ID: LCS 880-45202/2-A
Matrix: Solid
Analysis Batch: 45222

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45202

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec
							Limits
Gasoline Range Organics (GRO)-C6-C10	999	777.2		mg/Kg		78	70 - 130
Diesel Range Organics (Over C10-C28)	999	928.8		mg/Kg		93	70 - 130
Surrogate	%Recovery	Qualifier	Limits				
1-Chlorooctane	87		70 - 130				
o-Terphenyl	78		70 - 130				

Lab Sample ID: LCSD 880-45202/3-A
Matrix: Solid
Analysis Batch: 45222

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 45202

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec	RPD	Limit
							Limits		
Gasoline Range Organics (GRO)-C6-C10	999	761.0		mg/Kg		76	70 - 130	2	20

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QC Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

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

Lab Sample ID: LCSD 880-45202/3-A
Matrix: Solid
Analysis Batch: 45222

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 45202

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel Range Organics (Over C10-C28)	999	903.5		mg/Kg		90	70 - 130	3	20
Surrogate		LCSD %Recovery	LCSD Qualifier						Limits
1-Chlorooctane		89							70 - 130
o-Terphenyl		79							70 - 130

Lab Sample ID: 890-3898-A-1-F MS
Matrix: Solid
Analysis Batch: 45222

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 45202

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	852.2		mg/Kg		82	70 - 130
Diesel Range Organics (Over C10-C28)	61.5		1000	839.9		mg/Kg		78	70 - 130
Surrogate		MS %Recovery		MS Qualifier					Limits
1-Chlorooctane		81							70 - 130
o-Terphenyl		69	S1-						70 - 130

Lab Sample ID: 890-3898-A-1-G MSD
Matrix: Solid
Analysis Batch: 45222

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 45202

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	868.7		mg/Kg		84	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	61.5		998	856.1		mg/Kg		80	70 - 130	2	20
Surrogate		MSD %Recovery		MSD Qualifier							Limits
1-Chlorooctane		86									70 - 130
o-Terphenyl		70									70 - 130

Lab Sample ID: MB 880-45213/1-A
Matrix: Solid
Analysis Batch: 45301

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 45213

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 14:47	02/03/23 08:32	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 14:47	02/03/23 08:32	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 14:47	02/03/23 08:32	1
Surrogate		MB %Recovery		MB Qualifier		Prepared	Analyzed	Dil Fac
1-Chlorooctane		123				02/01/23 14:47	02/03/23 08:32	1
o-Terphenyl		139	S1+			02/01/23 14:47	02/03/23 08:32	1

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QC Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

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

Lab Sample ID: LCS 880-45213/2-A
Matrix: Solid
Analysis Batch: 45301

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45213

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Gasoline Range Organics (GRO)-C6-C10	999	1004		mg/Kg		100	70 - 130	
Diesel Range Organics (Over C10-C28)	999	987.9		mg/Kg		99	70 - 130	
		LCS	LCS					
Surrogate	%Recovery	Qualifier	Limits					
1-Chlorooctane	91		70 - 130					
o-Terphenyl	93		70 - 130					

Lab Sample ID: LCSD 880-45213/3-A
Matrix: Solid
Analysis Batch: 45301

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 45213

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits		RPD Limit	
Gasoline Range Organics (GRO)-C6-C10	999	945.3		mg/Kg		95	70 - 130	6	20	
Diesel Range Organics (Over C10-C28)	999	980.0		mg/Kg		98	70 - 130	1	20	
		LCSD	LCSD							
Surrogate	%Recovery	Qualifier	Limits							
1-Chlorooctane	90		70 - 130							
o-Terphenyl	94		70 - 130							

Lab Sample ID: 890-3924-7 MS
Matrix: Solid
Analysis Batch: 45301

Client Sample ID: FS11
Prep Type: Total/NA
Prep Batch: 45213

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	923.2		mg/Kg		89	70 - 130	
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	1042		mg/Kg		100	70 - 130	
		MS	MS							
Surrogate	%Recovery	Qualifier	Limits							
1-Chlorooctane	105		70 - 130							
o-Terphenyl	105		70 - 130							

Lab Sample ID: 890-3924-7 MSD
Matrix: Solid
Analysis Batch: 45301

Client Sample ID: FS11
Prep Type: Total/NA
Prep Batch: 45213

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits		RPD Limit	
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	937.3		mg/Kg		90	70 - 130	2	20	
Diesel Range Organics (Over C10-C28)	<50.0	U	998	1075		mg/Kg		103	70 - 130	3	20	
		MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits									
1-Chlorooctane	108		70 - 130									

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QC Sample Results

Client: Ensolum
Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
SDG: 03D2057047

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

Lab Sample ID: 890-3924-7 MSD
Matrix: Solid
Analysis Batch: 45301

Client Sample ID: FS11
Prep Type: Total/NA
Prep Batch: 45213

Surrogate	MSD		Limits
	%Recovery	Qualifier	
<i>o</i> -Terphenyl	107		70 - 130

Lab Sample ID: MB 880-45214/1-A
Matrix: Solid
Analysis Batch: 45303

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 45214

Analyte	MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 09:09	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 09:09	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 09:09	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
<i>1</i> -Chlorooctane	96		70 - 130	02/01/23 15:22	02/03/23 09:09	1
<i>o</i> -Terphenyl	102		70 - 130	02/01/23 15:22	02/03/23 09:09	1

Lab Sample ID: LCS 880-45214/2-A
Matrix: Solid
Analysis Batch: 45303

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45214

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Gasoline Range Organics (GRO)-C6-C10	999	861.4		mg/Kg		86	70 - 130
Diesel Range Organics (Over C10-C28)	999	983.6		mg/Kg		98	70 - 130

Surrogate	LCS		Limits
	%Recovery	Qualifier	
<i>1</i> -Chlorooctane	87		70 - 130
<i>o</i> -Terphenyl	84		70 - 130

Lab Sample ID: LCSD 880-45214/3-A
Matrix: Solid
Analysis Batch: 45303

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 45214

Analyte	Spike Added	LCSD		Unit	D	%Rec	%Rec Limits	RPD	
		Result	Qualifier					RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	999	830.8		mg/Kg		83	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	999	938.1		mg/Kg		94	70 - 130	5	20

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
<i>1</i> -Chlorooctane	87		70 - 130
<i>o</i> -Terphenyl	84		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
SDG: 03D2057047

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

Lab Sample ID: 890-3911-A-1-F MS
Matrix: Solid
Analysis Batch: 45303

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 45214

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits	
	Result	Qualifier	Added	Result	Qualifier					
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	814.9		mg/Kg		78	70 - 130	
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	956.9		mg/Kg		94	70 - 130	
Surrogate	MS %Recovery	MS Qualifier	MS Limits							
1-Chlorooctane	84		70 - 130							
o-Terphenyl	75		70 - 130							

Lab Sample ID: 890-3911-A-1-G MSD
Matrix: Solid
Analysis Batch: 45303

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 45214

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	840.6		mg/Kg		81	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	972.0		mg/Kg		96	70 - 130	2	20
Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits								
1-Chlorooctane	87		70 - 130								
o-Terphenyl	75		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-44791/1-A
Matrix: Solid
Analysis Batch: 44924

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Chloride	<5.00	U	5.00	mg/Kg			01/27/23 15:24	1

Lab Sample ID: LCS 880-44791/2-A
Matrix: Solid
Analysis Batch: 44924

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits

Lab Sample ID: LCSD 880-44791/3-A
Matrix: Solid
Analysis Batch: 44924

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit

QC Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-3924-1 MS
Matrix: Solid
Analysis Batch: 44924

Client Sample ID: FS01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	366		251	622.4		mg/Kg		102	90 - 110

Lab Sample ID: 890-3924-1 MSD
Matrix: Solid
Analysis Batch: 44924

Client Sample ID: FS01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	366		251	621.4		mg/Kg		102	90 - 110	0	20

Lab Sample ID: 890-3924-11 MS
Matrix: Solid
Analysis Batch: 44924

Client Sample ID: FS18
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	393	F1	249	670.9	F1	mg/Kg		112	90 - 110

Lab Sample ID: 890-3924-11 MSD
Matrix: Solid
Analysis Batch: 44924

Client Sample ID: FS18
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	393	F1	249	671.3	F1	mg/Kg		112	90 - 110	0	20

Lab Sample ID: MB 880-44792/1-A
Matrix: Solid
Analysis Batch: 44926

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			01/27/23 19:00	1

Lab Sample ID: LCS 880-44792/2-A
Matrix: Solid
Analysis Batch: 44926

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	266.0		mg/Kg		106	90 - 110

Lab Sample ID: LCSD 880-44792/3-A
Matrix: Solid
Analysis Batch: 44926

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	265.4		mg/Kg		106	90 - 110	0	20

Lab Sample ID: 890-3924-20 MS
Matrix: Solid
Analysis Batch: 44926

Client Sample ID: FS27
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	13.2		248	274.4		mg/Kg		105	90 - 110

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QC Sample Results

Client: Ensolum
Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
SDG: 03D2057047

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 890-3924-20 MSD
Matrix: Solid
Analysis Batch: 44926

Client Sample ID: FS27
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	13.2		248	275.0		mg/Kg		106	90 - 110	0	20

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QC Association Summary

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

GC VOA

Analysis Batch: 45129

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3924-1	FS01	Total/NA	Solid	8021B	45157
890-3924-2	FS02	Total/NA	Solid	8021B	45157
890-3924-3	FS05	Total/NA	Solid	8021B	45157
890-3924-4	FS06	Total/NA	Solid	8021B	45157
890-3924-5	FS09	Total/NA	Solid	8021B	45157
890-3924-6	FS10	Total/NA	Solid	8021B	45157
MB 880-45147/5-A	Method Blank	Total/NA	Solid	8021B	45147
MB 880-45157/5-A	Method Blank	Total/NA	Solid	8021B	45157
LCS 880-45157/1-A	Lab Control Sample	Total/NA	Solid	8021B	45157
LCSD 880-45157/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	45157
890-3916-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	45157
890-3916-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	45157

Analysis Batch: 45131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3924-7	FS11	Total/NA	Solid	8021B	45146
890-3924-8	FS12	Total/NA	Solid	8021B	45146
890-3924-9	FS13	Total/NA	Solid	8021B	45146
890-3924-10	FS17	Total/NA	Solid	8021B	45146
890-3924-11	FS18	Total/NA	Solid	8021B	45146
890-3924-12	FS19	Total/NA	Solid	8021B	45146
890-3924-13	FS20	Total/NA	Solid	8021B	45146
890-3924-14	FS21	Total/NA	Solid	8021B	45146
890-3924-15	FS22	Total/NA	Solid	8021B	45146
890-3924-16	FS23	Total/NA	Solid	8021B	45146
890-3924-17	FS24	Total/NA	Solid	8021B	45146
890-3924-18	FS25	Total/NA	Solid	8021B	45146
890-3924-19	FS26	Total/NA	Solid	8021B	45146
890-3924-20	FS27	Total/NA	Solid	8021B	45146
890-3924-21	FS28	Total/NA	Solid	8021B	45146
890-3924-22	FS29	Total/NA	Solid	8021B	45146
890-3924-23	FS30	Total/NA	Solid	8021B	45146
890-3924-24	FS31	Total/NA	Solid	8021B	45146
890-3924-25	FS32	Total/NA	Solid	8021B	45146
890-3924-26	FS33	Total/NA	Solid	8021B	45146
890-3924-27	FS34	Total/NA	Solid	8021B	45149
MB 880-45146/5-A	Method Blank	Total/NA	Solid	8021B	45146
MB 880-45149/5-A	Method Blank	Total/NA	Solid	8021B	45149
LCS 880-45146/1-A	Lab Control Sample	Total/NA	Solid	8021B	45146
LCS 880-45149/1-A	Lab Control Sample	Total/NA	Solid	8021B	45149
LCSD 880-45146/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	45146
LCSD 880-45149/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	45149
890-3924-7 MS	FS11	Total/NA	Solid	8021B	45146
890-3924-7 MSD	FS11	Total/NA	Solid	8021B	45146

Prep Batch: 45146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3924-7	FS11	Total/NA	Solid	5035	
890-3924-8	FS12	Total/NA	Solid	5035	
890-3924-9	FS13	Total/NA	Solid	5035	
890-3924-10	FS17	Total/NA	Solid	5035	

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QC Association Summary

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

GC VOA (Continued)

Prep Batch: 45146 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3924-11	FS18	Total/NA	Solid	5035	
890-3924-12	FS19	Total/NA	Solid	5035	
890-3924-13	FS20	Total/NA	Solid	5035	
890-3924-14	FS21	Total/NA	Solid	5035	
890-3924-15	FS22	Total/NA	Solid	5035	
890-3924-16	FS23	Total/NA	Solid	5035	
890-3924-17	FS24	Total/NA	Solid	5035	
890-3924-18	FS25	Total/NA	Solid	5035	
890-3924-19	FS26	Total/NA	Solid	5035	
890-3924-20	FS27	Total/NA	Solid	5035	
890-3924-21	FS28	Total/NA	Solid	5035	
890-3924-22	FS29	Total/NA	Solid	5035	
890-3924-23	FS30	Total/NA	Solid	5035	
890-3924-24	FS31	Total/NA	Solid	5035	
890-3924-25	FS32	Total/NA	Solid	5035	
890-3924-26	FS33	Total/NA	Solid	5035	
MB 880-45146/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-45146/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-45146/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3924-7 MS	FS11	Total/NA	Solid	5035	
890-3924-7 MSD	FS11	Total/NA	Solid	5035	

Prep Batch: 45147

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-45147/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 45149

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3924-27	FS34	Total/NA	Solid	5035	
MB 880-45149/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-45149/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-45149/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Prep Batch: 45157

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3924-1	FS01	Total/NA	Solid	5035	
890-3924-2	FS02	Total/NA	Solid	5035	
890-3924-3	FS05	Total/NA	Solid	5035	
890-3924-4	FS06	Total/NA	Solid	5035	
890-3924-5	FS09	Total/NA	Solid	5035	
890-3924-6	FS10	Total/NA	Solid	5035	
MB 880-45157/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-45157/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-45157/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3916-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-3916-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 45195

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3924-1	FS01	Total/NA	Solid	Total BTEX	
890-3924-2	FS02	Total/NA	Solid	Total BTEX	

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QC Association Summary

Client: Ensolum
Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
SDG: 03D2057047

GC VOA (Continued)

Analysis Batch: 45195 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3924-3	FS05	Total/NA	Solid	Total BTEX	
890-3924-4	FS06	Total/NA	Solid	Total BTEX	
890-3924-5	FS09	Total/NA	Solid	Total BTEX	
890-3924-6	FS10	Total/NA	Solid	Total BTEX	
890-3924-7	FS11	Total/NA	Solid	Total BTEX	
890-3924-8	FS12	Total/NA	Solid	Total BTEX	
890-3924-9	FS13	Total/NA	Solid	Total BTEX	
890-3924-10	FS17	Total/NA	Solid	Total BTEX	
890-3924-11	FS18	Total/NA	Solid	Total BTEX	
890-3924-12	FS19	Total/NA	Solid	Total BTEX	
890-3924-13	FS20	Total/NA	Solid	Total BTEX	
890-3924-14	FS21	Total/NA	Solid	Total BTEX	
890-3924-15	FS22	Total/NA	Solid	Total BTEX	
890-3924-16	FS23	Total/NA	Solid	Total BTEX	
890-3924-17	FS24	Total/NA	Solid	Total BTEX	
890-3924-18	FS25	Total/NA	Solid	Total BTEX	
890-3924-19	FS26	Total/NA	Solid	Total BTEX	
890-3924-20	FS27	Total/NA	Solid	Total BTEX	
890-3924-21	FS28	Total/NA	Solid	Total BTEX	
890-3924-22	FS29	Total/NA	Solid	Total BTEX	
890-3924-23	FS30	Total/NA	Solid	Total BTEX	
890-3924-24	FS31	Total/NA	Solid	Total BTEX	
890-3924-25	FS32	Total/NA	Solid	Total BTEX	
890-3924-26	FS33	Total/NA	Solid	Total BTEX	
890-3924-27	FS34	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 45202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3924-1	FS01	Total/NA	Solid	8015NM Prep	
890-3924-2	FS02	Total/NA	Solid	8015NM Prep	
890-3924-3	FS05	Total/NA	Solid	8015NM Prep	
890-3924-4	FS06	Total/NA	Solid	8015NM Prep	
890-3924-5	FS09	Total/NA	Solid	8015NM Prep	
890-3924-6	FS10	Total/NA	Solid	8015NM Prep	
MB 880-45202/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-45202/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45202/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3898-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3898-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Prep Batch: 45213

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3924-7	FS11	Total/NA	Solid	8015NM Prep	
890-3924-8	FS12	Total/NA	Solid	8015NM Prep	
890-3924-9	FS13	Total/NA	Solid	8015NM Prep	
890-3924-10	FS17	Total/NA	Solid	8015NM Prep	
890-3924-11	FS18	Total/NA	Solid	8015NM Prep	
890-3924-12	FS19	Total/NA	Solid	8015NM Prep	
890-3924-13	FS20	Total/NA	Solid	8015NM Prep	

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QC Association Summary

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

GC Semi VOA (Continued)

Prep Batch: 45213 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3924-14	FS21	Total/NA	Solid	8015NM Prep	
890-3924-15	FS22	Total/NA	Solid	8015NM Prep	
890-3924-16	FS23	Total/NA	Solid	8015NM Prep	
890-3924-17	FS24	Total/NA	Solid	8015NM Prep	
890-3924-18	FS25	Total/NA	Solid	8015NM Prep	
890-3924-19	FS26	Total/NA	Solid	8015NM Prep	
890-3924-20	FS27	Total/NA	Solid	8015NM Prep	
890-3924-21	FS28	Total/NA	Solid	8015NM Prep	
890-3924-22	FS29	Total/NA	Solid	8015NM Prep	
890-3924-23	FS30	Total/NA	Solid	8015NM Prep	
890-3924-24	FS31	Total/NA	Solid	8015NM Prep	
890-3924-25	FS32	Total/NA	Solid	8015NM Prep	
890-3924-26	FS33	Total/NA	Solid	8015NM Prep	
MB 880-45213/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-45213/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45213/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3924-7 MS	FS11	Total/NA	Solid	8015NM Prep	
890-3924-7 MSD	FS11	Total/NA	Solid	8015NM Prep	

Prep Batch: 45214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3924-27	FS34	Total/NA	Solid	8015NM Prep	
MB 880-45214/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-45214/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45214/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3911-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3911-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 45222

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3924-1	FS01	Total/NA	Solid	8015B NM	45202
890-3924-2	FS02	Total/NA	Solid	8015B NM	45202
890-3924-3	FS05	Total/NA	Solid	8015B NM	45202
890-3924-4	FS06	Total/NA	Solid	8015B NM	45202
890-3924-5	FS09	Total/NA	Solid	8015B NM	45202
890-3924-6	FS10	Total/NA	Solid	8015B NM	45202
MB 880-45202/1-A	Method Blank	Total/NA	Solid	8015B NM	45202
LCS 880-45202/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45202
LCSD 880-45202/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	45202
890-3898-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	45202
890-3898-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	45202

Analysis Batch: 45301

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3924-7	FS11	Total/NA	Solid	8015B NM	45213
890-3924-8	FS12	Total/NA	Solid	8015B NM	45213
890-3924-9	FS13	Total/NA	Solid	8015B NM	45213
890-3924-10	FS17	Total/NA	Solid	8015B NM	45213
890-3924-11	FS18	Total/NA	Solid	8015B NM	45213
890-3924-12	FS19	Total/NA	Solid	8015B NM	45213
890-3924-13	FS20	Total/NA	Solid	8015B NM	45213

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QC Association Summary

Client: Ensolum
Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
SDG: 03D2057047

GC Semi VOA (Continued)

Analysis Batch: 45301 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3924-14	FS21	Total/NA	Solid	8015B NM	45213
890-3924-15	FS22	Total/NA	Solid	8015B NM	45213
890-3924-16	FS23	Total/NA	Solid	8015B NM	45213
890-3924-17	FS24	Total/NA	Solid	8015B NM	45213
890-3924-18	FS25	Total/NA	Solid	8015B NM	45213
890-3924-19	FS26	Total/NA	Solid	8015B NM	45213
890-3924-20	FS27	Total/NA	Solid	8015B NM	45213
890-3924-21	FS28	Total/NA	Solid	8015B NM	45213
890-3924-22	FS29	Total/NA	Solid	8015B NM	45213
890-3924-23	FS30	Total/NA	Solid	8015B NM	45213
890-3924-24	FS31	Total/NA	Solid	8015B NM	45213
890-3924-25	FS32	Total/NA	Solid	8015B NM	45213
890-3924-26	FS33	Total/NA	Solid	8015B NM	45213
MB 880-45213/1-A	Method Blank	Total/NA	Solid	8015B NM	45213
LCS 880-45213/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45213
LCSD 880-45213/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	45213
890-3924-7 MS	FS11	Total/NA	Solid	8015B NM	45213
890-3924-7 MSD	FS11	Total/NA	Solid	8015B NM	45213

Analysis Batch: 45303

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3924-27	FS34	Total/NA	Solid	8015B NM	45214
MB 880-45214/1-A	Method Blank	Total/NA	Solid	8015B NM	45214
LCS 880-45214/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45214
LCSD 880-45214/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	45214
890-3911-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	45214
890-3911-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	45214

Analysis Batch: 45393

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3924-1	FS01	Total/NA	Solid	8015 NM	
890-3924-2	FS02	Total/NA	Solid	8015 NM	
890-3924-3	FS05	Total/NA	Solid	8015 NM	
890-3924-4	FS06	Total/NA	Solid	8015 NM	
890-3924-5	FS09	Total/NA	Solid	8015 NM	
890-3924-6	FS10	Total/NA	Solid	8015 NM	
890-3924-7	FS11	Total/NA	Solid	8015 NM	
890-3924-8	FS12	Total/NA	Solid	8015 NM	
890-3924-9	FS13	Total/NA	Solid	8015 NM	
890-3924-10	FS17	Total/NA	Solid	8015 NM	
890-3924-11	FS18	Total/NA	Solid	8015 NM	
890-3924-12	FS19	Total/NA	Solid	8015 NM	
890-3924-13	FS20	Total/NA	Solid	8015 NM	
890-3924-14	FS21	Total/NA	Solid	8015 NM	
890-3924-15	FS22	Total/NA	Solid	8015 NM	
890-3924-16	FS23	Total/NA	Solid	8015 NM	
890-3924-17	FS24	Total/NA	Solid	8015 NM	
890-3924-18	FS25	Total/NA	Solid	8015 NM	
890-3924-19	FS26	Total/NA	Solid	8015 NM	
890-3924-20	FS27	Total/NA	Solid	8015 NM	
890-3924-21	FS28	Total/NA	Solid	8015 NM	

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QC Association Summary

Client: Ensolum
Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
SDG: 03D2057047

GC Semi VOA (Continued)

Analysis Batch: 45393 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3924-22	FS29	Total/NA	Solid	8015 NM	
890-3924-23	FS30	Total/NA	Solid	8015 NM	
890-3924-24	FS31	Total/NA	Solid	8015 NM	
890-3924-25	FS32	Total/NA	Solid	8015 NM	
890-3924-26	FS33	Total/NA	Solid	8015 NM	
890-3924-27	FS34	Total/NA	Solid	8015 NM	

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Leach Batch: 44791

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3924-1	FS01	Soluble	Solid	DI Leach	
890-3924-2	FS02	Soluble	Solid	DI Leach	
890-3924-3	FS05	Soluble	Solid	DI Leach	
890-3924-4	FS06	Soluble	Solid	DI Leach	
890-3924-5	FS09	Soluble	Solid	DI Leach	
890-3924-6	FS10	Soluble	Solid	DI Leach	
890-3924-7	FS11	Soluble	Solid	DI Leach	
890-3924-8	FS12	Soluble	Solid	DI Leach	
890-3924-9	FS13	Soluble	Solid	DI Leach	
890-3924-10	FS17	Soluble	Solid	DI Leach	
890-3924-11	FS18	Soluble	Solid	DI Leach	
890-3924-12	FS19	Soluble	Solid	DI Leach	
890-3924-13	FS20	Soluble	Solid	DI Leach	
890-3924-14	FS21	Soluble	Solid	DI Leach	
890-3924-15	FS22	Soluble	Solid	DI Leach	
890-3924-16	FS23	Soluble	Solid	DI Leach	
890-3924-17	FS24	Soluble	Solid	DI Leach	
890-3924-18	FS25	Soluble	Solid	DI Leach	
890-3924-19	FS26	Soluble	Solid	DI Leach	
MB 880-44791/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-44791/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-44791/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3924-1 MS	FS01	Soluble	Solid	DI Leach	
890-3924-1 MSD	FS01	Soluble	Solid	DI Leach	
890-3924-11 MS	FS18	Soluble	Solid	DI Leach	
890-3924-11 MSD	FS18	Soluble	Solid	DI Leach	

Leach Batch: 44792

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3924-20	FS27	Soluble	Solid	DI Leach	
890-3924-21	FS28	Soluble	Solid	DI Leach	
890-3924-22	FS29	Soluble	Solid	DI Leach	
890-3924-23	FS30	Soluble	Solid	DI Leach	
890-3924-24	FS31	Soluble	Solid	DI Leach	
890-3924-25	FS32	Soluble	Solid	DI Leach	
890-3924-26	FS33	Soluble	Solid	DI Leach	
890-3924-27	FS34	Soluble	Solid	DI Leach	
MB 880-44792/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-44792/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-44792/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

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QC Association Summary

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

HPLC/IC (Continued)

Leach Batch: 44792 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3924-20 MS	FS27	Soluble	Solid	DI Leach	
890-3924-20 MSD	FS27	Soluble	Solid	DI Leach	

Analysis Batch: 44924

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3924-1	FS01	Soluble	Solid	300.0	44791
890-3924-2	FS02	Soluble	Solid	300.0	44791
890-3924-3	FS05	Soluble	Solid	300.0	44791
890-3924-4	FS06	Soluble	Solid	300.0	44791
890-3924-5	FS09	Soluble	Solid	300.0	44791
890-3924-6	FS10	Soluble	Solid	300.0	44791
890-3924-7	FS11	Soluble	Solid	300.0	44791
890-3924-8	FS12	Soluble	Solid	300.0	44791
890-3924-9	FS13	Soluble	Solid	300.0	44791
890-3924-10	FS17	Soluble	Solid	300.0	44791
890-3924-11	FS18	Soluble	Solid	300.0	44791
890-3924-12	FS19	Soluble	Solid	300.0	44791
890-3924-13	FS20	Soluble	Solid	300.0	44791
890-3924-14	FS21	Soluble	Solid	300.0	44791
890-3924-15	FS22	Soluble	Solid	300.0	44791
890-3924-16	FS23	Soluble	Solid	300.0	44791
890-3924-17	FS24	Soluble	Solid	300.0	44791
890-3924-18	FS25	Soluble	Solid	300.0	44791
890-3924-19	FS26	Soluble	Solid	300.0	44791
MB 880-44791/1-A	Method Blank	Soluble	Solid	300.0	44791
LCS 880-44791/2-A	Lab Control Sample	Soluble	Solid	300.0	44791
LCSD 880-44791/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	44791
890-3924-1 MS	FS01	Soluble	Solid	300.0	44791
890-3924-1 MSD	FS01	Soluble	Solid	300.0	44791
890-3924-11 MS	FS18	Soluble	Solid	300.0	44791
890-3924-11 MSD	FS18	Soluble	Solid	300.0	44791

Analysis Batch: 44926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3924-20	FS27	Soluble	Solid	300.0	44792
890-3924-21	FS28	Soluble	Solid	300.0	44792
890-3924-22	FS29	Soluble	Solid	300.0	44792
890-3924-23	FS30	Soluble	Solid	300.0	44792
890-3924-24	FS31	Soluble	Solid	300.0	44792
890-3924-25	FS32	Soluble	Solid	300.0	44792
890-3924-26	FS33	Soluble	Solid	300.0	44792
890-3924-27	FS34	Soluble	Solid	300.0	44792
MB 880-44792/1-A	Method Blank	Soluble	Solid	300.0	44792
LCS 880-44792/2-A	Lab Control Sample	Soluble	Solid	300.0	44792
LCSD 880-44792/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	44792
890-3924-20 MS	FS27	Soluble	Solid	300.0	44792
890-3924-20 MSD	FS27	Soluble	Solid	300.0	44792

Lab Chronicle

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

Client Sample ID: FS01

Lab Sample ID: 890-3924-1

Date Collected: 01/18/23 10:00

Matrix: Solid

Date Received: 01/23/23 16:24

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	45157	01/31/23 16:30	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45129	02/01/23 05:56	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45195	02/01/23 12:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			45393	02/03/23 11:49	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	45202	02/01/23 12:51	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45222	02/03/23 03:27	AJ	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	44791	01/26/23 08:31	CH	EET MID
Soluble	Analysis	300.0		1			44924	01/27/23 15:42	CH	EET MID

Client Sample ID: FS02

Lab Sample ID: 890-3924-2

Date Collected: 01/18/23 10:10

Matrix: Solid

Date Received: 01/23/23 16:24

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	45157	01/31/23 16:30	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45129	02/01/23 06:16	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45195	02/01/23 12:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			45393	02/03/23 11:49	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45202	02/01/23 12:51	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45222	02/03/23 03:47	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	44791	01/26/23 08:31	CH	EET MID
Soluble	Analysis	300.0		1			44924	01/27/23 16:01	CH	EET MID

Client Sample ID: FS05

Lab Sample ID: 890-3924-3

Date Collected: 01/18/23 10:45

Matrix: Solid

Date Received: 01/23/23 16:24

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	45157	01/31/23 16:30	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45129	02/01/23 06:37	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45195	02/01/23 12:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			45393	02/03/23 11:49	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45202	02/01/23 12:51	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45222	02/03/23 04:07	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	44791	01/26/23 08:31	CH	EET MID
Soluble	Analysis	300.0		1			44924	01/27/23 16:07	CH	EET MID

Client Sample ID: FS06

Lab Sample ID: 890-3924-4

Date Collected: 01/18/23 13:20

Matrix: Solid

Date Received: 01/23/23 16:24

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	45157	01/31/23 16:30	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45129	02/01/23 06:57	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45195	02/01/23 12:53	SM	EET MID

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Lab Chronicle

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

Client Sample ID: FS06

Lab Sample ID: 890-3924-4

Date Collected: 01/18/23 13:20

Matrix: Solid

Date Received: 01/23/23 16:24

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			45393	02/03/23 11:49	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45202	02/01/23 12:51	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45222	02/03/23 04:27	AJ	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	44791	01/26/23 08:31	CH	EET MID
Soluble	Analysis	300.0		1			44924	01/27/23 16:13	CH	EET MID

Client Sample ID: FS09

Lab Sample ID: 890-3924-5

Date Collected: 01/18/23 13:25

Matrix: Solid

Date Received: 01/23/23 16:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	45157	01/31/23 16:30	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45129	02/01/23 07:17	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45195	02/01/23 12:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			45393	02/03/23 11:49	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45202	02/01/23 12:51	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45222	02/03/23 04:47	AJ	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	44791	01/26/23 08:31	CH	EET MID
Soluble	Analysis	300.0		1			44924	01/27/23 16:19	CH	EET MID

Client Sample ID: FS10

Lab Sample ID: 890-3924-6

Date Collected: 01/18/23 13:30

Matrix: Solid

Date Received: 01/23/23 16:24

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	45157	01/31/23 16:30	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45129	02/01/23 07:38	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45195	02/01/23 12:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			45393	02/03/23 11:49	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	45202	02/01/23 12:51	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45222	02/03/23 05:07	AJ	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	44791	01/26/23 08:31	CH	EET MID
Soluble	Analysis	300.0		1			44924	01/27/23 16:38	CH	EET MID

Client Sample ID: FS11

Lab Sample ID: 890-3924-7

Date Collected: 01/19/23 08:30

Matrix: Solid

Date Received: 01/23/23 16:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	45146	01/31/23 14:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	01/31/23 17:36	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45195	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45393	02/03/23 16:54	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	45213	02/01/23 14:47	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45301	02/03/23 11:16	AJ	EET MID

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Lab Chronicle

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

Client Sample ID: FS11

Lab Sample ID: 890-3924-7

Date Collected: 01/19/23 08:30

Matrix: Solid

Date Received: 01/23/23 16:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.03 g	50 mL	44791	01/26/23 08:31	CH	EET MID
Soluble	Analysis	300.0		1			44924	01/27/23 16:44	CH	EET MID

Client Sample ID: FS12

Lab Sample ID: 890-3924-8

Date Collected: 01/19/23 08:35

Matrix: Solid

Date Received: 01/23/23 16:24

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	45146	01/31/23 14:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	01/31/23 17:56	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45195	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45393	02/03/23 16:54	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45213	02/01/23 14:47	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45301	02/03/23 12:22	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	44791	01/26/23 08:31	CH	EET MID
Soluble	Analysis	300.0		1			44924	01/27/23 16:50	CH	EET MID

Client Sample ID: FS13

Lab Sample ID: 890-3924-9

Date Collected: 01/19/23 08:40

Matrix: Solid

Date Received: 01/23/23 16:24

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	45146	01/31/23 14:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	01/31/23 18:17	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45195	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45393	02/03/23 16:54	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	45213	02/01/23 14:47	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45301	02/03/23 12:45	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	44791	01/26/23 08:31	CH	EET MID
Soluble	Analysis	300.0		1			44924	01/27/23 16:56	CH	EET MID

Client Sample ID: FS17

Lab Sample ID: 890-3924-10

Date Collected: 01/19/23 09:10

Matrix: Solid

Date Received: 01/23/23 16:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	45146	01/31/23 14:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	01/31/23 18:37	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45195	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45393	02/03/23 16:54	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	45213	02/01/23 14:47	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45301	02/03/23 13:06	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	44791	01/26/23 08:31	CH	EET MID
Soluble	Analysis	300.0		1			44924	01/27/23 17:02	CH	EET MID

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Lab Chronicle

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

Client Sample ID: FS18

Lab Sample ID: 890-3924-11

Date Collected: 01/19/23 09:15

Matrix: Solid

Date Received: 01/23/23 16:24

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	45146	01/31/23 14:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	01/31/23 18:58	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45195	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45393	02/03/23 16:54	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45213	02/01/23 14:47	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45301	02/03/23 13:28	AJ	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	44791	01/26/23 08:31	CH	EET MID
Soluble	Analysis	300.0		1			44924	01/27/23 17:08	CH	EET MID

Client Sample ID: FS19

Lab Sample ID: 890-3924-12

Date Collected: 01/19/23 09:20

Matrix: Solid

Date Received: 01/23/23 16:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	45146	01/31/23 14:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	01/31/23 19:18	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45195	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45393	02/03/23 16:54	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	45213	02/01/23 14:47	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45301	02/03/23 13:51	AJ	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	44791	01/26/23 08:31	CH	EET MID
Soluble	Analysis	300.0		1			44924	01/27/23 17:27	CH	EET MID

Client Sample ID: FS20

Lab Sample ID: 890-3924-13

Date Collected: 01/19/23 09:25

Matrix: Solid

Date Received: 01/23/23 16:24

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	45146	01/31/23 14:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	01/31/23 19:39	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45195	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45393	02/03/23 16:54	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45213	02/01/23 14:47	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45301	02/03/23 14:12	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	44791	01/26/23 08:31	CH	EET MID
Soluble	Analysis	300.0		1			44924	01/27/23 17:33	CH	EET MID

Client Sample ID: FS21

Lab Sample ID: 890-3924-14

Date Collected: 01/19/23 11:00

Matrix: Solid

Date Received: 01/23/23 16:24

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	45146	01/31/23 14:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	01/31/23 19:59	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45195	02/01/23 12:31	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

Client Sample ID: FS21

Lab Sample ID: 890-3924-14

Date Collected: 01/19/23 11:00

Matrix: Solid

Date Received: 01/23/23 16:24

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			45393	02/03/23 16:54	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45213	02/01/23 14:47	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45301	02/03/23 14:34	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	44791	01/26/23 08:31	CH	EET MID
Soluble	Analysis	300.0		1			44924	01/27/23 17:51	CH	EET MID

Client Sample ID: FS22

Lab Sample ID: 890-3924-15

Date Collected: 01/19/23 11:05

Matrix: Solid

Date Received: 01/23/23 16:24

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	45146	01/31/23 14:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	01/31/23 20:20	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45195	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45393	02/03/23 16:54	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	45213	02/01/23 14:47	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45301	02/03/23 14:55	AJ	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	44791	01/26/23 08:31	CH	EET MID
Soluble	Analysis	300.0		1			44924	01/27/23 17:58	CH	EET MID

Client Sample ID: FS23

Lab Sample ID: 890-3924-16

Date Collected: 01/19/23 11:25

Matrix: Solid

Date Received: 01/23/23 16:24

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	45146	01/31/23 14:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	01/31/23 20:40	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45195	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45393	02/03/23 16:54	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	45213	02/01/23 14:47	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45301	02/03/23 15:16	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	44791	01/26/23 08:31	CH	EET MID
Soluble	Analysis	300.0		1			44924	01/27/23 18:04	CH	EET MID

Client Sample ID: FS24

Lab Sample ID: 890-3924-17

Date Collected: 01/19/23 11:30

Matrix: Solid

Date Received: 01/23/23 16:24

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	45146	01/31/23 14:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	01/31/23 22:03	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45195	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45393	02/03/23 16:54	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45213	02/01/23 14:47	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45301	02/03/23 16:00	AJ	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

Client Sample ID: FS24

Lab Sample ID: 890-3924-17

Date Collected: 01/19/23 11:30

Matrix: Solid

Date Received: 01/23/23 16:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.04 g	50 mL	44791	01/26/23 08:31	CH	EET MID
Soluble	Analysis	300.0		1			44924	01/27/23 18:10	CH	EET MID

Client Sample ID: FS25

Lab Sample ID: 890-3924-18

Date Collected: 01/19/23 11:35

Matrix: Solid

Date Received: 01/23/23 16:24

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	45146	01/31/23 14:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	01/31/23 22:24	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45195	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45393	02/03/23 16:54	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	45213	02/01/23 14:47	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45301	02/03/23 16:22	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	44791	01/26/23 08:31	CH	EET MID
Soluble	Analysis	300.0		1			44924	01/27/23 18:16	CH	EET MID

Client Sample ID: FS26

Lab Sample ID: 890-3924-19

Date Collected: 01/19/23 12:00

Matrix: Solid

Date Received: 01/23/23 16:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	45146	01/31/23 14:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	01/31/23 22:44	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45195	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45393	02/05/23 09:15	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45213	02/01/23 14:47	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45301	02/03/23 16:43	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	44791	01/26/23 08:31	CH	EET MID
Soluble	Analysis	300.0		1			44924	01/27/23 18:22	CH	EET MID

Client Sample ID: FS27

Lab Sample ID: 890-3924-20

Date Collected: 01/19/23 12:05

Matrix: Solid

Date Received: 01/23/23 16:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	45146	01/31/23 14:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	01/31/23 23:05	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45195	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45393	02/05/23 09:15	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	45213	02/01/23 14:47	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45301	02/03/23 17:05	AJ	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	44792	01/26/23 08:32	CH	EET MID
Soluble	Analysis	300.0		1			44926	01/27/23 19:18	CH	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

Client Sample ID: FS28

Lab Sample ID: 890-3924-21

Date Collected: 01/19/23 12:10

Matrix: Solid

Date Received: 01/23/23 16:24

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	45146	01/31/23 14:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	01/31/23 23:26	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45195	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45393	02/05/23 09:15	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	45213	02/01/23 14:47	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45301	02/03/23 17:26	AJ	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	44792	01/26/23 08:32	CH	EET MID
Soluble	Analysis	300.0		1			44926	01/27/23 19:36	CH	EET MID

Client Sample ID: FS29

Lab Sample ID: 890-3924-22

Date Collected: 01/19/23 12:30

Matrix: Solid

Date Received: 01/23/23 16:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	45146	01/31/23 14:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	01/31/23 23:46	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45195	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45393	02/05/23 09:15	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45213	02/01/23 14:47	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45301	02/03/23 17:48	AJ	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	44792	01/26/23 08:32	CH	EET MID
Soluble	Analysis	300.0		1			44926	01/27/23 19:43	CH	EET MID

Client Sample ID: FS30

Lab Sample ID: 890-3924-23

Date Collected: 01/19/23 12:35

Matrix: Solid

Date Received: 01/23/23 16:24

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	45146	01/31/23 14:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	02/01/23 00:07	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45195	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45393	02/05/23 09:15	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45213	02/01/23 14:47	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45301	02/03/23 18:09	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	44792	01/26/23 08:32	CH	EET MID
Soluble	Analysis	300.0		1			44926	01/27/23 19:49	CH	EET MID

Client Sample ID: FS31

Lab Sample ID: 890-3924-24

Date Collected: 01/19/23 12:40

Matrix: Solid

Date Received: 01/23/23 16:24

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	45146	01/31/23 14:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	02/01/23 00:27	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45195	02/01/23 12:31	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

Client Sample ID: FS31

Lab Sample ID: 890-3924-24

Date Collected: 01/19/23 12:40

Matrix: Solid

Date Received: 01/23/23 16:24

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			45393	02/05/23 09:15	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45213	02/01/23 14:47	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45301	02/03/23 18:31	AJ	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	44792	01/26/23 08:32	CH	EET MID
Soluble	Analysis	300.0		1			44926	01/27/23 19:55	CH	EET MID

Client Sample ID: FS32

Lab Sample ID: 890-3924-25

Date Collected: 01/19/23 13:40

Matrix: Solid

Date Received: 01/23/23 16:24

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	45146	01/31/23 14:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	02/01/23 00:48	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45195	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45393	02/05/23 09:15	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45213	02/01/23 14:47	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45301	02/03/23 18:54	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	44792	01/26/23 08:32	CH	EET MID
Soluble	Analysis	300.0		1			44926	01/27/23 20:13	CH	EET MID

Client Sample ID: FS33

Lab Sample ID: 890-3924-26

Date Collected: 01/19/23 13:45

Matrix: Solid

Date Received: 01/23/23 16:24

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	45146	01/31/23 14:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	02/01/23 01:08	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45195	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45393	02/05/23 09:15	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	45213	02/01/23 14:47	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45301	02/03/23 19:16	AJ	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	44792	01/26/23 08:32	CH	EET MID
Soluble	Analysis	300.0		1			44926	01/27/23 20:20	CH	EET MID

Client Sample ID: FS34

Lab Sample ID: 890-3924-27

Date Collected: 01/19/23 13:50

Matrix: Solid

Date Received: 01/23/23 16:24

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	45149	01/31/23 14:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	02/01/23 11:45	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45195	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45393	02/04/23 09:40	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	45214	02/01/23 15:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45303	02/03/23 17:15	AJ	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
SDG: 03D2057047

Client Sample ID: FS34

Lab Sample ID: 890-3924-27

Date Collected: 01/19/23 13:50

Matrix: Solid

Date Received: 01/23/23 16:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	44792	01/26/23 08:32	CH	EET MID
Soluble	Analysis	300.0		1			44926	01/27/23 20:26	CH	EET MID

Laboratory References:

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

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Accreditation/Certification Summary

Client: Ensolum
Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
SDG: 03D2057047

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	T104704400-22-25	06-30-23

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

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Method Summary

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

- ASTM = ASTM International
- EPA = US Environmental Protection Agency
- 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:

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



Sample Summary

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3924-1
 SDG: 03D2057047

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3924-1	FS01	Solid	01/18/23 10:00	01/23/23 16:24	2.5'
890-3924-2	FS02	Solid	01/18/23 10:10	01/23/23 16:24	2.5'
890-3924-3	FS05	Solid	01/18/23 10:45	01/23/23 16:24	2.5'
890-3924-4	FS06	Solid	01/18/23 13:20	01/23/23 16:24	2.5'
890-3924-5	FS09	Solid	01/18/23 13:25	01/23/23 16:24	2.5'
890-3924-6	FS10	Solid	01/18/23 13:30	01/23/23 16:24	2.5'
890-3924-7	FS11	Solid	01/19/23 08:30	01/23/23 16:24	2.5'
890-3924-8	FS12	Solid	01/19/23 08:35	01/23/23 16:24	0.5'
890-3924-9	FS13	Solid	01/19/23 08:40	01/23/23 16:24	0.5'
890-3924-10	FS17	Solid	01/19/23 09:10	01/23/23 16:24	2.5'
890-3924-11	FS18	Solid	01/19/23 09:15	01/23/23 16:24	2.5'
890-3924-12	FS19	Solid	01/19/23 09:20	01/23/23 16:24	2'
890-3924-13	FS20	Solid	01/19/23 09:25	01/23/23 16:24	0.5'
890-3924-14	FS21	Solid	01/19/23 11:00	01/23/23 16:24	2.5'
890-3924-15	FS22	Solid	01/19/23 11:05	01/23/23 16:24	0.5'
890-3924-16	FS23	Solid	01/19/23 11:25	01/23/23 16:24	0.5'
890-3924-17	FS24	Solid	01/19/23 11:30	01/23/23 16:24	0.5'
890-3924-18	FS25	Solid	01/19/23 11:35	01/23/23 16:24	0.5'
890-3924-19	FS26	Solid	01/19/23 12:00	01/23/23 16:24	0.5'
890-3924-20	FS27	Solid	01/19/23 12:05	01/23/23 16:24	0.5'
890-3924-21	FS28	Solid	01/19/23 12:10	01/23/23 16:24	0.5'
890-3924-22	FS29	Solid	01/19/23 12:30	01/23/23 16:24	0.5'
890-3924-23	FS30	Solid	01/19/23 12:35	01/23/23 16:24	0.5'
890-3924-24	FS31	Solid	01/19/23 12:40	01/23/23 16:24	0.5'
890-3924-25	FS32	Solid	01/19/23 13:40	01/23/23 16:24	2'
890-3924-26	FS33	Solid	01/19/23 13:45	01/23/23 16:24	0.5'
890-3924-27	FS34	Solid	01/19/23 13:50	01/23/23 16:24	0.5'

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Environment Testing Xenco

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Chain of Custody

Work Order No: _____

www.xenco.com Page 1 of 3

Project Manager:	Hadlie Green	Bill to: (if different)	Kajal Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marientfield St Suite 400	Address:	601 N Marientfield St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	432-557-8895	Email:	kjennings@ensolum.com, hgreen@ensolum.com

Program: <input type="checkbox"/> UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>	
State of Project:	
Reporting: Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>	
Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:	

Project Name:	Jalmat Yates Sant Unit 170	Turn Around	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	Pras. Code	
Project Number:	03D2057047	Due Date:			
Project Location:	Lea	TAT starts the day received by the lab, if received by 4:30pm			
Sampler's Name:	Peter Van Patten	Temp Blank:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Thermometer ID:	TH-001
PO #:		Cooler Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Correction Factor:	0.0
SAMPLE RECEIPT		Sample Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Temperature Reading:	8.2
Samples Received In tact:		Total Containers:	Corrected Temperature:		2.0



Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	ANALYSIS REQUEST	Preservative Codes	Sample Comments
FS01	Soil	1/18/2023	1000	2.5'	Comp	1	X	X	X		None: NO Cool: Cool HCL: HC H ₂ SO ₄ : H ₂	DI Water: H ₂ O MeOH: Me HNO ₃ : HN NaOH: Na
FS02	Soil	1/18/2023	1010	2.5'	Comp	1	X	X	X		H ₃ PO ₄ : HP NaHSO ₄ : NABIS	
FS05	Soil	1/18/2023	1045	2.5'	Comp	1	X	X	X		Na ₂ S ₂ O ₃ : NaSO ₃	
FS06	Soil	1/18/2023	1320	2.5'	Comp	1	X	X	X		Zn Acetate+NaOH: Zn	
FS09	Soil	1/18/2023	1325	2.5'	Comp	1	X	X	X		NaOH+Ascorbic Acid: SAPC	
FS10	Soil	1/18/2023	1330	2.5'	Comp	1	X	X	X			
FS11	Soil	1/19/2023	830	2.5'	Comp	1	X	X	X			
FS12	Soil	1/19/2023	835	0.5'	Comp	1	X	X	X			
FS13	Soil	1/19/2023	840	0.5'	Comp	1	X	X	X			
FS17	Soil	1/19/2023	910	2.5'	Comp	1	X	X	X			

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO₂ Na Sr Ti Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	1-23-23 16:24			



Environment Testing Xenco

Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Work Order No:

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Page 2 of 3

Project Manager: Hadlie Green
Company Name: Ensolum, LLC
Address: 601 N Marientfield St Suite 400
City, State ZIP: Midland, TX 79701
Phone: 432-557-8895
Email: kjennings@ensolum.com, hgreen@ensolum.com

Work Order Comments
Program: UST/PST PRP Brownfields RRC Superfund
State of Project:
Reporting: Level II Level III PST/UST TRRP Level IV
Deliverables: EDD ADAPT Other:

Project Name: Jalmat Yates Sant Unit 170
Project Number: 03D2057047
Project Location: Lea
Sampler's Name: Peter Van Patten
SAMPLE RECEIPT
Samples Received Intact: Yes No
Cooler Custody Seals: Yes No N/A
Sample Custody Seals: Yes No N/A
Total Containers: Corrected Temperature:

Table with columns: Sample Identification, Matrix, Date Sampled, Time Sampled, Depth, Grab/Comp, # of Cont, ANALYSIS REQUEST (CHLORIDES, TPH, BTEX), Preservative Codes, Sample Comments.

Total 200 7 / 6010 200 8 / 6020:
Circle Method(s) and Metal(s) to be analyzed
8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn
Hg: 1631/245.1/7470/7471

Relinquished by: (Signature) Received by: (Signature) Date/Time Relinquished by: (Signature) Received by: (Signature) Date/Time



Environment Testing Xenco

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1236
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Chain of Custody

Work Order No: _____

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Page 3 of 3

Project Manager:	Hadlie Green	Bill to: (if different)	Kael Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marientfield St Suite 400	Address:	601 N Marientfield St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	432-557-8895	Email:	kjennings@ensolum.com, hgreen@ensolum.com

Work Order Comments	
Program: UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>	
State of Project:	
Reporting: Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>	
Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:	

Project Name:	Jalmat Yates Sant Unit 170	Turn Around	Pres. Code	ANALYSIS REQUEST	Preservative Codes
Project Number:	03D2057047	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush			None: NO DI Water: H ₂ O
Project Location:	Lea	Due Date:			Cool: Cool MeOH: Me HCL: HC HNO ₃ : HN H ₂ SO ₄ : H ₂ NaOH: Na
Sampler's Name:	Peter Van Patten	TAT starts the day received by the lab, if received by 4:30pm			H ₂ PO ₄ : HP NaHSO ₄ : NABIS Na ₂ S ₂ O ₃ : NaSO ₃ Zn Acetate+NaOH: Zn NaOH+Ascorbic Acid: SAPC
PO #:					
SAMPLE RECEIPT	Temp Blank: Yes No	Wet Lab: Yes No			
Samples Received Intact:	Yes No	Thermometer: Yes No			
Cooler Custody Seals:	Yes No N/A	Correction Factor:			
Sample Custody Seals:	Yes No N/A	Temperature Reading:			
Total Containers:	Yes No	Corrected Temperature:			

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
FS28	Soil	1/19/2023	1210	0.5'	Comp	1	X	X	X	
FS29	Soil	1/19/2023	1230	0.5'	Comp	1	X	X	X	
FS30	Soil	1/19/2023	1235	0.5'	Comp	1	X	X	X	
FS31	Soil	1/19/2023	1240	2'	Comp	1	X	X	X	
FS32	Soil	1/19/2023	1340	0.5'	Comp	1	X	X	X	
FS33	Soil	1/19/2023	1345	0.5'	Comp	1	X	X	X	
FS34	Soil	1/19/2023	1350	0.5'	Comp	1	X	X	X	

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO₂ Na Sr Ti Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed: TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631/245.1/7470/7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$8 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	1-23-23 10:41			

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3924-1

SDG Number: 03D2057047

Login Number: 3924

List Number: 1

Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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.	N/A	Refer to Job Narrative for details.
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	

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Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3924-1

SDG Number: 03D2057047

Login Number: 3924

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 01/25/23 12:13 PM

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	

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Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Kalei Jennings
 Ensolum
 601 N. Marienfeld St.
 Suite 400
 Midland, Texas 79701
 Generated 2/4/2023 9:29:20 AM

JOB DESCRIPTION

Jalmat Yates Sant Unit 170
 SDG NUMBER 03D2057047

JOB NUMBER

890-3927-1

Eurofins Carlsbad
 1089 N Canal St.
 Carlsbad NM 88220



Eurofins Carlsbad

Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
2/4/2023 9:29:20 AM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

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

Client: Ensolum
Project/Site: Jalmat Yates Sant Unit 170

Laboratory Job ID: 890-3927-1
SDG: 03D2057047

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

Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
Surrogate Summary	11
QC Sample Results	12
QC Association Summary	16
Lab Chronicle	19
Certification Summary	21
Method Summary	22
Sample Summary	23
Chain of Custody	24
Receipt Checklists	25

Definitions/Glossary

Client: Ensolum
Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3927-1
SDG: 03D2057047

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3927-1
SDG: 03D2057047

Job ID: 890-3927-1

Laboratory: Eurofins Carlsbad**Narrative**

**Job Narrative
890-3927-1****Receipt**

The samples were received on 1/23/2023 4:24 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.0°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: SW01 (890-3927-1), SW02 (890-3927-2), SW03 (890-3927-3), SW04 (890-3927-4), SW05 (890-3927-5) and SW06 (890-3927-6).

GC VOA

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-45146 and analytical batch 880-45131 was outside the control limits.

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

GC Semi VOA

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

HPLC/IC

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

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

Client Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3927-1
 SDG: 03D2057047

Client Sample ID: SW01

Lab Sample ID: 890-3927-1

Date Collected: 01/19/23 13:55

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 0-2'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 05:35	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 05:35	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 05:35	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		01/31/23 14:43	02/01/23 05:35	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 05:35	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		01/31/23 14:43	02/01/23 05:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130	01/31/23 14:43	02/01/23 05:35	1
1,4-Difluorobenzene (Surr)	79		70 - 130	01/31/23 14:43	02/01/23 05:35	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			02/01/23 12:31	1

Method: SW846 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			02/04/23 09:40	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/01/23 15:22	02/03/23 17:35	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/01/23 15:22	02/03/23 17:35	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/01/23 15:22	02/03/23 17:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	70		70 - 130	02/01/23 15:22	02/03/23 17:35	1
o-Terphenyl	71		70 - 130	02/01/23 15:22	02/03/23 17:35	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	87.8		4.95	mg/Kg			01/29/23 18:19	1

Client Sample ID: SW02

Lab Sample ID: 890-3927-2

Date Collected: 01/19/23 14:10

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 0-2'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:43	02/01/23 05:55	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:43	02/01/23 05:55	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:43	02/01/23 05:55	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		01/31/23 14:43	02/01/23 05:55	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:43	02/01/23 05:55	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/31/23 14:43	02/01/23 05:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		70 - 130	01/31/23 14:43	02/01/23 05:55	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3927-1
 SDG: 03D2057047

Client Sample ID: SW02

Lab Sample ID: 890-3927-2

Date Collected: 01/19/23 14:10

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 0-2'

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	96		70 - 130	01/31/23 14:43	02/01/23 05:55	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			02/01/23 12:31	1

Method: SW846 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			02/04/23 09:40	1

Method: SW846 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		02/01/23 15:22	02/03/23 17:56	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 17:56	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 17:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	78		70 - 130	02/01/23 15:22	02/03/23 17:56	1
o-Terphenyl	79		70 - 130	02/01/23 15:22	02/03/23 17:56	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	36.3		4.96	mg/Kg			01/29/23 18:25	1

Client Sample ID: SW03

Lab Sample ID: 890-3927-3

Date Collected: 01/19/23 14:15

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 0-2.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 06:16	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 06:16	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 06:16	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		01/31/23 14:43	02/01/23 06:16	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 06:16	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		01/31/23 14:43	02/01/23 06:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130	01/31/23 14:43	02/01/23 06:16	1
1,4-Difluorobenzene (Surr)	87		70 - 130	01/31/23 14:43	02/01/23 06:16	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			02/01/23 12:31	1

Method: SW846 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			02/04/23 09:40	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3927-1
 SDG: 03D2057047

Client Sample ID: SW03

Lab Sample ID: 890-3927-3

Date Collected: 01/19/23 14:15

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 0-2.5'

Method: SW846 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		02/01/23 15:22	02/03/23 18:17	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 18:17	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 18:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	71		70 - 130	02/01/23 15:22	02/03/23 18:17	1
o-Terphenyl	71		70 - 130	02/01/23 15:22	02/03/23 18:17	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	363		4.97	mg/Kg			01/29/23 18:31	1

Client Sample ID: SW04

Lab Sample ID: 890-3927-4

Date Collected: 01/19/23 14:20

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 0-2'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:43	02/01/23 06:36	1
Toluene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:43	02/01/23 06:36	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:43	02/01/23 06:36	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		01/31/23 14:43	02/01/23 06:36	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:43	02/01/23 06:36	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		01/31/23 14:43	02/01/23 06:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		70 - 130	01/31/23 14:43	02/01/23 06:36	1
1,4-Difluorobenzene (Surr)	89		70 - 130	01/31/23 14:43	02/01/23 06:36	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			02/01/23 12:31	1

Method: SW846 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			02/04/23 09:40	1

Method: SW846 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		02/01/23 15:22	02/03/23 18:38	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 18:38	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 18:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	74		70 - 130	02/01/23 15:22	02/03/23 18:38	1
o-Terphenyl	75		70 - 130	02/01/23 15:22	02/03/23 18:38	1

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Client Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3927-1
 SDG: 03D2057047

Client Sample ID: SW04

Lab Sample ID: 890-3927-4

Date Collected: 01/19/23 14:20
 Date Received: 01/23/23 16:24
 Sample Depth: 0-2'

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	41.5		5.00	mg/Kg			01/29/23 18:50	1

Client Sample ID: SW05

Lab Sample ID: 890-3927-5

Date Collected: 01/19/23 14:40
 Date Received: 01/23/23 16:24
 Sample Depth: 0.5-2.5'

Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 06:57	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 06:57	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 06:57	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		01/31/23 14:43	02/01/23 06:57	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 06:57	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		01/31/23 14:43	02/01/23 06:57	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130			01/31/23 14:43	02/01/23 06:57	1
1,4-Difluorobenzene (Surr)	82		70 - 130			01/31/23 14:43	02/01/23 06:57	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			02/01/23 12:31	1

Method: SW846 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			02/04/23 09:40	1

Method: SW846 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		02/01/23 15:22	02/03/23 18:58	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 18:58	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 18:58	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	79		70 - 130			02/01/23 15:22	02/03/23 18:58	1
o-Terphenyl	82		70 - 130			02/01/23 15:22	02/03/23 18:58	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	69.7		4.98	mg/Kg			01/29/23 18:56	1

Client Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3927-1
 SDG: 03D2057047

Client Sample ID: SW06

Lab Sample ID: 890-3927-6

Date Collected: 01/19/23 14:50

Matrix: Solid

Date Received: 01/23/23 16:24

Sample Depth: 0.5'-2.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		01/31/23 14:43	02/01/23 07:17	1
Toluene	<0.00201	U	0.00201	mg/Kg		01/31/23 14:43	02/01/23 07:17	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		01/31/23 14:43	02/01/23 07:17	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		01/31/23 14:43	02/01/23 07:17	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		01/31/23 14:43	02/01/23 07:17	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		01/31/23 14:43	02/01/23 07:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	80		70 - 130	01/31/23 14:43	02/01/23 07:17	1
1,4-Difluorobenzene (Surr)	99		70 - 130	01/31/23 14:43	02/01/23 07:17	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			02/01/23 12:31	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	221		50.0	mg/Kg			02/04/23 09:40	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/01/23 15:22	02/03/23 19:19	1
Diesel Range Organics (Over C10-C28)	221		50.0	mg/Kg		02/01/23 15:22	02/03/23 19:19	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/01/23 15:22	02/03/23 19:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	72		70 - 130	02/01/23 15:22	02/03/23 19:19	1
o-Terphenyl	72		70 - 130	02/01/23 15:22	02/03/23 19:19	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	109		4.99	mg/Kg			01/29/23 19:02	1

Surrogate Summary

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3927-1
 SDG: 03D2057047

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-3920-A-1-B MS	Matrix Spike	106	100
890-3920-A-1-C MSD	Matrix Spike Duplicate	92	109
890-3927-1	SW01	110	79
890-3927-2	SW02	86	96
890-3927-3	SW03	114	87
890-3927-4	SW04	94	89
890-3927-5	SW05	100	82
890-3927-6	SW06	80	99
LCS 880-45149/1-A	Lab Control Sample	101	108
LCS 880-45149/2-A	Lab Control Sample Dup	103	104
MB 880-45146/5-A	Method Blank	68 S1-	92
MB 880-45149/5-A	Method Blank	74	91

Surrogate Legend
 BFB = 4-Bromofluorobenzene (Surr)
 DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-3911-A-1-F MS	Matrix Spike	84	75
890-3911-A-1-G MSD	Matrix Spike Duplicate	87	75
890-3927-1	SW01	70	71
890-3927-2	SW02	78	79
890-3927-3	SW03	71	71
890-3927-4	SW04	74	75
890-3927-5	SW05	79	82
890-3927-6	SW06	72	72
LCS 880-45214/2-A	Lab Control Sample	87	84
LCS 880-45214/3-A	Lab Control Sample Dup	87	84
MB 880-45214/1-A	Method Blank	96	102

Surrogate Legend
 1CO = 1-Chlorooctane
 OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3927-1
SDG: 03D2057047

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-45146/5-A
Matrix: Solid
Analysis Batch: 45131

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 45146

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 17:14	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 17:14	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 17:14	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/31/23 14:29	01/31/23 17:14	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 17:14	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/31/23 14:29	01/31/23 17:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	68	S1-	70 - 130	01/31/23 14:29	01/31/23 17:14	1
1,4-Difluorobenzene (Surr)	92		70 - 130	01/31/23 14:29	01/31/23 17:14	1

Lab Sample ID: MB 880-45149/5-A
Matrix: Solid
Analysis Batch: 45131

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 45149

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 03:51	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 03:51	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 03:51	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/31/23 14:43	02/01/23 03:51	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 03:51	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/31/23 14:43	02/01/23 03:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	74		70 - 130	01/31/23 14:43	02/01/23 03:51	1
1,4-Difluorobenzene (Surr)	91		70 - 130	01/31/23 14:43	02/01/23 03:51	1

Lab Sample ID: LCS 880-45149/1-A
Matrix: Solid
Analysis Batch: 45131

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45149

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1036		mg/Kg		104	70 - 130
Toluene	0.100	0.09150		mg/Kg		92	70 - 130
Ethylbenzene	0.100	0.09043		mg/Kg		90	70 - 130
m-Xylene & p-Xylene	0.200	0.1882		mg/Kg		94	70 - 130
o-Xylene	0.100	0.09431		mg/Kg		94	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	108		70 - 130

Lab Sample ID: LCSD 880-45149/2-A
Matrix: Solid
Analysis Batch: 45131

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 45149

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1062		mg/Kg		106	70 - 130	2	35

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QC Sample Results

Client: Ensolum
Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3927-1
SDG: 03D2057047

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

Lab Sample ID: LCSD 880-45149/2-A
Matrix: Solid
Analysis Batch: 45131

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 45149

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit	
Toluene	0.100	0.09716		mg/Kg		97	70 - 130	6	35	
Ethylbenzene	0.100	0.09608		mg/Kg		96	70 - 130	6	35	
m-Xylene & p-Xylene	0.200	0.2004		mg/Kg		100	70 - 130	6	35	
o-Xylene	0.100	0.1003		mg/Kg		100	70 - 130	6	35	
		LCSD	LCSD							
Surrogate	%Recovery	Qualifier	Limits							
4-Bromofluorobenzene (Surr)	103		70 - 130							
1,4-Difluorobenzene (Surr)	104		70 - 130							

Lab Sample ID: 890-3920-A-1-B MS
Matrix: Solid
Analysis Batch: 45131

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 45149

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.101	0.08904		mg/Kg		88	70 - 130		
Toluene	<0.00202	U	0.101	0.08562		mg/Kg		85	70 - 130		
Ethylbenzene	<0.00202	U	0.101	0.08420		mg/Kg		84	70 - 130		
m-Xylene & p-Xylene	<0.00403	U	0.202	0.1762		mg/Kg		87	70 - 130		
o-Xylene	<0.00202	U	0.101	0.08713		mg/Kg		86	70 - 130		
		MS	MS								
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	106		70 - 130								
1,4-Difluorobenzene (Surr)	100		70 - 130								

Lab Sample ID: 890-3920-A-1-C MSD
Matrix: Solid
Analysis Batch: 45131

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 45149

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0996	0.1028		mg/Kg		103	70 - 130	14	35
Toluene	<0.00202	U	0.0996	0.08344		mg/Kg		84	70 - 130	3	35
Ethylbenzene	<0.00202	U	0.0996	0.07815		mg/Kg		78	70 - 130	7	35
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1543		mg/Kg		77	70 - 130	13	35
o-Xylene	<0.00202	U	0.0996	0.07563		mg/Kg		76	70 - 130	14	35
		MSD	MSD								
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	92		70 - 130								
1,4-Difluorobenzene (Surr)	109		70 - 130								

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

Lab Sample ID: MB 880-45214/1-A
Matrix: Solid
Analysis Batch: 45303

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 45214

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil	Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 09:09		1

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QC Sample Results

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3927-1
 SDG: 03D2057047

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

Lab Sample ID: MB 880-45214/1-A
Matrix: Solid
Analysis Batch: 45303

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 45214

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 09:09	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 09:09	1
Surrogate	MB	MB	Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
1-Chlorooctane	96		70 - 130			02/01/23 15:22	02/03/23 09:09	1
o-Terphenyl	102		70 - 130			02/01/23 15:22	02/03/23 09:09	1

Lab Sample ID: LCS 880-45214/2-A
Matrix: Solid
Analysis Batch: 45303

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45214

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Gasoline Range Organics (GRO)-C6-C10	999	861.4		mg/Kg		86	70 - 130
Diesel Range Organics (Over C10-C28)	999	983.6		mg/Kg		98	70 - 130
Surrogate		LCS	LCS			%Rec	Limits
		%Recovery	Qualifier				
1-Chlorooctane		87					70 - 130
o-Terphenyl		84					70 - 130

Lab Sample ID: LCSD 880-45214/3-A
Matrix: Solid
Analysis Batch: 45303

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 45214

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec Limits	RPD	Limit
		Result	Qualifier						
Gasoline Range Organics (GRO)-C6-C10	999	830.8		mg/Kg		83	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	999	938.1		mg/Kg		94	70 - 130	5	20
Surrogate		LCSD	LCSD			%Rec	Limits		
		%Recovery	Qualifier						
1-Chlorooctane		87					70 - 130		
o-Terphenyl		84					70 - 130		

Lab Sample ID: 890-3911-A-1-F MS
Matrix: Solid
Analysis Batch: 45303

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 45214

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	814.9		mg/Kg		78	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	956.9		mg/Kg		94	70 - 130
Surrogate	MS	MS	Limits					%Rec	Limits
	%Recovery	Qualifier							
1-Chlorooctane	84		70 - 130						
o-Terphenyl	75		70 - 130						

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QC Sample Results

Client: Ensolum
Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3927-1
SDG: 03D2057047

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

Lab Sample ID: 890-3911-A-1-G MSD
Matrix: Solid
Analysis Batch: 45303

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 45214

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	840.6		mg/Kg		81	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	972.0		mg/Kg		96	70 - 130	2	20
Surrogate	%Recovery	MSD Qualifier	MSD	Limits							
1-Chlorooctane	87			70 - 130							
o-Terphenyl	75			70 - 130							

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-44795/1-A
Matrix: Solid
Analysis Batch: 45051

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			01/29/23 17:36	1

Lab Sample ID: LCS 880-44795/2-A
Matrix: Solid
Analysis Batch: 45051

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	249.3		mg/Kg		100	90 - 110

Lab Sample ID: LCSD 880-44795/3-A
Matrix: Solid
Analysis Batch: 45051

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	249.8		mg/Kg		100	90 - 110	0	20

Lab Sample ID: 890-3928-A-3-B MS
Matrix: Solid
Analysis Batch: 45051

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	8.18		248	237.7		mg/Kg		93	90 - 110

Lab Sample ID: 890-3928-A-3-C MSD
Matrix: Solid
Analysis Batch: 45051

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	8.18		248	238.4		mg/Kg		93	90 - 110	0	20

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QC Association Summary

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3927-1
 SDG: 03D2057047

GC VOA

Analysis Batch: 45131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3927-1	SW01	Total/NA	Solid	8021B	45149
890-3927-2	SW02	Total/NA	Solid	8021B	45149
890-3927-3	SW03	Total/NA	Solid	8021B	45149
890-3927-4	SW04	Total/NA	Solid	8021B	45149
890-3927-5	SW05	Total/NA	Solid	8021B	45149
890-3927-6	SW06	Total/NA	Solid	8021B	45149
MB 880-45146/5-A	Method Blank	Total/NA	Solid	8021B	45146
MB 880-45149/5-A	Method Blank	Total/NA	Solid	8021B	45149
LCS 880-45149/1-A	Lab Control Sample	Total/NA	Solid	8021B	45149
LCSD 880-45149/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	45149
890-3920-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	45149
890-3920-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	45149

Prep Batch: 45146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-45146/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 45149

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3927-1	SW01	Total/NA	Solid	5035	
890-3927-2	SW02	Total/NA	Solid	5035	
890-3927-3	SW03	Total/NA	Solid	5035	
890-3927-4	SW04	Total/NA	Solid	5035	
890-3927-5	SW05	Total/NA	Solid	5035	
890-3927-6	SW06	Total/NA	Solid	5035	
MB 880-45149/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-45149/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-45149/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3920-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
890-3920-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 45197

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3927-1	SW01	Total/NA	Solid	Total BTEX	
890-3927-2	SW02	Total/NA	Solid	Total BTEX	
890-3927-3	SW03	Total/NA	Solid	Total BTEX	
890-3927-4	SW04	Total/NA	Solid	Total BTEX	
890-3927-5	SW05	Total/NA	Solid	Total BTEX	
890-3927-6	SW06	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 45214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3927-1	SW01	Total/NA	Solid	8015NM Prep	
890-3927-2	SW02	Total/NA	Solid	8015NM Prep	
890-3927-3	SW03	Total/NA	Solid	8015NM Prep	
890-3927-4	SW04	Total/NA	Solid	8015NM Prep	
890-3927-5	SW05	Total/NA	Solid	8015NM Prep	
890-3927-6	SW06	Total/NA	Solid	8015NM Prep	
MB 880-45214/1-A	Method Blank	Total/NA	Solid	8015NM Prep	

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3927-1
 SDG: 03D2057047

GC Semi VOA (Continued)

Prep Batch: 45214 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-45214/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45214/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3911-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3911-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 45303

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3927-1	SW01	Total/NA	Solid	8015B NM	45214
890-3927-2	SW02	Total/NA	Solid	8015B NM	45214
890-3927-3	SW03	Total/NA	Solid	8015B NM	45214
890-3927-4	SW04	Total/NA	Solid	8015B NM	45214
890-3927-5	SW05	Total/NA	Solid	8015B NM	45214
890-3927-6	SW06	Total/NA	Solid	8015B NM	45214
MB 880-45214/1-A	Method Blank	Total/NA	Solid	8015B NM	45214
LCS 880-45214/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45214
LCSD 880-45214/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	45214
890-3911-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	45214
890-3911-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	45214

Analysis Batch: 45447

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3927-1	SW01	Total/NA	Solid	8015 NM	
890-3927-2	SW02	Total/NA	Solid	8015 NM	
890-3927-3	SW03	Total/NA	Solid	8015 NM	
890-3927-4	SW04	Total/NA	Solid	8015 NM	
890-3927-5	SW05	Total/NA	Solid	8015 NM	
890-3927-6	SW06	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 44795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3927-1	SW01	Soluble	Solid	DI Leach	
890-3927-2	SW02	Soluble	Solid	DI Leach	
890-3927-3	SW03	Soluble	Solid	DI Leach	
890-3927-4	SW04	Soluble	Solid	DI Leach	
890-3927-5	SW05	Soluble	Solid	DI Leach	
890-3927-6	SW06	Soluble	Solid	DI Leach	
MB 880-44795/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-44795/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-44795/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3928-A-3-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3928-A-3-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 45051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3927-1	SW01	Soluble	Solid	300.0	44795
890-3927-2	SW02	Soluble	Solid	300.0	44795
890-3927-3	SW03	Soluble	Solid	300.0	44795
890-3927-4	SW04	Soluble	Solid	300.0	44795
890-3927-5	SW05	Soluble	Solid	300.0	44795

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3927-1
SDG: 03D2057047

HPLC/IC (Continued)

Analysis Batch: 45051 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3927-6	SW06	Soluble	Solid	300.0	44795
MB 880-44795/1-A	Method Blank	Soluble	Solid	300.0	44795
LCS 880-44795/2-A	Lab Control Sample	Soluble	Solid	300.0	44795
LCSD 880-44795/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	44795
890-3928-A-3-B MS	Matrix Spike	Soluble	Solid	300.0	44795
890-3928-A-3-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	44795

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Lab Chronicle

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3927-1
 SDG: 03D2057047

Client Sample ID: SW01

Lab Sample ID: 890-3927-1

Date Collected: 01/19/23 13:55

Matrix: Solid

Date Received: 01/23/23 16:24

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	45149	01/31/23 14:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	02/01/23 05:35	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45197	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45447	02/04/23 09:40	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	45214	02/01/23 15:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45303	02/03/23 17:35	AJ	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	44795	01/26/23 08:36	CH	EET MID
Soluble	Analysis	300.0		1			45051	01/29/23 18:19	CH	EET MID

Client Sample ID: SW02

Lab Sample ID: 890-3927-2

Date Collected: 01/19/23 14:10

Matrix: Solid

Date Received: 01/23/23 16:24

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	45149	01/31/23 14:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	02/01/23 05:55	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45197	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45447	02/04/23 09:40	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45214	02/01/23 15:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45303	02/03/23 17:56	AJ	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	44795	01/26/23 08:36	CH	EET MID
Soluble	Analysis	300.0		1			45051	01/29/23 18:25	CH	EET MID

Client Sample ID: SW03

Lab Sample ID: 890-3927-3

Date Collected: 01/19/23 14:15

Matrix: Solid

Date Received: 01/23/23 16:24

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	45149	01/31/23 14:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	02/01/23 06:16	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45197	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45447	02/04/23 09:40	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45214	02/01/23 15:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45303	02/03/23 18:17	AJ	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	44795	01/26/23 08:36	CH	EET MID
Soluble	Analysis	300.0		1			45051	01/29/23 18:31	CH	EET MID

Client Sample ID: SW04

Lab Sample ID: 890-3927-4

Date Collected: 01/19/23 14:20

Matrix: Solid

Date Received: 01/23/23 16:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	45149	01/31/23 14:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	02/01/23 06:36	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45197	02/01/23 12:31	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
 Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3927-1
 SDG: 03D2057047

Client Sample ID: SW04
 Date Collected: 01/19/23 14:20
 Date Received: 01/23/23 16:24

Lab Sample ID: 890-3927-4
 Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			45447	02/04/23 09:40	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45214	02/01/23 15:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45303	02/03/23 18:38	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	44795	01/26/23 08:36	CH	EET MID
Soluble	Analysis	300.0		1			45051	01/29/23 18:50	CH	EET MID

Client Sample ID: SW05
 Date Collected: 01/19/23 14:40
 Date Received: 01/23/23 16:24

Lab Sample ID: 890-3927-5
 Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	45149	01/31/23 14:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	02/01/23 06:57	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45197	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45447	02/04/23 09:40	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45214	02/01/23 15:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45303	02/03/23 18:58	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	44795	01/26/23 08:36	CH	EET MID
Soluble	Analysis	300.0		1			45051	01/29/23 18:56	CH	EET MID

Client Sample ID: SW06
 Date Collected: 01/19/23 14:50
 Date Received: 01/23/23 16:24

Lab Sample ID: 890-3927-6
 Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	45149	01/31/23 14:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	02/01/23 07:17	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45197	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45447	02/04/23 09:40	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	45214	02/01/23 15:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45303	02/03/23 19:19	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	44795	01/26/23 08:36	CH	EET MID
Soluble	Analysis	300.0		1			45051	01/29/23 19:02	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3927-1
SDG: 03D2057047

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	T104704400-22-25	06-30-23

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

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Method Summary

Client: Ensolum
Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3927-1
SDG: 03D2057047

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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:

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



Sample Summary

Client: Ensolum
Project/Site: Jalmat Yates Sant Unit 170

Job ID: 890-3927-1
SDG: 03D2057047

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3927-1	SW01	Solid	01/19/23 13:55	01/23/23 16:24	0-2'
890-3927-2	SW02	Solid	01/19/23 14:10	01/23/23 16:24	0-2'
890-3927-3	SW03	Solid	01/19/23 14:15	01/23/23 16:24	0-2.5'
890-3927-4	SW04	Solid	01/19/23 14:20	01/23/23 16:24	0-2'
890-3927-5	SW05	Solid	01/19/23 14:40	01/23/23 16:24	0.5-2.5'
890-3927-6	SW06	Solid	01/19/23 14:50	01/23/23 16:24	0.5'-2.5'

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Environment Testing
Xenco

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Chain of Custody

Work Order No: _____

www.xenco.com Page _____ of _____

Project Manager:	Hadlie Green	Bill to: (if different)	Katei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marientfeld St Suite 400	Address:	601 N Marientfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	432-557-8895	Email:	kjennings@ensolum.com, hgreen@ensolum.com

Work Order Comments	
Program: <input type="checkbox"/> UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>	
State of Project:	
Reporting: Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>	
Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:	

Project Name:	Jalmat Yates Sant Unit 170	Turn Around	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	Pres. Code	
Project Number:	03D2057047	Due Date:			
Project Location:	Lee	TAT starts the day received by the lab, if received by 4:30pm			
Sampler's Name:	Peter Van Patten				
PO #:					
SAMPLE RECEIPT	Temp Blank: <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Wet Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Parameters		
Samples Received In tact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Thermometer ID:	IN-807		
Cooler Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Correction Factor:	-0.2		
Sample Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Temperature Reading:	2.2		
Total Containers:		Corrected Temperature:	2.0		

ANALYSIS REQUEST

CHLORIDES (EPA: 300.0)

TPH (8015)

BTEX (8021)



890-3927 Chain of Custody

Preservative Codes	
None: NO	DI Water: H ₂ O
Cool: COOL	MeOH: Me
HCL: HC	HNO ₃ : HN
H ₂ SO ₄ : H ₂	NaOH: Na
H ₃ PO ₄ : HP	
NAHSO ₄ : NABIS	
Na ₂ S ₂ O ₃ : NASO ₃	
Zn Acetate+NaOH: Zn	
NaOH+Ascorbic Acid: SAPC	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Sample Comments	
SW01	Soil	1/19/2023	1355	0-2'	Comp	1	X	X	X		
SW02	Soil	1/19/2023	1410	0-2'	Comp	1	X	X	X		
SW03	Soil	1/19/2023	1415	0-2.5'	Comp	1	X	X	X		
SW04	Soil	1/19/2023	1420	0-2'	Comp	1	X	X	X		
SW05	Soil	1/19/2023	1440	5'-2.5'	Comp	1	X	X	X		
SW06	Soil	1/19/2023	1450	5'-2.5'	Comp	1	X	X	X		
Total 200.7 / 6010 200.8 / 6020:											
Circle Method(s) and Metal(s) to be analyzed											
8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn											
TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631 / 245.1 / 7470 / 7471											

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	1-23-23 1624			

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3927-1

SDG Number: 03D2057047

Login Number: 3927

List Number: 1

Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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.	N/A	Refer to Job Narrative for details.
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	

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Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3927-1

SDG Number: 03D2057047

Login Number: 3927

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 01/25/23 12:13 PM

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	

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- 12
- 13
- 14



Environment Testing

- 1
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- 13
- 14

ANALYTICAL REPORT

PREPARED FOR

Attn: Hadlie Green
 Ensolum
 601 N. Marienfeld St.
 Suite 400
 Midland, Texas 79701
 Generated 2/15/2023 7:57:49 AM

JOB DESCRIPTION

Jalmat 170

JOB NUMBER

890-4060-1

Eurofins Carlsbad
 1089 N Canal St.
 Carlsbad NM 88220

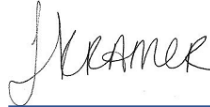


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Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
2/15/2023 7:57:49 AM

Authorized for release by
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Client: Ensolum
Project/Site: Jalmat 170

Laboratory Job ID: 890-4060-1

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

Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
Surrogate Summary	8
QC Sample Results	9
QC Association Summary	14
Lab Chronicle	16
Certification Summary	17
Method Summary	18
Sample Summary	19
Chain of Custody	20
Receipt Checklists	21

Definitions/Glossary

Client: Ensolum
Project/Site: Jalmat 170

Job ID: 890-4060-1

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

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Case Narrative

Client: Ensolum
Project/Site: Jalmat 170

Job ID: 890-4060-1

Job ID: 890-4060-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative 890-4060-1

Receipt

The samples were received on 2/8/2023 2:56 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.2°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: FS13A (890-4060-1) and SW07 (890-4060-2).

GC VOA

Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-46016 and analytical batch 880-46059 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8021B: Surrogate recovery for the following sample was outside control limits: SW07 (890-4060-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-46093 and analytical batch 880-46267 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (890-4070-A-1-E MS) and (890-4070-A-1-E MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: SW07 (890-4060-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

HPLC/IC

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



Client Sample Results

Client: Ensolum
Project/Site: Jalmat 170

Job ID: 890-4060-1

Client Sample ID: FS14A

Lab Sample ID: 890-4060-1

Date Collected: 02/07/23 12:13

Matrix: Solid

Date Received: 02/08/23 14:56

Sample Depth: 1.25'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		02/10/23 14:55	02/12/23 00:20	1
Toluene	<0.00198	U *	0.00198	mg/Kg		02/10/23 14:55	02/12/23 00:20	1
Ethylbenzene	<0.00198	U *	0.00198	mg/Kg		02/10/23 14:55	02/12/23 00:20	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		02/10/23 14:55	02/12/23 00:20	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		02/10/23 14:55	02/12/23 00:20	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		02/10/23 14:55	02/12/23 00:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	121		70 - 130	02/10/23 14:55	02/12/23 00:20	1
1,4-Difluorobenzene (Surr)	108		70 - 130	02/10/23 14:55	02/12/23 00:20	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			02/13/23 19:39	1

Method: SW846 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			02/15/23 08:41	1

Method: SW846 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		02/13/23 09:09	02/14/23 19:06	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/13/23 09:09	02/14/23 19:06	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/13/23 09:09	02/14/23 19:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	70		70 - 130	02/13/23 09:09	02/14/23 19:06	1
o-Terphenyl	70		70 - 130	02/13/23 09:09	02/14/23 19:06	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	84.1		4.95	mg/Kg			02/14/23 10:41	1

Client Sample ID: SW07

Lab Sample ID: 890-4060-2

Date Collected: 02/07/23 12:10

Matrix: Solid

Date Received: 02/08/23 14:56

Sample Depth: 0-2.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/10/23 14:55	02/12/23 00:41	1
Toluene	<0.00200	U *	0.00200	mg/Kg		02/10/23 14:55	02/12/23 00:41	1
Ethylbenzene	<0.00200	U *	0.00200	mg/Kg		02/10/23 14:55	02/12/23 00:41	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		02/10/23 14:55	02/12/23 00:41	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/10/23 14:55	02/12/23 00:41	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		02/10/23 14:55	02/12/23 00:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	123		70 - 130	02/10/23 14:55	02/12/23 00:41	1

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Client Sample Results

Client: Ensolum
Project/Site: Jalmat 170

Job ID: 890-4060-1

Client Sample ID: SW07

Lab Sample ID: 890-4060-2

Date Collected: 02/07/23 12:10

Matrix: Solid

Date Received: 02/08/23 14:56

Sample Depth: 0-2.5'

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	108		70 - 130	02/10/23 14:55	02/12/23 00:41	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			02/13/23 19:39	1

Method: SW846 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			02/15/23 08:41	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/13/23 09:09	02/14/23 19:29	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/13/23 09:09	02/14/23 19:29	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/13/23 09:09	02/14/23 19:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	65	S1-	70 - 130	02/13/23 09:09	02/14/23 19:29	1
o-Terphenyl	69	S1-	70 - 130	02/13/23 09:09	02/14/23 19:29	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	79.8		4.99	mg/Kg			02/14/23 10:55	1

Surrogate Summary

Client: Ensolum
Project/Site: Jalmat 170

Job ID: 890-4060-1

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)
820-7364-A-1-B MS	Matrix Spike	121	104
820-7364-A-1-C MSD	Matrix Spike Duplicate	115	106
890-4047-A-1-C MS	Matrix Spike	113	112
890-4047-A-1-D MSD	Matrix Spike Duplicate	109	112
890-4060-1	FS13A	121	108
890-4060-2	SW07	123	108
LCS 880-46016/1-A	Lab Control Sample	108	110
LCS 880-46019/1-A	Lab Control Sample	114	102
LCSD 880-46016/2-A	Lab Control Sample Dup	114	110
LCSD 880-46019/2-A	Lab Control Sample Dup	109	104
MB 880-46016/5-A	Method Blank	111	105
MB 880-46019/5-A	Method Blank	74	95

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)
890-4060-1	FS13A	70	70
890-4060-2	SW07	65 S1-	69 S1-
890-4070-A-1-E MS	Matrix Spike	18 S1-	11 S1-
890-4070-A-1-E MSD	Matrix Spike Duplicate	18 S1-	11 S1-
LCS 880-46093/2-A	Lab Control Sample	113	120
LCSD 880-46093/3-A	Lab Control Sample Dup	119	125
MB 880-46093/1-A	Method Blank	67 S1-	74

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

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QC Sample Results

Client: Ensolum
Project/Site: Jalmat 170

Job ID: 890-4060-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-46016/5-A
Matrix: Solid
Analysis Batch: 46059

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 46016

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/10/23 14:55	02/11/23 16:15	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/10/23 14:55	02/11/23 16:15	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/10/23 14:55	02/11/23 16:15	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/10/23 14:55	02/11/23 16:15	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/10/23 14:55	02/11/23 16:15	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/10/23 14:55	02/11/23 16:15	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130	02/10/23 14:55	02/11/23 16:15	1
1,4-Difluorobenzene (Surr)	105		70 - 130	02/10/23 14:55	02/11/23 16:15	1

Lab Sample ID: LCS 880-46016/1-A
Matrix: Solid
Analysis Batch: 46059

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 46016

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.07008		mg/Kg		70	70 - 130
Toluene	0.100	0.06866	*-	mg/Kg		69	70 - 130
Ethylbenzene	0.100	0.06746	*-	mg/Kg		67	70 - 130
m-Xylene & p-Xylene	0.200	0.1444		mg/Kg		72	70 - 130
o-Xylene	0.100	0.07197		mg/Kg		72	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	108		70 - 130
1,4-Difluorobenzene (Surr)	110		70 - 130

Lab Sample ID: LCSD 880-46016/2-A
Matrix: Solid
Analysis Batch: 46059

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 46016

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	0.100	0.07747		mg/Kg		77	70 - 130	10	35
Toluene	0.100	0.07237		mg/Kg		72	70 - 130	5	35
Ethylbenzene	0.100	0.07187		mg/Kg		72	70 - 130	6	35
m-Xylene & p-Xylene	0.200	0.1528		mg/Kg		76	70 - 130	6	35
o-Xylene	0.100	0.07577		mg/Kg		76	70 - 130	5	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	114		70 - 130
1,4-Difluorobenzene (Surr)	110		70 - 130

Lab Sample ID: 890-4047-A-1-C MS
Matrix: Solid
Analysis Batch: 46059

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 46016

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U	0.0990	0.1079		mg/Kg		109	70 - 130
Toluene	<0.00201	U *-	0.0990	0.1062		mg/Kg		107	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Jalmat 170

Job ID: 890-4060-1

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

Lab Sample ID: 890-4047-A-1-C MS
Matrix: Solid
Analysis Batch: 46059

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 46016

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier		Result	Qualifier				
Ethylbenzene	<0.00201	U *-	0.0990	0.1065		mg/Kg		108	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.198	0.2259		mg/Kg		114	70 - 130
o-Xylene	<0.00201	U	0.0990	0.1081		mg/Kg		109	70 - 130
MS MS									
Surrogate	%Recovery	Qualifier	Limits						
4-Bromofluorobenzene (Surr)	113		70 - 130						
1,4-Difluorobenzene (Surr)	112		70 - 130						

Lab Sample ID: 890-4047-A-1-D MSD
Matrix: Solid
Analysis Batch: 46059

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 46016

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier		Result	Qualifier						
Benzene	<0.00201	U	0.0998	0.1140		mg/Kg		114	70 - 130	6	35
Toluene	<0.00201	U *-	0.0998	0.1074		mg/Kg		108	70 - 130	1	35
Ethylbenzene	<0.00201	U *-	0.0998	0.1067		mg/Kg		107	70 - 130	0	35
m-Xylene & p-Xylene	<0.00402	U	0.200	0.2247		mg/Kg		113	70 - 130	1	35
o-Xylene	<0.00201	U	0.0998	0.1069		mg/Kg		107	70 - 130	1	35
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	109		70 - 130								
1,4-Difluorobenzene (Surr)	112		70 - 130								

Lab Sample ID: MB 880-46019/5-A
Matrix: Solid
Analysis Batch: 46073

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 46019

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Benzene	<0.00200	U	0.00200	mg/Kg		02/10/23 15:02	02/12/23 14:31	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/10/23 15:02	02/12/23 14:31	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/10/23 15:02	02/12/23 14:31	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/10/23 15:02	02/12/23 14:31	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/10/23 15:02	02/12/23 14:31	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/10/23 15:02	02/12/23 14:31	1
MB MB								
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac		
4-Bromofluorobenzene (Surr)	74		70 - 130	02/10/23 15:02	02/12/23 14:31	1		
1,4-Difluorobenzene (Surr)	95		70 - 130	02/10/23 15:02	02/12/23 14:31	1		

Lab Sample ID: LCS 880-46019/1-A
Matrix: Solid
Analysis Batch: 46073

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 46019

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec
		Result	Qualifier				
Benzene	0.100	0.1043		mg/Kg		104	70 - 130
Toluene	0.100	0.1031		mg/Kg		103	70 - 130
Ethylbenzene	0.100	0.1072		mg/Kg		107	70 - 130
m-Xylene & p-Xylene	0.200	0.2306		mg/Kg		115	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Jalmat 170

Job ID: 890-4060-1

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

Lab Sample ID: LCS 880-46019/1-A
Matrix: Solid
Analysis Batch: 46073

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 46019

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
o-Xylene	0.100	0.1142		mg/Kg		114	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	114		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: LCSD 880-46019/2-A
Matrix: Solid
Analysis Batch: 46073

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 46019

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	0.100	0.1134		mg/Kg		113	70 - 130	8	35
Toluene	0.100	0.1048		mg/Kg		105	70 - 130	2	35
Ethylbenzene	0.100	0.1094		mg/Kg		109	70 - 130	2	35
m-Xylene & p-Xylene	0.200	0.2311		mg/Kg		116	70 - 130	0	35
o-Xylene	0.100	0.1138		mg/Kg		114	70 - 130	0	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	109		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: 820-7364-A-1-B MS
Matrix: Solid
Analysis Batch: 46073

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 46019

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U	0.0996	0.09111		mg/Kg		91	70 - 130
Toluene	<0.00201	U	0.0996	0.09028		mg/Kg		91	70 - 130
Ethylbenzene	<0.00201	U	0.0996	0.09883		mg/Kg		98	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.199	0.2130		mg/Kg		106	70 - 130
o-Xylene	0.00207		0.0996	0.1063		mg/Kg		105	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	121		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: 820-7364-A-1-C MSD
Matrix: Solid
Analysis Batch: 46073

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 46019

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	<0.00201	U	0.0996	0.1013		mg/Kg		102	70 - 130	11	35
Toluene	<0.00201	U	0.0996	0.1036		mg/Kg		104	70 - 130	14	35
Ethylbenzene	<0.00201	U	0.0996	0.1085		mg/Kg		108	70 - 130	9	35
m-Xylene & p-Xylene	<0.00402	U	0.199	0.2331		mg/Kg		116	70 - 130	9	35
o-Xylene	0.00207		0.0996	0.1158		mg/Kg		114	70 - 130	9	35

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: Jalmat 170

Job ID: 890-4060-1

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

Lab Sample ID: 820-7364-A-1-C MSD
Matrix: Solid
Analysis Batch: 46073

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 46019

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	115		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

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

Lab Sample ID: MB 880-46093/1-A
Matrix: Solid
Analysis Batch: 46267

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 46093

Analyte	MB MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/13/23 09:09	02/14/23 09:07	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/13/23 09:09	02/14/23 09:07	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/13/23 09:09	02/14/23 09:07	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1-Chlorooctane	67	S1-	70 - 130	02/13/23 09:09	02/14/23 09:07	1
o-Terphenyl	74		70 - 130	02/13/23 09:09	02/14/23 09:07	1

Lab Sample ID: LCS 880-46093/2-A
Matrix: Solid
Analysis Batch: 46267

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 46093

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics (Over C10-C28)	1000	1133		mg/Kg		113	70 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1-Chlorooctane	113		70 - 130
o-Terphenyl	120		70 - 130

Lab Sample ID: LCSD 880-46093/3-A
Matrix: Solid
Analysis Batch: 46267

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 46093

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Diesel Range Organics (Over C10-C28)	1000	1124		mg/Kg		112	70 - 130	1	20

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
1-Chlorooctane	119		70 - 130
o-Terphenyl	125		70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: Jalmat 170

Job ID: 890-4060-1

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

Lab Sample ID: 890-4070-A-1-E MS
Matrix: Solid
Analysis Batch: 46267

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 46093

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1-Chlorooctane	18	S1-	70 - 130
o-Terphenyl	11	S1-	70 - 130

Lab Sample ID: 890-4070-A-1-E MSD
Matrix: Solid
Analysis Batch: 46267

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 46093

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
1-Chlorooctane	18	S1-	70 - 130
o-Terphenyl	11	S1-	70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-46036/1-A
Matrix: Solid
Analysis Batch: 46293

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			02/14/23 10:27	1

Lab Sample ID: LCS 880-46036/2-A
Matrix: Solid
Analysis Batch: 46293

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	240.9		mg/Kg		96	90 - 110

Lab Sample ID: LCSD 880-46036/3-A
Matrix: Solid
Analysis Batch: 46293

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	238.9		mg/Kg		96	90 - 110	1	20

Lab Sample ID: 890-4060-1 MS
Matrix: Solid
Analysis Batch: 46293

Client Sample ID: FS13A
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	84.1		248	317.4		mg/Kg		94	90 - 110

Lab Sample ID: 890-4060-1 MSD
Matrix: Solid
Analysis Batch: 46293

Client Sample ID: FS13A
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	84.1		248	315.1		mg/Kg		93	90 - 110	1	20

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: Jalmat 170

Job ID: 890-4060-1

GC VOA

Prep Batch: 46016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4060-1	FS13A	Total/NA	Solid	5035	
890-4060-2	SW07	Total/NA	Solid	5035	
MB 880-46016/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-46016/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-46016/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4047-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-4047-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 46019

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-46019/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-46019/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-46019/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
820-7364-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
820-7364-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 46059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4060-1	FS13A	Total/NA	Solid	8021B	46016
890-4060-2	SW07	Total/NA	Solid	8021B	46016
MB 880-46016/5-A	Method Blank	Total/NA	Solid	8021B	46016
LCS 880-46016/1-A	Lab Control Sample	Total/NA	Solid	8021B	46016
LCSD 880-46016/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	46016
890-4047-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	46016
890-4047-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	46016

Analysis Batch: 46073

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-46019/5-A	Method Blank	Total/NA	Solid	8021B	46019
LCS 880-46019/1-A	Lab Control Sample	Total/NA	Solid	8021B	46019
LCSD 880-46019/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	46019
820-7364-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	46019
820-7364-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	46019

Analysis Batch: 46246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4060-1	FS13A	Total/NA	Solid	Total BTEX	
890-4060-2	SW07	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 46093

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4060-1	FS13A	Total/NA	Solid	8015NM Prep	
890-4060-2	SW07	Total/NA	Solid	8015NM Prep	
MB 880-46093/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-46093/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-46093/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4070-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4070-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
 Project/Site: Jalmat 170

Job ID: 890-4060-1

GC Semi VOA

Analysis Batch: 46267

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4060-1	FS13A	Total/NA	Solid	8015B NM	46093
890-4060-2	SW07	Total/NA	Solid	8015B NM	46093
MB 880-46093/1-A	Method Blank	Total/NA	Solid	8015B NM	46093
LCS 880-46093/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	46093
LCSD 880-46093/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	46093
890-4070-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	46093
890-4070-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	46093

Analysis Batch: 46360

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4060-1	FS13A	Total/NA	Solid	8015 NM	
890-4060-2	SW07	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 46036

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4060-1	FS13A	Soluble	Solid	DI Leach	
890-4060-2	SW07	Soluble	Solid	DI Leach	
MB 880-46036/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-46036/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-46036/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4060-1 MS	FS13A	Soluble	Solid	DI Leach	
890-4060-1 MSD	FS13A	Soluble	Solid	DI Leach	

Analysis Batch: 46293

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4060-1	FS13A	Soluble	Solid	300.0	46036
890-4060-2	SW07	Soluble	Solid	300.0	46036
MB 880-46036/1-A	Method Blank	Soluble	Solid	300.0	46036
LCS 880-46036/2-A	Lab Control Sample	Soluble	Solid	300.0	46036
LCSD 880-46036/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	46036
890-4060-1 MS	FS13A	Soluble	Solid	300.0	46036
890-4060-1 MSD	FS13A	Soluble	Solid	300.0	46036

Lab Chronicle

Client: Ensolum
Project/Site: Jalmat 170

Job ID: 890-4060-1

Client Sample ID: FS14A

Lab Sample ID: 890-4060-1

Date Collected: 02/07/23 12:13

Matrix: Solid

Date Received: 02/08/23 14:56

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	46016	02/10/23 14:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46059	02/12/23 00:20	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46246	02/13/23 19:39	SM	EET MID
Total/NA	Analysis	8015 NM		1			46360	02/15/23 08:41	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	46093	02/13/23 09:09	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46267	02/14/23 19:06	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	46036	02/10/23 16:44	KS	EET MID
Soluble	Analysis	300.0		1			46293	02/14/23 10:41	CH	EET MID

Client Sample ID: SW07

Lab Sample ID: 890-4060-2

Date Collected: 02/07/23 12:10

Matrix: Solid

Date Received: 02/08/23 14:56

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	46016	02/10/23 14:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46059	02/12/23 00:41	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46246	02/13/23 19:39	SM	EET MID
Total/NA	Analysis	8015 NM		1			46360	02/15/23 08:41	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	46093	02/13/23 09:09	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46267	02/14/23 19:29	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	46036	02/10/23 16:44	KS	EET MID
Soluble	Analysis	300.0		1			46293	02/14/23 10:55	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Jalmat 170

Job ID: 890-4060-1

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	T104704400-22-25	06-30-23

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

- 1
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Method Summary

Client: Ensolum
 Project/Site: Jalmat 170

Job ID: 890-4060-1

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

- ASTM = ASTM International
- EPA = US Environmental Protection Agency
- 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:

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



Sample Summary

Client: Ensolum
Project/Site: Jalmat 170

Job ID: 890-4060-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4060-1	FS13A	Solid	02/07/23 12:13	02/08/23 14:56	1'
890-4060-2	SW07	Solid	02/07/23 12:10	02/08/23 14:56	0-2.5'

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Environment Testing Xenco

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (809) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Chain of Custody

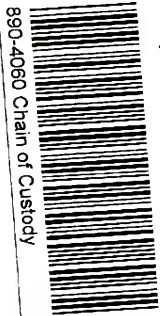
Work Order No: _____

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Project Manager:	Hadie Green	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolium, LLC	Company Name:	Ensolium, LLC
Address:	601 N Marientfeld St Suite 400	Address:	601 N Marientfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	432-557-8895	Email:	kjennings@ensolium.com, hgreen@ensolium.com

Work Order Comments	
Program: <input checked="" type="checkbox"/> UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund	
State of Project: <u>NM</u>	
Reporting: Level II <input checked="" type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>	
Deliverables: EDD <input checked="" type="checkbox"/> ADAPT <input type="checkbox"/> Other: _____	

Project Name:	JAWMART 17D	Turn Around	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	Pres. Code	
Project Number:		Due Date:	SDMY	ANALYSIS REQUEST	
Project Location:	Hadie Green	TAT starts the day received by the lab, if received by 4:30pm		Cool: NO	
Sampler's Name:	Hadie Green	Temp. Blank:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	DI Water: H ₂ O	
PO #:		Thermometer ID:		MeOH: Me	
SAMPLE RECEIPT		Wet Ice:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	HCl: HC	
Samples Received Intact:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Correction Factor:		H ₂ SO ₄ : H ₂	
Cooler Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Temperature Reading:	4.3	H ₃ PO ₄ : HP	
Sample Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Corrected Temperature:	4.0	NaHSO ₄ : NABIS	
Total Containers:				Na ₂ S ₂ O ₃ : NASO ₃	
				Zn Acetate+NaOH: Zn	
				NaOH+Ascorbic Acid: SAsPC	



890-4060 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	Sample Comments
RS13A	SL	2/17/23	1213	1	C	1	IPH 8015 BTEX 8021 CHLORIDE 300	2 - 402
50007	SL	2/17/23	1210	0.25	C	1		

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn										
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631 / 245.1 / 7470 / 7471										

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	2-8-23 1456			

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4060-1

Login Number: 4060

List Source: Eurofins Carlsbad

List Number: 1

Creator: Stutzman, Amanda

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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.	N/A	Refer to Job Narrative for details.
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	

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Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4060-1

Login Number: 4060

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 02/10/23 11:50 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
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	

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APPENDIX D

Final C-141

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

State of New Mexico
Energy Minerals and Natural
Resources Department

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

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

Incident ID	NAPP2233946698
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: Maverick Permian, LLC	OGRID: 331199
Contact Name: Bryce Wagoner	Contact Telephone: 928-241-1862
Contact email: Bryce.Wagoner@mavresources.com	Incident # (assigned by OCD) NAPP2233946698
Contact mailing address: 1410 NW County Road Hobbs, NM 88240	

Location of Release Source

Latitude 32.39512 _____ Longitude -103.33486 _____
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Jalmat Yates Sand Unit 170	Site Type
Date Release Discovered November 20, 2022	API# (if applicable) 30-025-35262

Unit Letter	Section	Township	Range	County
H	14	22S	35E	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 checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) 1.92 bbls	Volume Recovered (bbls) 0
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 7.7 bbls	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input checked="" 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

The release was caused by a flowline rupture due to possible inner corrosion. The release occurred off pad. The source of the release has been stopped and the impacted area has been secured. Initial response and removal of saturated soil from the release area has been completed.

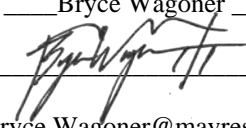
State of New Mexico
Oil Conservation Division

Incident ID	NAPP2233946698
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: <u>Bryce Wagoner</u> Title: <u>Permian HSE Specialist II</u> Signature:  Date: <u>11/30/2022</u> email: <u>Bryce.Wagoner@mavresources.com</u> Telephone: <u>928-241-1862</u>
<u>OCD Only</u> Received by: _____ Date: _____

NAPP2233946698

Pooled Fluids on the Surface										
	Length (ft.)	Width (ft.)	Depth (in)	# of Boundaries <i>*edges of pool where depth is 0. don't count shared boundaries</i>	Oil-Water Ratio (%)	Pooled Area (ft ²)	Estimated Average Depth (ft.)	Pooled Volume (bbl.)	Volume of Oil in Subsurface (bbl.)	Volume of Water in Subsurface (bbl.)
Rectangle A					0.01	0.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle B					0.01	0.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle C						0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle D						0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle E						0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Total Volume (bbls):								0.00	0.00	0.00

Subsurface Fluids										
	Length (ft.)	Width (ft.)	Depth (in.)	Saturation (%) <i>*10% in consolidated sediments after rain to 50% in sand with no precipitation</i>	Oil-Water Ratio (%)	Area (ft ²)	Volume (bbl.)	Estimated Volume in Subsurface (bbl.)	Volume of Oil in Subsurface (bbl.)	Volume of Water in Subsurface (bbl.)
Rectangle A	90.0	90.0	1.0	0.1	0.20	8100.0	120.2	9.6	1.92	7.7
Rectangle B				0.1	0.01	0.0	0.0	0.0	0.00	0.0
Rectangle C				0.1	0.01	0.0	0.0	0.0	0.00	0.0
Rectangle D				0.1	0.01	0.0	0.0	0.0	0.00	0.0
Rectangle E				0.1	0.01	0.0	0.0	0.0	0.00	0.0
Rectangle F						0.0	0.0	0.0	0.00	0.0
Rectangle G						0.0	0.0	0.0	0.00	0.0
Rectangle H						0.0	0.0	0.0	0.00	0.0
Rectangle I						0.0	0.0	0.0	0.00	0.0
Rectangle J						0.0	0.0	0.0	0.00	0.0
Total Volume (bbls):								9.61	1.92	7.69

TOTAL RELEASE VOLUME (bbls):	9.6
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Incident ID	NAPP2233946698
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>>100</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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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

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

- Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- Field data
- Data table of soil contaminant concentration data
- Depth to water determination
- Determination of water sources and significant watercourses within 1/2-mile of the lateral extents of the release
- Boring or excavation logs
- Photographs including date and GIS information
- Topographic/Aerial maps
- Laboratory data including chain of custody

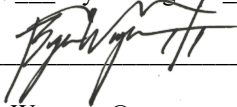
If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods,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

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2233946698
District RP	
Facility ID	
Application ID	

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

Printed Name: Bryce Wagoner Title: Permian HSE Specialist II

Signature:  Date: 02/16/2023

email: Bryce.Wagoner@mavresources.com Telephone: 928-241-1862

OCD Only

Received by: Jocelyn Harimon Date: 02/17/2023

Incident ID	NAPP2233946698
District RP	
Facility ID	
Application ID	

Closure

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

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

- A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Bryce Wagoner Title: Permian HSE Specialist II
 Signature:  Date: 02/16/2023
 email: Bryce.Wagoner@mavresources.com Telephone: 928-241-1862

OCD Only

Received by: Jocelyn Harimon Date: 02/21/2023

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

Closure Approved by:  Date: 03/01/2023
 Printed Name: Jennifer Nobui Title: Environmental Specialist A



APPENDIX E
NMOCD Notifications

Joe Gable

From: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Sent: Thursday, December 8, 2022 9:22 AM
To: Kalei Jennings
Cc: Bratcher, Michael, EMNRD; Nobui, Jennifer, EMNRD
Subject: RE: [EXTERNAL] Maverick- Sampling Notification (Week of 12/12/2022)

[****EXTERNAL EMAIL****]

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Jocelyn Harimon • Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov
[http:// www.emnrd.nm.gov](http://www.emnrd.nm.gov)



From: Kalei Jennings <kjennings@ensolum.com>
Sent: Wednesday, December 7, 2022 4:46 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Subject: [EXTERNAL] Maverick- Sampling Notification (Week of 12/12/2022)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

Maverick Natural Resources (Maverick) plans to complete final sampling activities at the following sites the week of December 12, 2022.

- Jalmat 170/ NAPP2233946698
- SEMU Eumont 117 / NAPP2231946665
- EVGSAU 2418-001 / NAPP2231954757

Thank you,

 **Kalei Jennings**
Senior Scientist
817-683-2503
Ensolum, LLC
in f 

Joe Gable

From: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Sent: Friday, December 30, 2022 11:41 AM
To: Kalei Jennings
Cc: Bratcher, Michael, EMNRD; Nobui, Jennifer, EMNRD
Subject: RE: [EXTERNAL] Maverick- Sampling Notification (Week of 01/02/2023)

[****EXTERNAL EMAIL****]

Good morning Kalei,

Please be aware that notification requirements are **two business days**, per rule. Please proceed on your schedule. Also, please include this, and all correspondence, in the closure report to insure inclusion in the project file.

Thank you,
Jocelyn

Jocelyn Harimon • Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov
[http:// www.emnrd.nm.gov](http://www.emnrd.nm.gov)



From: Kalei Jennings <kjennings@ensolum.com>
Sent: Friday, December 30, 2022 10:25 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Hadlie Green <hgreen@ensolum.com>; Josh Adams <jadams@ensolum.com>
Subject: [EXTERNAL] Maverick- Sampling Notification (Week of 01/02/2023)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

Maverick Natural Resources (Maverick) plans to complete final sampling activities at the following sites the week of January 2, 2023.

- Ruby Federal/ NAPP2231448981
- SEMU Eumont 117/ NAPP2231946665
- Oxy State F-1 / NAPP2235375291
- Jalmat 170 / NAPP2233946698
- Baish B Battery / NAPP2235372941

Joe Gable

From: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Sent: Thursday, January 12, 2023 9:34 AM
To: Kalei Jennings
Cc: Bratcher, Michael, EMNRD; Nobui, Jennifer, EMNRD
Subject: RE: [EXTERNAL] Maverick- Sampling Notification (Week of 01/16/2023)

[****EXTERNAL EMAIL****]

Kalei,

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

JH

Jocelyn Harimon • Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov
[http:// www.emnrd.nm.gov](http://www.emnrd.nm.gov)



From: Kalei Jennings <kjennings@ensolum.com>
Sent: Wednesday, January 11, 2023 5:25 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Subject: [EXTERNAL] Maverick- Sampling Notification (Week of 01/16/2023)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

Maverick Natural Resources (Maverick) plans to complete final sampling activities at the following sites the week of January 16, 2023.

- Oxy State F-1 / NAPP2235375291
- Jalmat 188 / NAPP2235373931
- Jalmat 170 / NAPP2233946698
- MCA 151 / NAPP2235377174
- EVGSAU 2418-001 / NAPP2231954757
- Buckeye 43-01 / NAPP2230752440
- Leamex 018 / NAPP2234158858
-

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

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

QUESTIONS

Action 429569

QUESTIONS

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 429569
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	nOY1707658025
Incident Name	NOY1707658025 JALMAT FIELD YATES SAND UNIT #170 @ 30-025-35262
Incident Type	Oil Release
Incident Status	Remediation Closure Report Received
Incident Well	[30-025-35262] JALMAT FIELD YATES SAND UNIT #170

Location of Release Source	
<i>Please answer all the questions in this group.</i>	
Site Name	JALMAT FIELD YATES SAND UNIT #170
Date Release Discovered	03/13/2017
Surface Owner	State

Incident Details	
<i>Please answer all the questions in this group.</i>	
Incident Type	Oil Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release	
<i>Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.</i>	
Crude Oil Released (bbls) Details	Cause: Vandalism Flow Line - Production Crude Oil Released: 25 BBL Recovered: 17 BBL Lost: 8 BBL.
Produced Water Released (bbls) Details	Cause: Vandalism Flow Line - Production Produced Water Released: 60 BBL Recovered: 45 BBL Lost: 15 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.

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Santa Fe, NM 87505

QUESTIONS, Page 2

Action 429569

QUESTIONS (continued)

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 429569
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	No, according to supplied volumes this does not appear to be a "gas only" report.
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	Yes
Reasons why this would be considered a submission for a notification of a major release	From paragraph A. "Major release" determine using: (1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.

With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.

Initial Response

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

The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	Not answered.

Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.

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.

I hereby agree and sign off to the above statement	Name: Chris Straub Title: Contractor Email: chris.straub@tetrattech.com Date: 02/07/2025
--	--

Sante Fe Main Office
Phone: (505) 476-3441

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Phone: (505) 629-6116

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

QUESTIONS, Page 3

Action 429569

QUESTIONS (continued)

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 429569
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Site Characterization
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). 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 in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Greater than 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1000 (ft.) and ½ (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1000 (ft.) and ½ (mi.)
Any other fresh water well or spring	Between 1000 (ft.) and ½ (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1000 (ft.) and ½ (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	Yes

Remediation Plan
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

Requesting a remediation plan approval with this submission	Yes
<i>Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.</i>	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	Yes
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
On what estimated date will the remediation commence	03/28/2017
On what date will (or did) the final sampling or liner inspection occur	07/24/2017
On what date will (or was) the remediation complete(d)	07/24/2017
What is the estimated surface area (in square feet) that will be remediated	43000
What is the estimated volume (in cubic yards) that will be remediated	530

These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed. The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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State of New Mexico
Energy, Minerals and Natural Resources
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Santa Fe, NM 87505

QUESTIONS, Page 4

Action 429569

QUESTIONS (continued)

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 429569
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Remediation Plan (continued)	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
<i>(Select all answers below that apply.)</i>	
Is (or was) there affected material present needing to be removed	Yes
Is (or was) there a power wash of the lined containment area (to be) performed	No
OTHER (Non-listed remedial process)	Not answered.
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
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.	
I hereby agree and sign off to the above statement	Name: Chris Straub Title: Contractor Email: chris.straub@tetrattech.com Date: 02/07/2025
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

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

QUESTIONS, Page 6

Action 429569

QUESTIONS (continued)

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 429569
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Liner Inspection Information	
Last liner inspection notification (C-141L) recorded	{Unavailable.}
Was all the impacted materials removed from the liner	Unavailable.

Remediation Closure Request

Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.

Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	Yes
What was the total surface area (in square feet) remediated	43000
What was the total volume (cubic yards) remediated	530

Summarize any additional remediation activities not included by answers (above)	Approximately 528 yards of soil were disposed of at Sundance Services (an NMOCD approved facility). The area was backfilled with farm grade topsoil, and restored to dunal like feature. The area was then planted with a mixture of prairie grass seed comparable to BLM #3 seed mixture. This concludes remedial activity for this location.
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The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (in .pdf format) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

I hereby agree and sign off to the above statement	Name: Chris Straub Title: Contractor Email: chris.straub@tetrattech.com Date: 02/07/2025
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CONDITIONS

Action 429569

CONDITIONS

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 429569
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	Remediation closure is approved.	1/7/2026
michael.buchanan	The reclamation report will need to include: Executive Summary of the reclamation activities; Scaled Site Map including sampling locations; Analytical results including, but not limited to, results showing that any remaining impacts meet the reclamation standards and results to prove the backfill is non-waste containing; At least one (1) representative 5-point composite sample will need to be collected from the backfill material that will be used for the reclamation of the top four feet of the excavation. The OCD reserves the right to request additional sampling if needed; pictures of the backfilled areas showing that the area is back, as nearly as practical, to the original condition or the final land use and maintain those areas to control dust and minimize erosion to the extent practical; pictures of the top layer, which is either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater; and a revegetation plan.	1/7/2026
michael.buchanan	A reclamation report will not be accepted until reclamation of the release area, including areas reasonably needed for production or drilling activities, is complete and meet the requirements of 19.15.29.13 NMAC. Areas not reasonably needed for production or drilling activities will still need to be reclaimed and revegetated as early as practicable.	1/7/2026
michael.buchanan	All revegetation activities will need to be documented and included in the revegetation report. The revegetation report will need to include: An executive summary of the revegetation activities including: Seed mix, Method of seeding, dates of when the release area was reseeded, information pertinent to inspections, information about any amendments added to the soil, information on how the vegetative cover established meets the life-form ratio of plus or minus fifty percent of pre-disturbance levels and a total percent plant cover of at least seventy percent of pre-disturbance levels, excluding noxious weeds per 19.15.29.13 D.(3) NMAC, and any additional information; a scaled Site Map including area that was revegetated in square feet; and pictures of the revegetated areas during reseeding activities, inspections, and final pictures when revegetation is achieved.	1/7/2026
michael.buchanan	A revegetation report will not be accepted until revegetation of the release area, including areas reasonably needed for production or drilling activities, is complete and meet the requirements of 19.15.29.13 NMAC. Areas not reasonably needed for production or drilling activities will still need to be reclaimed and revegetated as early as practicable.	1/7/2026
michael.buchanan	Per 19.15.29.13 E. NMAC, if a reclamation and revegetation report has been submitted to the surface owner, it may be used if the requirements of the surface owner provide equal or better protection of freshwater, human health, and the environment. A copy of the approval of the reclamation and revegetation report from the surface owner and a copy of the approved reclamation and revegetation report will need to be submitted to the OCD via the Permitting website.	1/7/2026