



May 10, 2024

**New Mexico Energy Minerals and Natural Resources Department**

New Mexico Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

**Re: Closure Request  
LVP SWD #001  
Incident Number nAPP2135033453  
Eddy County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of WPX Energy Permian, LLC. (WPX), has prepared this *Closure Request* to document remedial actions and soil sampling activities at the LVP SWD #001 (Site) in Unit I, Section 4, Township 23, South, Range 28 East, in Eddy County, New Mexico (Figure 1). The Site (32.33309°, -104.08503°) and is associated with oil and gas exploration and production operations on private land.

The purpose of the remedial actions and soil sampling activities was to fulfill proposed remediation actions presented in the December 4, 2023, *Remediation Work Plan Addendum* following a release of produced water within a lined secondary containment at the Site. Based on field observations, field screening activities, and soil sample laboratory analytical results, WPX is submitting this *Closure Request* describing excavation activities that have occurred and requesting closure for Incident Number nAPP2135033453.

## **BACKGROUND**

On December 3, 2021, a connection point on an underground produced water transfer line failed and resulted in the release of approximately 200 barrels (bbls) of produced water to the well pad. No free-standing fluids were recovered. WPX immediately reported the release to the New Mexico Oil Conservation Division (NMOCD) via email and with a Corrective Action Form C-141 (Form C-141) on December 16, 2021 (Appendix A). The release was assigned Incident Number nAPP2135033453.

Following the release, Site assessment and delineation activities were completed, which identified chloride-impacted soil. Excavation activities were completed but were limited due to well-cemented conglomerate soil and indurated caliche. An estimated 1,136 cubic yards of impacted soil was removed from the release area and hauled to an approved disposal facility. Ensolum personnel conducted confirmation samples activities following excavation; however, the final excavation extent only measured approximately 5,668 square feet instead of the anticipated 13,000 square feet. In order to comply with a NMOCD-approved sampling variance, Ensolum personnel collected a 5-point confirmation sample every 500 square feet for the floor of the excavation and from the sidewalls. A total of 12 composite confirmation floor samples and three composite confirmation sidewall soil samples were collected. Laboratory analytical results indicated eight out of the 15 confirmation samples collected during the

WPX Energy Permian, LLC  
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LVP SWD #001



excavation activities listed above were in compliance with the Closure Criteria at the Site, including all sidewalls. The seven failing floor soil samples were due to the difficult soil conditions to continue to remove with the available mechanical equipment.

Based on Site challenges, specifically the well-cemented conglomerates and indurated caliche, WPX submitted a *Remediation Work Plan Addendum* on December 4, 2023, proposing to level the entire excavation floor to a depth of 4 feet below ground surface (bgs) and installing a 20-mil impermeable liner. The liner would have acted as a physical barrier and retard further migration of chloride impacts into the subsurface. Once completed, WPX would backfill the remaining excavation with non-waste containing soil. An estimated 1,550 cubic yards of impacted soil was proposed to be left in place beneath the 20-mil impermeable liner. Details regarding Site assessment, delineation, and initial excavation efforts are presented in the *Remediation Work Plan Addendum*, which is included in Appendix B.

NMOCD denied the Remediation Work Plan Addendum on February 28, 2024, for the following reasons:

*Remediation plan denied. OCD will no longer approve liner installations for contaminant mitigation. The site must be remediated to the most stringent criteria in Table 1. WPX Energy Permian must collect at least 26 five-point confirmation samples from the walls and the base of excavation as stated in your remediation plan that was accepted by OCD on 8/9/2022. In the data you submitted with this report only 15 samples were collected. Submit remediation closure plan to OCD by May 28, 2024.*

Correspondence with the NMOCD is included in Appendix C.

Following the denial of the *Remediation Work Plan Addendum*, WPX proceeded to excavate impacted soil with other mechanical means as described below.

## 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, Section 12 (19.15.29.12) 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.

Based on the results of the Site Characterization and approval of a previous *Remediation Work Plan* by the NMOCD, 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): 100 mg/kg
- Chloride: 600 mg/kg

## ADDITIONAL EXCAVATION ACTIVITIES

Ensolum personnel remobilized to the Site on April 18, 2024, to further advance the excavation with a larger track hoe and hydraulic hammer head attachment to excavate and dispose of residual chloride-impacted soil. Following field screening results for chloride, utilizing the Mohr method titration, indicating

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impacted soil was removed, recollection of composite floor confirmation soil samples within the failing confirmation soil sample aliquots was completed between April 18 and April 24, 2024.

Confirmation floor soil sampling included the collection of 5-point composite soil samples at the approved variance frequency of one composite sample for every 500 square feet of excavation along the floor of the excavation in those areas that were not in compliance with the Closure Criteria. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing.

Below is a list of final depths for confirmation sampling associated with those samples that previously exceeded the Closure Criteria at shallower depths:

- FS05 – 9.5 bgs;
- FS06 – 8 feet bgs;
- FS07 – 10 feet bgs;
- FS08 – 11 feet bgs;
- FS09 – 12.5 feet bgs (included the removal of soil in vicinity of pothole PH01);
- FS10 – 5.5 feet bgs; and
- FS11 – 8 feet bgs.

The composite 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 Envirotech Analytical Laboratory (Envirotech) in Farmington, New Mexico, for analysis of the following chemicals of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following Standard Method SM4500.

Composite soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted in Figure 2. Photographic documentation was completed during excavation activities and a photographic log is included as Appendix D.

The final excavation footprint of the excavation was 5,668 square feet and an additional 560 cubic yards of impacted soil was transported and disposed of at the R360 Facility in Hobbs New Mexico.

## LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for final confirmation floor soil samples FS05 through FS11, ranging in depths from 5.5 feet to 12.5 feet bgs, indicated concentrations of all COCs were compliant with the Closure Criteria. All previous soil samples, both assessment/delineation and confirmation samples, have been properly excavated, transported, and disposed of at the [insert landfill name]. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix E.

## CLOSURE REQUEST

Following a produced water release at the Site in December 2021, Site assessment, delineation, and excavation activities were completed to properly address impacts to soil. Initial limitations of vertical excavation within the release extent due to the presence of well-cemented conglomerates and indurated caliche was surpassed with the help of a much larger track hoe and hammer attachment.

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Based on the final laboratory analytical results for all floor and sidewall composite soil samples from the final excavation, all impacted soil has been removed. As such, remedial actions completed at the Site appear to have been protective of human health, the environment, and groundwater and therefore WPX respectfully requests closure for Incident Number nAPP2135033453. Notifications submitted to the NMOCD are included in Appendix C.

If you have any questions or comments, please contact Ms. Ashley Giovengo at (575) 988-0055 or [agiovengo@ensolum.com](mailto:agiovengo@ensolum.com).

Sincerely,  
**Ensolum, LLC**

A handwritten signature in black ink, appearing to read "Ashley Giovengo".

Ashley Giovengo  
Senior Scientist

A handwritten signature in black ink, appearing to read "Daniel R. Moir".

Daniel R. Moir, PG  
Senior Managing Geologist

cc: Jim Raley, WPX

Appendices:

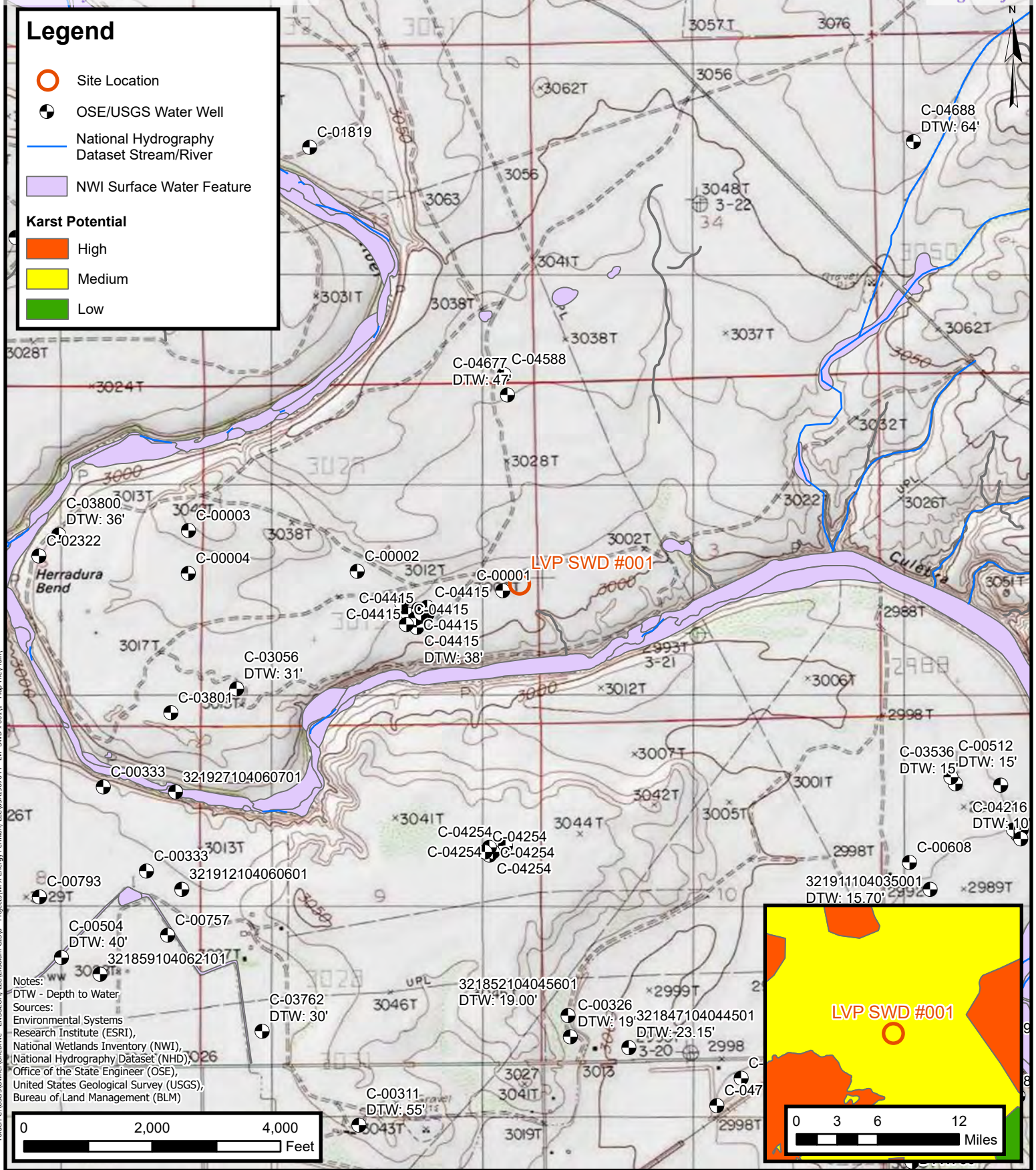
Figure 1	Site Receptor Map
Figure 2	Excavation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Corrective Action Form C-141
Appendix B	Remediation Work Plan Addendum
Appendix C	Email Correspondence
Appendix D	Photographic Log
Appendix E	Laboratory Analytical Reports & Chain-of-Custody Documentation





Figures

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## Site Receptor Map

WPX Energy Permian, LLC  
LVP SWD #001  
Incident Number: nAPP2135033453  
Unit I, Sec 4, T23S R28E  
Eddy County, New Mexico

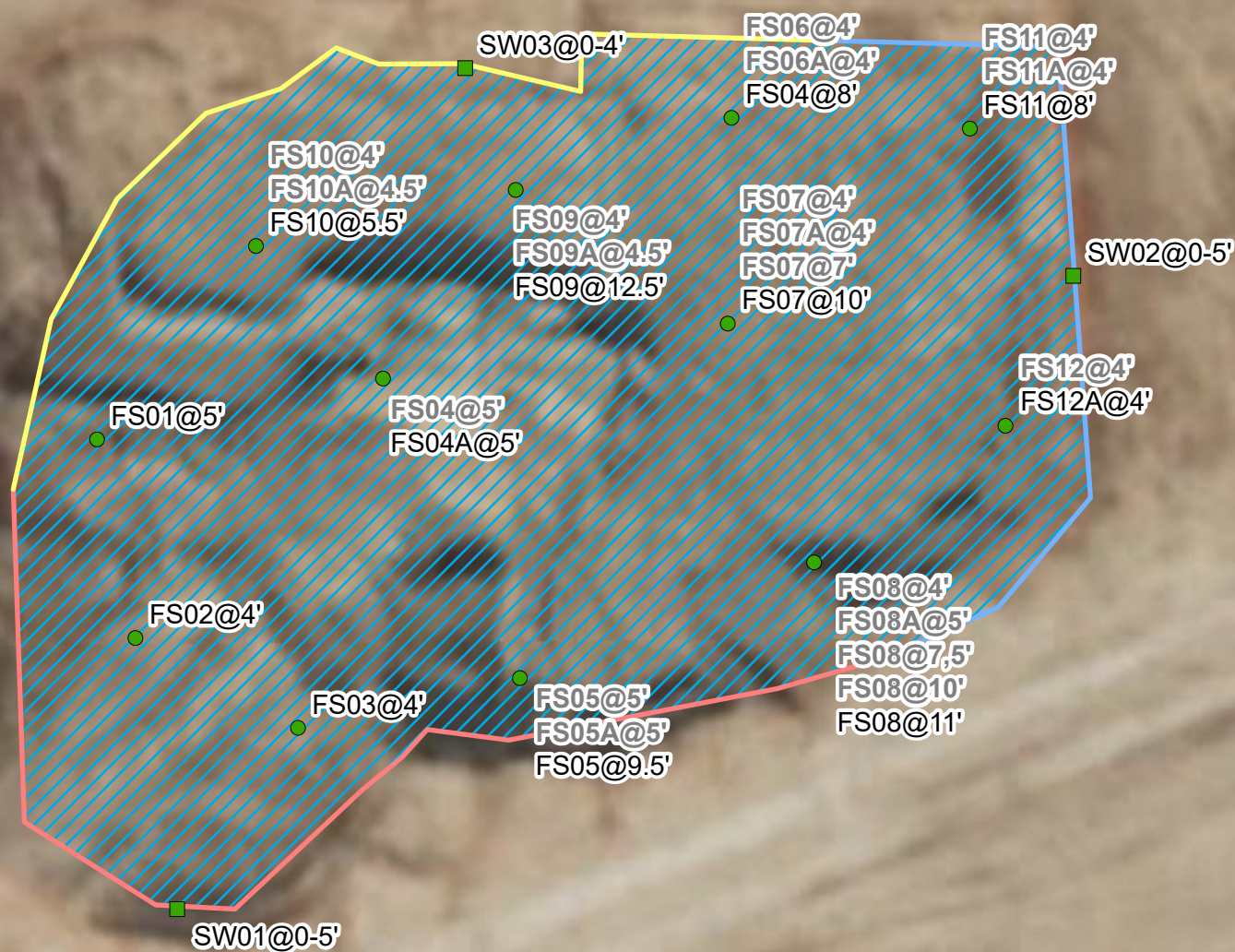
FIGURE

1

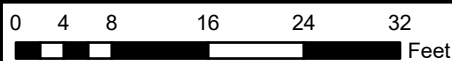


**Legend**

- Excavation Floor Sample in Compliance with NMOCD Closure Criteria
- Excavation Sidewall Sample in Compliance with NMOCD Closure Criteria
- Aliquot 1
- Aliquot 2
- Aliquot 3
- ▨ Excavation Extent



Notes:  
Sample ID @ Depth Below Ground Surface.



Sources: Environmental Systems Research Institute (ESRI)



## Excavation Soil Sample Locations

WPX Energy Permian, LLC  
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Unit I, Sec 4, T23S R28E  
Eddy County, New Mexico

**FIGURE**

**2**



Table



**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
 LVP SWD #001  
 WPX Energy Permian, LLC  
 Eddy County, New Mexico  
 Ensolum Project No. 03A1978044

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	100	600
Delineation Soil Sample Analytical Results									
SS01A	12/28/2023	0	<0.250	<0.250	<20.0	<25.0	<50.0	<50.0	206
SS02	12/11/2023	0	<0.250	<0.250	<20.0	<25.0	<50.0	<50.0	501
SS03	12/11/2023	0	<0.250	<0.250	<200	<25.0	52.5	52.5	655
SS03	5/7/2024	0	<0.250	<0.250	<20.0	<25.0	<50.0	<50.0	152
SS04	12/11/2023	0	<0.250	<0.250	<200	<25.0	<50.0	<50.0	262
SS07	3/17/2022	8-6	<0.250	<0.250	<200	<25.0	<50.0	<50.0	328
SS08	3/17/2022	9	<0.250	<0.250	<200	<25.0	<50.0	<50.0	956
BF01**	4/23/2024	--	<0.250	<0.250	<200	<25.0	<50.0	<20.0	80.7
BH01	12/11/2023	0	<0.250	<0.250	<200	<25.0	<50.0	<50.0	303
BH01	12/14/2023	1	<0.250	<0.250	<20.0	<25.0	<50.0	<50.0	656
BH01	12/14/2023	2	<0.250	<0.250	<20.0	<25.0	<50.0	<50.0	435
BH02	12/11/2023	0	<0.250	<0.250	<200	<25.0	<50.0	<50.0	9,860
BH02	12/14/2023	1	<0.250	<0.250	<20.0	<25.0	<50.0	<50.0	3,120
BH02	12/14/2023	2	<0.250	<0.250	<20.0	<25.0	<50.0	<50.0	2,270
BH02	12/14/2023	2.5	<0.250	<0.250	<20.0	<25.0	<50.0	<50.0	1,800
PH01	11/22/2022	11	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	48.8
Confirmation Floor Soil Sample Analytical Results									
FS01	11/15/2022	5	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	105
FS02	11/15/2022	4	<0.00198	<0.00397	<50.0	<50.0	<50.0	<50.0	178
FS03	11/16/2022	4	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	164
FS04	11/16/2022	5	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	5,920
FS04A	10/11/2023	5	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	385
FS05	11/16/2022	5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	9,270
FS05A	10/11/2023	5	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	1,540
FS05	4/22/2024	9.5	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	553
FS06	11/17/2022	4	<0.00200	0.123	<50.0	<50.0	<50.0	<50.0	14,500
FS06A	10/11/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	3,010
FS06	4/19/2024	8	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	330
FS07	11/17/2022	4	<0.00202	<0.00403	57.1	<49.9	<49.9	57.1	12,800
FS07A	10/11/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	2,160
FS07	4/19/2024	7	NA	NA	NA	NA	NA	NA	5,400
FS07	4/22/2024	10	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	488
FS08	11/17/2022	4	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	9,190
FS08A	10/11/2023	5	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	3,680
FS08	4/23/2024	7-6	NA	NA	NA	NA	NA	NA	1,530
FS08	4/23/2024	10	NA	NA	NA	NA	NA	NA	1,710
FS08	4/24/2024	11	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	539
FS09	11/17/2022	4	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	5,790
FS09A	10/11/2023	4-5	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	1,750
FS09	4/24/2024	12.5	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	<20.0
FS10	11/18/2022	4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	893
FS10A	10/11/2023	4-5	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	1,970
FS10	4/24/2024	5.5	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	331
FS11	11/18/2022	4	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	2,370
FS11A	10/11/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	763
FS11	4/19/2024	8	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	317
FS12	11/18/2022	4	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	11,900
FS12A	10/11/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	361



TABLE 1  
SOIL SAMPLE ANALYTICAL RESULTS  
LVP SWD #001  
WPX Energy Permian, LLC  
Eddy County, New Mexico  
Ensolum Project No. 03A1978044

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	100	600
Confirmation Sidewall Soil Sample Analytical Results									
SW01	11/15/2022	0-5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	261
SW02	11/18/2022	0-5	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	140
SW03	11/18/2022	0-4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	94.2

**Notes:**

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Code

Grey text represents samples that have been excavated

"<": Laboratory Analytical result is less than reporting limit

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

\* Indicates sample was collected in area to be reclaimed after remediation is complete; reclamation for chloride in the top 4 feet is 600 mg/kg and total TPH is 100 mg/kg.

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

\*\*Backfill material sample





## APPENDIX A

### Corrective Action Form C-141

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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	nAPP2135033453
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: WPX Energy Permian, LLC	OGRID: 246289
Contact Name: Jim Raley	Contact Telephone: 575-689-7597
Contact email: jim.ralej@dv.com	Incident # (assigned by OCD ) nAPP2135033453
Contact mailing address: 5315 Buena Vista Dr., Carlsbad NM 88220	

Location of Release Source

Latitude 32.3330917 \_\_\_\_\_ Longitude -104.0850372 \_\_\_\_\_  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: LVP SWD #001	Site Type: SWD
Date Release Discovered: December 3 <sup>rd</sup> , 2021	API# (if applicable) 30-015-42234

Unit Letter	Section	Township	Range	County
I	04	23S	28E	Eddy

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

Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls) 0	Volume Recovered (bbls) 0
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 200	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: Connection point on underground produced water transfer line failed. Line was uncovered for repair and extent of release delineated.


$$bbl\ estimate = (saturated\ soil\ volume(ft^3)) / (4.21((ft^3)/(bbl\ equivalent))) * estimated\ soil\ porosity\ (\%) + recovered\ fluids\ (bbls)$$

Incident ID	nAPP2135033453
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? Exceeds 25bbls of Produced Water released.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc) Yes. Mike Bratcher and Emily Hernandez on 12/3/2021 via email.	

## 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>James Raley</u>	Title: Environmental Specialist _____
Signature: 	Date: <u>12/16/2021</u>
email: <u>jim.raley@dvn.com</u>	Telephone: <u>575-689-7597</u>
<b><u>OCD Only</u></b>	
Received by: <u>Ramona Marcus</u>	Date: <u>12/20/2021</u>

**District I**  
1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720  
**District II**  
811 S. First St., Artesia, NM 88210  
Phone:(575) 748-1283 Fax:(575) 748-9720  
**District III**  
1000 Rio Brazos Rd., Aztec, NM 87410  
Phone:(505) 334-6178 Fax:(505) 334-6170  
**District IV**  
1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS  
  
Action 67514

CONDITIONS

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 67514
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rmarcus	When submitting future reports regarding this release, please submit the calculations used or specific justification for the volumes reported on the initial C-141	12/20/2021

Incident ID	nAPP2135033453
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>&lt;50</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 <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

### **Characterization Report Checklist:** *Each of the following items must be included in the report.*

- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☒ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☒ Boring or excavation logs
- ☒ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

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

State of New Mexico  
Oil Conservation Division

Page 4

Incident ID	nAPP2135033453
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: Jim Raley



Title: Environmental Specialist

Signature: \_\_\_\_\_

Date: 5/6/2024

email: jim.raley@dvni.com

Telephone: 575-689-7597

**OCD Only**

Received by: \_\_\_\_\_

Date: \_\_\_\_\_



Incident ID	nAPP2135033453
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: Jim Raley Title: Environmental Specialist

Signature: \_\_\_\_\_ Date: 5/6/24

email: jim.raley@dm.com Telephone: 575-689-7597

### 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

### Remediation Work Plan Addendum

---



## REMEDIATION WORK PLAN ADDENDUM

Site Location:

**LVP SWD #001  
Eddy County, New Mexico  
Incident Number:  
nAPP2135033453**

December 4, 2023  
Ensolum Project No. 03A1987044

Prepared for:

**WPX Energy Permian, LLC  
5315 Buena Vista Drive  
Carlsbad, New Mexico 88220  
Attention: Jim Raley**

Prepared by:

---

Ashley Giovengo  
Senior Engineer

---

Daniel R. Moir, PG  
Senior Managing Geologist

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Figure 2: Excavation Soil Sample Locations

Figure 3: Delineation Soil Sample Locations

Figure 4: Proposed Liner Extent

Appendix B: Referenced Wells

Appendix C: Photographic Log

Appendix D: Lithologic Soil Sampling Logs

Appendix E: Table 1

Appendix F: Laboratory Analytical Reports & Chain-of-Custody Documentation

Appendix G: Email Correspondence

Appendix H: Final C-141

## 1.0 INTRODUCTION

### 1.1 Site Description

Ensolum, LLC (Ensolum) has prepared this updated Remediation Work Plan Addendum (RWPA) to summarize additional soil sampling activities and corrective actions performed to date by WPX Energy Permian, LLC (WPX) at the LVP SWD #001 (Site) in Unit I, Section 4, Township 23 South, Range 28 East, in Eddy County, New Mexico (**Figure 1 in Appendix A**). All previous remediation activities and soil sample analytical results can be referenced in the original Remediation Plan (RP) prepared by Wescom, Inc. (Wescom), subsequent RWPA by Ensolum, and other submitted deliverable documents to the New Mexico Oil and Conservation Division (NMOCD).

As documented in the RP, results from a core drilling assessment identified a poorly cemented to well cemented conglomerate stratum from approximately 4.5 feet to 8.5 feet below ground surface (bgs). The lithology transitioned to an indurated caliche and core drill refusal was encountered at approximately 9 feet bgs. The RP was approved by NMOCD on August 9, 2022, and proposed continued vertical assessment in the vicinity of soil sample location SS07/SS08 (referenced in the RP) to further characterize residual chloride impacts associated with the subject release and excavate residually impacted soil. Based on the current Site status and summaries of the original RP, WPX respectfully submits this updated RWPA, which summarizes continued remedial efforts that have occurred and proposes the installation of a 20-mil impermeable liner in the subsurface to mitigate the migration of residual chloride impacts associated with a reportable release of produced water at the Site.

### 1.2 Release Background

The Site is located within Eddy County, New Mexico (32.33309° N, 104.08503° W) and is associated with oil and gas exploration and production operations on private land (**Figure 1 in Appendix A**).

On December 3, 2021, a connection point on an underground produced water transfer line failed and resulted in the release of approximately 200 barrels (bbls) of produced water to the well pad. No free-standing fluids were recovered. The release extent was mapped and is provided in **Figure 2 in Appendix A**. WPX immediately reported the release to the NMOCD via email and with a Corrective Action Form C-141 (Form C-141) on December 16, 2021. The release was assigned Incident Number nAPP2135033453.

### 1.3 Site Characterization

The RP assigned the Site characterization according to Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Based on the review of nearby Site receptors and depth to groundwater determination at the Site (well record included in Appendix B), the following Closure Criteria for constituents of concern (COCs) were applied:

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total Petroleum Hydrocarbon (TPH): 100 mg/kg
- Chloride: 600 mg/kg

## 2.0 REMEDIATION ACTIONS

### 2.1 Excavation Activities

From November 11 through November 18, 2022, Ensolum oversaw the excavation of impacted soil within the subject release to the maximum extent practicable (MEP) based on the subsurface lithology at the Site and facility configuration. Excavation activities were directed via heavy equipment by referencing laboratory analytical results provided in the RP and field screening for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips.

Following removal of impacted soil, Ensolum collected 5-point composite excavation confirmation soil samples at the approved variance frequency of one composite sample for every 500 square feet of excavation along the sidewalls and from floor of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Confirmation soil samples FS01 through FS12 were collected from the floor of the excavation at depths ranging from 4 feet to 5 feet bgs. Confirmation soil samples SW01 through SW03 were collected from the sidewalls of the excavation at depths ranging from the ground surface to 5 feet bgs. The excavation and confirmation soil samples are depicted on **Figure 2** included in **Appendix A**.

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 and chilled under strict chain-of-custody procedures to Eurofins LLC (Eurofins) in Carlsbad, New Mexico, and Envirotech Inc. (Envirotech) in Farmington, New Mexico, for analyses of the following COCs: BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Approximately 1,136 cubic yards of impacted soil were excavated and hauled to R360 Environmental Solutions in Hobbs, New Mexico under WPX-approved manifests in accordance with state and federal regulations. A photographic log of excavation activities is included as **Appendix C**.

Ensolum returned to site on October 11, 2023, to advance the excavation and to recollect confirmation samples FS04 through FS12 via hydrovac along the floor bottom. This was completed to remove loose soil that appeared to be containing chloride and not reflective of the actual excavation floor, which is predominately comprised of poorly to well cemented conglomerates. Samples were collected, handled, and analyzed as previously described. Photographic documentation during delineation activities is included in **Appendix C**.

### 2.2 Delineation Activities

On November 22, 2022, Ensolum conducted delineation activities concurrently with excavation activities via mechanical equipment to further characterize residual chloride impacts within the subject release. Delineation activities were directed by field screening soil for VOCs and chloride as previously described. Due to limited access within the release area, pothole soil sample PH01 was advanced in the vicinity of SS07/SS08 to approximately 11 feet bgs. The location of pothole soil sample PH01 is shown in **Figure 3** in **Appendix A**. Field screening results and observations were recorded on a lithologic soil sampling log (**Appendix D**). The soil sample was collected, handled, and analyzed as previously described. Photographic documentation during delineation activities is included in **Appendix C**.



## 2.3 Laboratory Analytical Results

Laboratory analytical results indicated all concentrations of COCs were in compliance with the Closure Criteria for confirmation soil samples FS01 through FS03 and SW01 through SW03. Laboratory analytical results for confirmation soil samples FS05 through FS12 initially indicated chloride concentrations exceeded Closure Criteria. Following additional excavation in the vicinity of confirmation samples FS04 through FS12, laboratory analytical results indicated the chloride concentrations in samples FS04 through FS12 continue to exceed the Closure Criteria; however, the concentrations were reduced, indicating gross impacts have been removed.

Laboratory analytical results for PH01, taken at 11 feet bgs, indicated all COC concentrations were compliant with Closure Criteria, providing vertical delineation of impacts to soil.

Laboratory analytical results are summarized on **Table 1** in **Appendix E**. The executed chain-of-custody forms and laboratory analytical reports are provided in **Appendix F**. **Appendix G** provides correspondence email notification receipts associated with the subject release.

## 3.0 REMEDIATION WORK PLAN

The primary objectives of Ensolum's scope of services were to document remediation efforts at the Site in accordance with the approved RWPA and applicable NMOCD regulatory guidelines, further characterize concentrations of COCs present in soil remaining on-Site and propose additional remedial action(s) to address residual chloride in soil present at concentrations that exceed the Closure Criteria.

Based on the data and remedial summary described in this updated RWPA, the following findings and conclusions are presented:

- The lateral extent of the release was defined via confirmation sidewall soil samples SW01 through SW03;
- The subsurface soil profile was consistent throughout and around the area of concern. As a result, delineation pothole PH01 is believed to be representative of the entire area of concern;
- Vertical migration of impacts appears to have ceased at or above 11 feet bgs. Residual chloride impacts are present in soil left in place between 4 feet and approximately 11 feet bgs, which consists of poorly to well-cemented conglomerates and indurated caliche;
- An estimated 1,136 cubic yards of impacted soil have been excavated from the subject release area;
- BTEX and TPH concentrations were in compliance with the Closure Criteria in soil currently left in-situ and as a result, are not considered COCs as they relate to this release; and
- Excavation and delineation soil sample laboratory analytical results provide representative lateral and vertical delineation of the remaining impacted soil. Remaining impacts within the subject release are characterized by chloride concentrations (ranging from 763 mg/kg to 3,680 mg/kg) associated with excavation soil samples FS05 through FS11 and soil samples collected from SS07/SS08 above 11 feet bgs.

Based on the conclusions presented above, WPX proposes leveling the entire excavation floor to a depth of 4 feet bgs and installing a 20-mil impermeable liner. The liner will act as a physical barrier and retard further migration of chloride impacts into the subsurface. Once complete, WPX will backfill the remaining excavation with non-waste containing soil. The proposed liner extent and excavation extent is shown on **Figure 4 in Appendix A**. Approximately 1,136 cubic yards were excavated from the Site and an estimated 1,550 cubic yards of impacted soil will be left in-situ beneath the 20-mil impermeable liner.

WPX believes the scope of work described above will meet requirements set forth in 19.15.29 NMAC and be protective of human health, the environment, and groundwater. As such, WPX respectfully requests approval of this RWPA from NMOCD. Email correspondences with NMOCD are presented in **Appendix G**. The final C-141 is included in **Appendix H**.

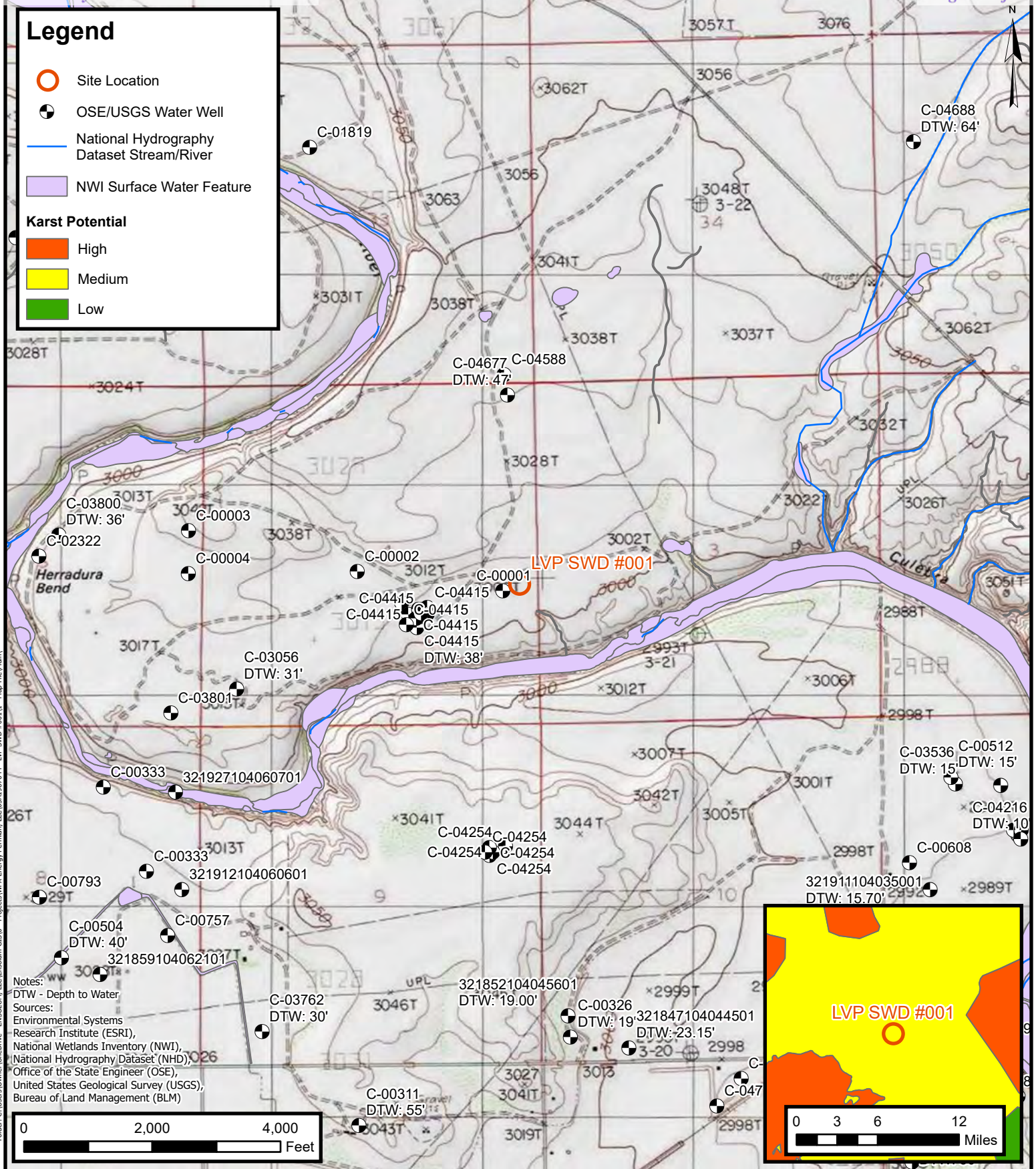


# APPENDIX A

## Figures

---





## Site Receptor Map

WPX Energy Permian, LLC  
LVP SWD #001  
Incident Number: nAPP2135033453  
Unit I, Sec 4, T23S R28E  
Eddy County, New Mexico

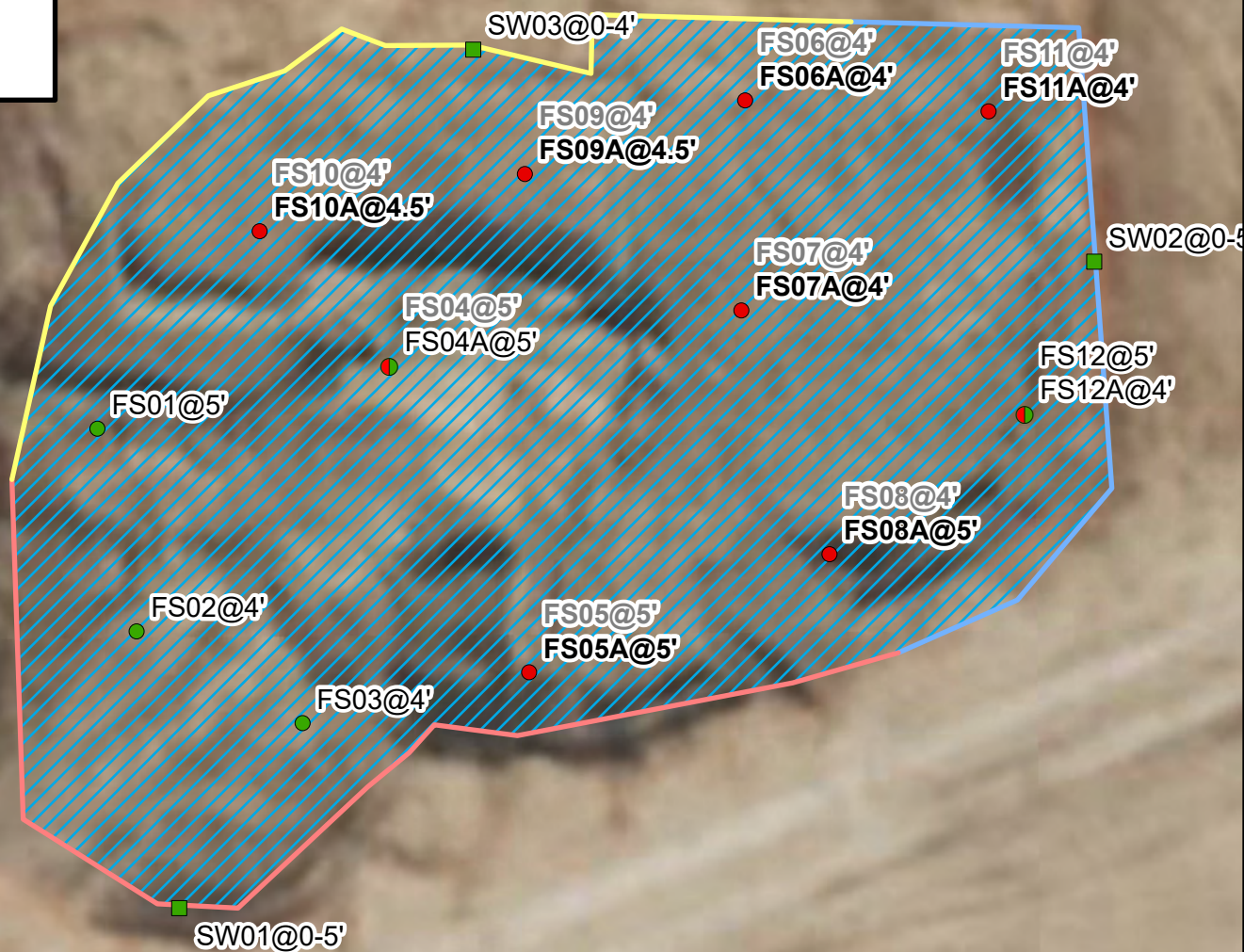
FIGURE

1



**Legend**

- Excavation Floor Sample in Compliance with NMOCD Closure Criteria
- Excavation Sidewall Sample in Compliance with NMOCD Closure Criteria
- Excavation Floor Sample with Concentrations Exceeding NMOCD Closure Criteria
- Excavation Floor Sample with Concentrations Previously Exceeding NMOCD Closure Criteria
- Aliquot 1
- Aliquot 2
- Aliquot 3
- ▨ Excavation Extent



Notes:  
Sample ID @ Depth Below Ground Surface.

0 4 8 16 24 32  
Feet

Sources: Environmental Systems Research Institute (ESRI)



## Excavation Soil Sample Locations

WPX Energy Permian, LLC  
LVP SWD #001  
Incident Number: nAPP2135033453  
Unit I, Sec 4, T23S R28E  
Eddy County, New Mexico

**FIGURE**  
**2**



## Legend



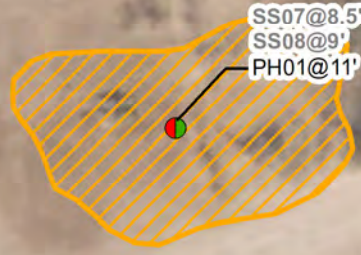
Delineation Soil Sample with  
Concentrations Exceeding Closure  
Criteria



Area of Concern



SS07@8.5'  
SS08@9'  
PH01@11'



### Notes:

Sample ID@ Depth Below Ground Surface  
Soil samples in **bold** indicate  
soil concentrations exceed the applicable  
regulatory criteria.

0 50 100  
Feet

Sources: Environmental Systems Research Institute (ESRI)



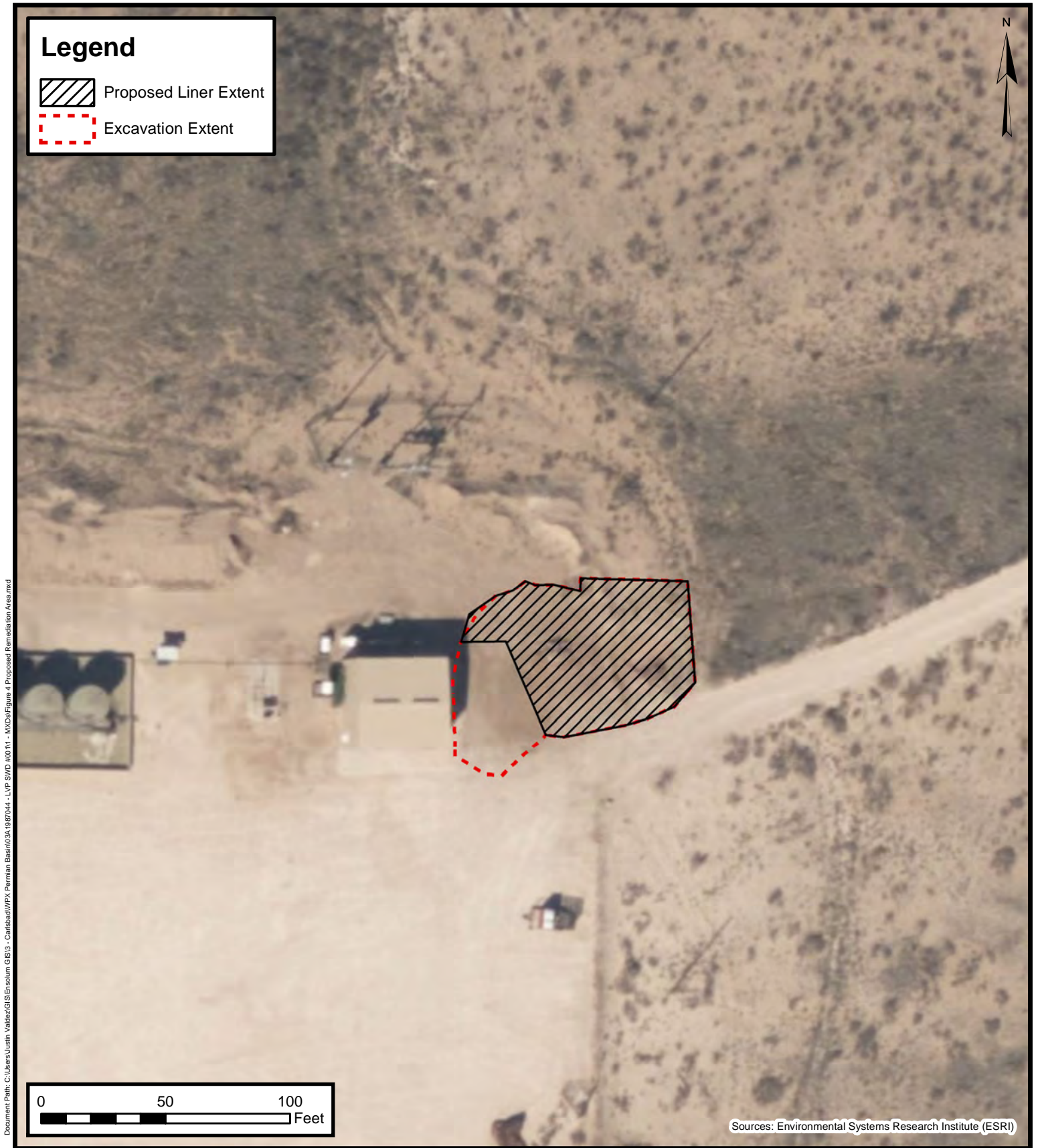
## Delineation Soil Sample Locations

LVP SWD #001  
WPX Energy Permian, LLC  
Incident Number: nAPP2135033453  
Unit Letter I, Section 04, Township 23S, Range 28E  
Eddy County, New Mexico

FIGURE

3





## Proposed Liner Extent

LVP SWD #001  
WPX Energy Permian, LLC  
Incident Number: nAPP2135033453  
Unit Letter I, Section 04, Township 23S, Range 28E  
Eddy County, New Mexico

FIGURE  
4



## APPENDIX B

### Referenced Wells

---



# 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)			
<b>Well Tag</b>	<b>POD Number</b>	<b>Q64</b>	<b>Q16</b>	<b>Q4</b>	<b>Sec</b>	<b>Tws</b>	<b>Rng</b>	<b>X</b>	<b>Y</b>
NA	C 04415 POD7	3	1	4	04	23S	28E	585628	3577518

---

x

<b>Driller License:</b>	1186	<b>Driller Company:</b>	NOT FOR HIRE
<b>Driller Name:</b>	HAMMER, RODNEY S. WARDENER		

<b>Drill Start Date:</b>	07/15/2021	<b>Drill Finish Date:</b>	07/16/2021	<b>Plug Date:</b>	07/16/2021
<b>Log File Date:</b>	10/05/2021	<b>PCW Rcv Date:</b>		<b>Source:</b>	Shallow
<b>Pump Type:</b>		<b>Pipe Discharge Size:</b>		<b>Estimated Yield:</b>	
<b>Casing Size:</b>	2.00	<b>Depth Well:</b>	55 feet	<b>Depth Water:</b>	38 feet

---

x

<b>Water Bearing Stratifications:</b>	<b>Top</b>	<b>Bottom</b>	<b>Description</b>
	0	55	Shale/Mudstone/Siltstone

---

x

<b>Casing Perforations:</b>	<b>Top</b>	<b>Bottom</b>
	38	43

---

x

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.

11/14/23 8:33 AM

POINT OF DIVERSION SUMMARY



# 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)

X

Y

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
NA	C 04415 POD9	4	1	4	04	23S	28E	585714	3572094

x

Driller License:

1186

Driller Company:

NOT FOR HIRE

Driller Name:

071521

Drill Start Date:

07/15/2021

Drill Finish Date:

07/16/2021

Plug Date:

07/16/2021

Log File Date:

10/05/2021

PCW Rcv Date:

Source:

Shallow

Pump Type:

Pipe Discharge Size:

Estimated Yield:

Casing Size:

2.00

Depth Well:

40 feet

Depth Water:

36 feet

x

Water Bearing Stratifications:

Top

Bottom

Description

0

40

Shale/Mudstone/Siltstone

x

Casing Perforations:

Top

Bottom

30

40

x

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

### Email Correspondence

---

**From:** [Raley, Jim](#)  
**To:** [Ashley Giovengo](#)  
**Cc:** [Cole Burton](#); [Israel Estrella](#)  
**Subject:** RE: [EXTERNAL] 48-hour Confirmation Sampling Notification - LVP SWD #001 - Incident Number nAPP2135033453  
**Date:** Monday, April 22, 2024 9:16:29 AM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)  
[image005.png](#)

---

**[ \*\*EXTERNAL EMAIL \*\* ]**

Sampling notification made on 04/22/2024 for following dates at nAPP2135033453 (LVP).

04/24  
04/25  
04/26  
04/28  
04/29

**Jim Raley** | Environmental Professional - Permian Basin  
5315 Buena Vista Dr., Carlsbad, NM 88220  
C: (575)689-7597 | [jim.ralej@dyn.com](mailto:jim.ralej@dyn.com)



---

**From:** Raley, Jim  
**Sent:** Tuesday, April 16, 2024 3:42 PM  
**To:** Ashley Giovengo <[agiovengo@ensolum.com](mailto:agiovengo@ensolum.com)>  
**Cc:** Cole Burton <[cburton@ensolum.com](mailto:cburton@ensolum.com)>; Israel Estrella <[iestrella@ensolum.com](mailto:iestrella@ensolum.com)>  
**Subject:** RE: [EXTERNAL] 48-hour Confirmation Sampling Notification - LVP SWD #001 - Incident Number nAPP2135033453

Submitted 4/18, 4/19, 4/20, 4/22, 4/23

Let me know if need more time by Monday 4/22/2024

**Jim Raley** | Environmental Professional - Permian Basin  
5315 Buena Vista Dr., Carlsbad, NM 88220  
C: (575)689-7597 | [jim.ralej@dyn.com](mailto:jim.ralej@dyn.com)



---

**From:** Ashley Giovengo <[agiovengo@ensolum.com](mailto:agiovengo@ensolum.com)>  
**Sent:** Tuesday, April 16, 2024 1:29 PM  
**To:** Enviro, OCD, EMNRD <[ocd.enviro@emnrd.nm.gov](mailto:ocd.enviro@emnrd.nm.gov)>; Hamlet, Robert, EMNRD <[Robert.Hamlet@emnrd.nm.gov](mailto:Robert.Hamlet@emnrd.nm.gov)>; Raley, Jim <[Jim.Raley@dyn.com](mailto:Jim.Raley@dyn.com)>  
**Cc:** Cole Burton <[cburton@ensolum.com](mailto:cburton@ensolum.com)>; Chad Hamilton <[chamilton@ensolum.com](mailto:chamilton@ensolum.com)>; Israel Estrella <[iestrella@ensolum.com](mailto:iestrella@ensolum.com)>  
**Subject:** [EXTERNAL] 48-hour Confirmation Sampling Notification - LVP SWD #001 - Incident Number nAPP2135033453

Hello,

Please see the 48-hour confirmation sampling notification for the LVP SWD #001 Site (Incident Number nAPP2135033453)

What is the sampling surface area in square feet	5,668 sq. ft.
What is the estimated number of samples that will be gathered	7
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	04/18/2024
Time sampling will commence	09:00am MST.

Please provide any information necessary for observers to contact samplers	Sampler: Cole Burton (575)-706-5056
Please provide any information necessary for navigation to sampling site	32.3330917, -104.0850372

NMOCD District II,

Please see the 48-hour notice for the LVP SWD #001, WPX will enter this information into NMOCD web portal.

Thanks,



**Ashley Giovengo**

Senior Scientist

575-988-0055

Ensolum, LLC



"Your authenticity is your superpower." – Unknown

Confidentiality Warning: This message and any attachments are intended only for the use of the intended recipient(s), are confidential, and may be privileged. If you are not the intended recipient, you are hereby notified that any review, retransmission, conversion to hard copy, copying, circulation or other use of all or any portion of this message and any attachments is strictly prohibited. If you are not the intended recipient, please notify the sender immediately by return e-mail, and delete this message and any attachments from your system.

**From:** [Cole Burton](#)  
**To:** [Enviro, OCD, EMNRD](#)  
**Cc:** [Ashley Giovengo](#); [Raley, Jim](#); [Chad Hamilton](#)  
**Subject:** 48-hour Confirmation Sampling Notification Email - LVP SWD #001 - Incident Number nAPP2135033453  
**Date:** Tuesday, October 10, 2023 7:32:00 AM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)

---

Hello,

We intend to collect confirmation samples at Devon Energy's, LVP SWD #001 site (Incident Number nAPP2135033453) beginning on Wednesday, October 11, 2023, at 09:00 am MST through Thursday, October 12, 2023.

Please let us know if you plan to be onsite to oversee the sampling.

Thanks,



**Cole Burton**  
Project Manager  
575-706-5056  
**Ensolum, LLC**  
in f 



**From:** [Raley, Jim](#)  
**To:** [Ashley Giovengo](#); [Cole Burton](#)  
**Subject:** FW: [EXTERNAL] The Oil Conservation Division (OCD) has rejected the application, Application ID: 292677  
**Date:** Thursday, February 29, 2024 6:59:12 AM  
**Attachments:** [image001.png](#)

---

[ \*\*EXTERNAL EMAIL \*\* ]

Ashley,

Denial on LVP SWD. Figure out what they are talking about on the sampling. We might just get a hammer hoe out there and finish it up, but lets talk about it first.

Setup call with me in near future.

**Jim Raley** | Environmental Professional - Permian Basin  
5315 Buena Vista Dr., Carlsbad, NM 88220  
C: (575)689-7597 | [jim.ralej@div.com](mailto:jim.ralej@div.com)



---

**From:** OCDOnline@state.nm.us <OCDOnline@state.nm.us>  
**Sent:** Wednesday, February 28, 2024 1:17 PM  
**To:** Raley, Jim <Jim.Raley@div.com>  
**Subject:** [EXTERNAL] The Oil Conservation Division (OCD) has rejected the application, Application ID: 292677

To whom it may concern (c/o James Raley for WPX Energy Permian, LLC),

The OCD has rejected the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nAPP2135033453, for the following reasons:

- **Remediation plan denied. OCD will no longer approve liner installations for contaminant mitigation. The site must be remediated to the most stringent criteria in Table 1. WPX Energy Permian must collect at least 26 five-point confirmation samples from the walls and the base of excavation as stated in your remediation plan that was accepted by OCD on 8/9/2022. In the data you submitted with this report only 15 samples were collected. Submit remediation closure plan to OCD by May 28, 2024.**

The rejected C-141 can be found in the OCD Online: Permitting - Action Status, under the Application ID: 292677.

Please review and make the required correction(s) prior to resubmitting.

If you have any questions why this application was rejected or believe it was rejected in error, please contact me prior to submitting an additional C-141.

Thank you,

Shelly Wells  
Environmental Specialist-A  
505-469-7520  
[Shelly.Wells@emnrd.nm.gov](mailto:Shelly.Wells@emnrd.nm.gov)

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

Confidentiality Warning: This message and any attachments are intended only for the use of the intended recipient(s), are confidential, and may be privileged. If you are not the intended recipient, you are hereby notified that any review, retransmission, conversion to hard copy, copying, circulation or other use of all or any portion of this message and any attachments is strictly prohibited. If you are not the intended recipient, please notify the sender immediately by return e-mail, and delete this message and any attachments from your system.

**From:** [Hamlet, Robert, EMNRD](#)  
**To:** [Ashley Giovengo](#); [clinton.talley@matadorresources.com](mailto:clinton.talley@matadorresources.com); [Jason Touchet](#)  
**Cc:** [Chad Hamilton](#); [Cole Burton](#); [Israel Estrella](#); [Bratcher, Michael, EMNRD](#); [Wells, Shelly, EMNRD](#); [Velez, Nelson, EMNRD](#)  
**Subject:** (Final Extension) - Matador Production Company - George Well Pad - Incident Number nAPP2333038378  
**Date:** Monday, April 22, 2024 3:36:11 PM  
**Attachments:** [image006.png](#)  
[image007.png](#)  
[image008.png](#)  
[image009.png](#)

---

[ \*\*EXTERNAL EMAIL\*\* ]

RE: Incident #**NAPP2333038378**

**Ashley,**

Your request for a 90 day extension to **July 22nd, 2024** is approved. This will be the **final extension** for this release. Please include this e-mail correspondence in the remediation and/or closure report.

**Robert Hamlet** • Environmental Specialist - Advanced  
Environmental Bureau  
EMNRD - Oil Conservation Division  
506 W. Texas Ave. | Artesia, NM 88210  
575.909.0302 | [robert.hamlet@state.nm.us](mailto:robert.hamlet@state.nm.us)  
<http://www.emnrd.state.nm.us/OCD/>



---

**From:** Ashley Giovengo <[agiovengo@ensolum.com](mailto:agiovengo@ensolum.com)>  
**Sent:** Monday, April 22, 2024 11:34 AM  
**To:** Enviro, OCD, EMNRD <[OCD.Enviro@emnrd.nm.gov](mailto:OCD.Enviro@emnrd.nm.gov)>; Hamlet, Robert, EMNRD <[Robert.Hamlet@emnrd.nm.gov](mailto:Robert.Hamlet@emnrd.nm.gov)>; [clinton.talley@matadorresources.com](mailto:clinton.talley@matadorresources.com); [Jason Touchet](mailto:Jason.Touchet@matadorresources.com) <[jason.touchet@matadorresources.com](mailto:jason.touchet@matadorresources.com)>  
**Cc:** Chad Hamilton <[chamilton@ensolum.com](mailto:chamilton@ensolum.com)>; Cole Burton <[cburton@ensolum.com](mailto:cburton@ensolum.com)>; Israel Estrella <[iestrella@ensolum.com](mailto:iestrella@ensolum.com)>  
**Subject:** [EXTERNAL] Extension Request - Matador Production Company - George Well Pad - Incident Number nAPP2333038378

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

Matador Production Company (Matador) is requesting a 2<sup>nd</sup> extension for the current deadline of April 30, 2024, for submitting a remediation work plan or closure report required in 19.15.29.12.B.(1) NMAC at the George Well Pad (Incident Number nAPP2333038378). The release occurred on November 26, 2023, and initial site assessment and delineation activities have been completed. Matador was able to secure landowner permission on March 26, 2024, for the purpose of establishing depth to water (DTW) within a 0.5-mile radius of the Site, however Matador is currently waiting on approval from the New Mexico Office of the State Engineer (NMOSE) for the WR-07 permit (Application for Permit to Drill a Well). Once Matador receives the approved drilling permit, the DTW determination will be completed, and remediation/confirmation sampling of the impacted area will begin. Matador intends to submit a remediation work plan or closure report, following remediation efforts and confirmation sampling. Matador respectfully requests an extension until June 29, 2024.

Matador will upload this extension request to the NMOCD web portal following this email submission.

Thanks,



**Ashley Giovengo**

Senior Scientist

575-988-0055

**Ensolum, LLC**

in f t

"Your authenticity is your superpower." – Unknown

**From:** [Enviro, OCD, EMNRD](#)  
**To:** [Joseph Hernandez](#)  
**Cc:** [Bratcher, Michael, EMNRD](#); [Nobui, Jennifer, EMNRD](#)  
**Subject:** RE: [EXTERNAL] WPX Site Sampling Activity Update (11/21 - 11/23)  
**Date:** Thursday, November 17, 2022 9:05:00 AM  
**Attachments:** [image006.png](#)  
[image007.png](#)  
[image008.png](#)  
[image009.png](#)

---

[ \*\*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](mailto:Jocelyn.Harimon@emnrd.nm.gov)  
<http://www.emnrd.nm.gov>



---

**From:** Joseph Hernandez <jhernandez@ensolum.com>  
**Sent:** Wednesday, November 16, 2022 4:40 PM  
**To:** Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>; 'CFO\_Spill, BLM\_NM' <blm\_nm\_cfo\_spill@blm.gov>  
**Cc:** Raley, Jim <jim.raley@dvn.com>; Devon-Team <Devon-Team@ensolum.com>  
**Subject:** [EXTERNAL] WPX Site Sampling Activity Update (11/21 - 11/23)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Good afternoon,

WPX anticipates conducting confirmation soil sampling activities at the following sites between November 21<sup>st</sup> – November 23<sup>rd</sup>, 2022:

Site Name: LVP #001  
API: 30-015-42234  
Incident Number: nAPP2135033453

**Joseph S. Hernandez**



Senior Geologist  
281-702-2329  
Ensolum, LLC  
in f 

**PLEASE NOTE OUR NEW CORPORATE ADDRESS:**

Ensolum, LLC

8330 LBJ Freeway, Ste. B830

Dallas, TX 75243

## Erick Herrera

---

**From:** Erick Herrera  
**Sent:** Wednesday, October 26, 2022 3:01 PM  
**To:** OCD.Enviro@emnrd.nm.gov; 'CFO\_Spill, BLM\_NM'  
**Cc:** Raley, Jim  
**Subject:** WPX Site Sampling Activity Update (10/31 - 11/4)

Good afternoon,

WPX anticipates conducting confirmation soil sampling activities at the following sites between October 31 – November 4, 2022:

Site Name: RDX 9-1  
API: 30-015-36211  
Incident Number: nAB1728635377

Site Name: RDX 17-2  
API: 30-015-36464  
Incident Number: nAB1633449255

Site Name: LVP SWD #001  
API: 30-015-42234  
Incident Number: nAPP2135033453

Site Name: RDX Federal 21-44  
API: 30-015-41193  
Incident Number: nAPP2115533694

Site Name: RDU 54  
API: 30-015-41975  
Incident Number: nAB1722953239

Site Name: Electrolux 21 State Com #001  
API: 30-025-35769  
Incident Number: nTO1424150643

Site Name: EP USA 3  
API: 30-015-24249  
Incident Number: nAB1622531873

Thank you,



**Erick Hererra**  
Staff Geologist  
281-777-4152  
**Ensolum, LLC**  
in f t

**PLEASE NOTE OUR NEW CORPORATE ADDRESS:**

Ensolum, LLC

8330 LBJ Freeway, Ste. B830

Dallas, TX 75243



## Erick Herrera

---

**From:** Erick Herrera  
**Sent:** Wednesday, November 9, 2022 3:44 PM  
**To:** OCD.Enviro@emnrd.nm.gov; 'CFO\_Spill, BLM\_NM'  
**Cc:** Raley, Jim; Devon-Team  
**Subject:** WPX Site Sampling Activity Update (11/14 - 11/18)


Good afternoon,

WPX anticipates conducting confirmation soil sampling activities at the following sites between November 14<sup>th</sup> – November 18<sup>th</sup>, 2022:

Site Name: LVP #001  
API: 30-015-42234  
Incident Number: nAPP2135033453

Thank you,



**Erick Herrera**  
Staff Geologist  
281-777-4152  
**Ensolum, LLC**  
in f 

**PLEASE NOTE OUR NEW CORPORATE ADDRESS:**

Ensolum, LLC  
8330 LBJ Freeway, Ste. B830  
Dallas, TX 75243



## APPENDIX D

### Photographic Log

**Photographic Log**

WPX Energy Permian, LLC.

LVP SWD #001

nAPP2135033453



Photograph: 1                      Date: 11/7/22  
Description: Line spotting with hydrovac  
View: Southeast

Photograph: 2                      Date: 11/14/22  
Description: Excavation Activities  
View: Northwest



Photograph: 3                      Date: 11/14/22  
Description: Excavation Activities  
View: Northeast

Photograph: 4                      Date: 11/16/22  
Description: Excavation Activities  
View: Northeast



**Photographic Log**

WPX Energy Permian, LLC.

LVP SWD #001

nAPP2135033453

Date & Time: Thu, Nov 17, 2022, 14:04:37 MST  
 Position: +032.333898° / -104.086787° (±11.6ft)  
 Altitude: 3012ft (±11.0ft)  
 Datum: WGS-84  
 Azimuth/Bearing: 270° N90W 480mils True (±13°)  
 Elevation Angle: -16.2°  
 Horizon Angle: +02.1°  
 Zoom: 0.5X  
 Excavation



Photograph: 5

Date: 11/17/22

Description: Excavation Activities

View: Northwest

Date & Time: Thu, Nov 17, 2022, 14:05:23 MST  
 Position: +032.333886° / -104.086787° (±15.6ft)  
 Altitude: 3012ft (±11.0ft)  
 Datum: WGS-84  
 Azimuth/Bearing: 067° N67E 1191mils True (±13°)  
 Elevation Angle: -16.2°  
 Horizon Angle: +02.1°  
 Zoom: 0.5X  
 Excavation



Photograph: 6

Date: 11/17/22

Description: Excavation Activities

View: Northeast

Date & Time: Fri, Nov 18, 2022, 16:20:00 MST  
 Position: +032.333811° / -104.084448° (±14.2ft)  
 Altitude: 2970ft (±11.0ft)  
 Datum: WGS-84  
 Azimuth/Bearing: 065° N65E 450mils True (±13°)  
 Elevation Angle: -17.2°  
 Horizon Angle: +01.2°  
 Zoom: 0.5X  
 Excavation



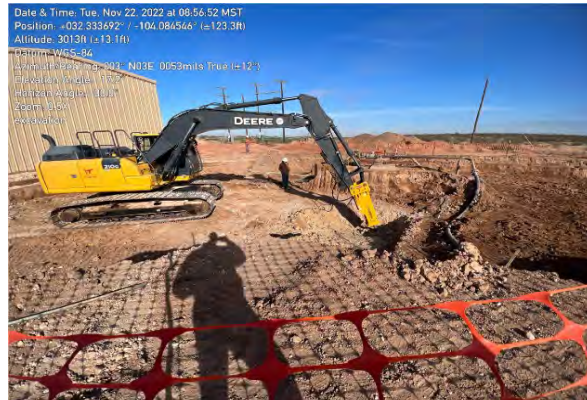
Photograph: 7

Date: 11/17/22

Description: Excavation activities

View: Southwest

Date & Time: Tue, Nov 22, 2022 at 08:56:52 MST  
 Position: +032.333692° / -104.084566° (±123.3ft)  
 Altitude: 3013ft (±13.1ft)  
 Datum: WGS-84  
 Azimuth/Bearing: 001° N01E 0053mils True (±12.1°)  
 Elevation Angle: 10.7°  
 Horizon Angle: 00.7°  
 Zoom: 0.5X  
 Excavation



Photograph: 8

Date: 11/22/22

Description: Delineation activities

View: Northeast





# Photographic Log

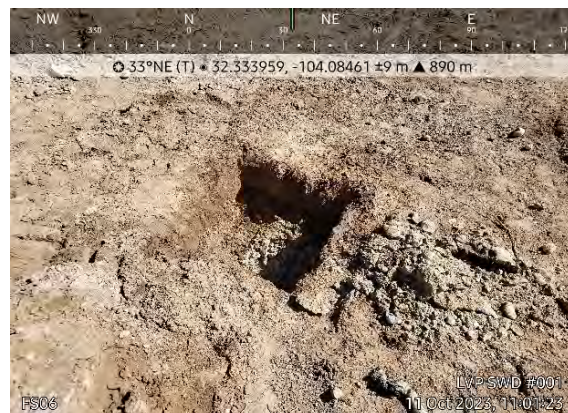
WPX Energy Permian, LLC.

LVP SWD #001

nAPP2135033453



Photograph: 9 Date: 10/11/23  
Description: Confirmation sampling FS09  
View: Northeast



Photograph: 10 Date: 10/11/23  
Description: Confirmation sampling FS06  
View: Northeast



Photograph: 11 Date: 10/11/23  
Description: Confirmation Sampling FS05  
View: Northeast



Photograph: 12 Date: 10/11/23  
Description: Confirmation sampling FS07  
View: West




## APPENDIX E

### Lithologic Soil Sampling Logs

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								Sample Name: PH01		Date: 11/22/2022	
								Site Name: LVP SWD #001			
								Incident Number: naPP2135033453			
								Job Number: 03A1987044			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: GM		Method: Trackhoe	
Coordinates: 32.333870, -104.084631								Hole Diameter: N/A		Total Depth: 11'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
M	3,404.8	0.0	N			0	CCHE	(0-1'), CALICHE, drv. tan, fine-coarse, trace white subangular to subround gravel, no stain, no odor.			
							SW	(1-5.5'), SAND, moist, brown, well graded, fine-coarse, no staining, no odor. @2' trace-few subround gravel.			
						5	CONG	(5.5-9.5'), CONGLOMERATE, dry, tan-brown, well-cemented, fine-medium grained sand with abundant subround small gravel, no stain, no odor. @6' transitioned to carbonate cementation, @8' moderate cemented with subround small-large gravel.			
							CL	(9-10'), CLAY, moist, Reddish brown, plasticity, cohesive, abundant greyish yellow reduction spots, no stain, no odor. (10-11'), CALICHE, dry, tan, moderately consolidated, fine-medium grain, trace subround small-large gravel.			
D	3605.2	0	N		10	10	CCHE	NOTE: refusal @11' using trackhoe mounted jack hammer.			
D	<168	0.0	N	PH01	11						
Total Depth: 11 feet											



## APPENDIX E

### Table 1

---



**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
 LVP SWD #001  
 WPX Energy Permian, LLC  
 Eddy County, New Mexico  
 Ensolum Project No. 03A1978044

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	100	600
Delineation Soil Sample Analytical Results									
SS07	3/17/2022	8.5	<0.250	<0.250	<200	<25.0	<50.0	<200	328
SS08	3/17/2022	9	<0.250	<0.250	<200	<25.0	<50.0	<200	956
PH01	11/22/2022	11	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	48.8
Confirmation Floor Soil Sample Analytical Results									
FS01	11/15/2022	5	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	105
FS02	11/15/2022	4	<0.00198	<0.00397	<50.0	<50.0	<50.0	<50.0	178
FS03	11/16/2022	4	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	164
FS04	11/16/2022	5	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	5,920
FS04A	10/11/2023	5	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	385
FS05	11/16/2022	5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	9,270
FS05A	10/11/2023	5	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	1,540
FS06	11/17/2022	4	<0.00200	0.123	<50.0	<50.0	<50.0	<50.0	14,500
FS06A	10/11/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	3,010
FS07	11/17/2022	4	<0.00202	<0.00403	57.1	<49.9	<49.9	57.1	12,800
FS07A	10/11/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	2,160
FS08	11/17/2022	4	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	9,190
FS08A	10/11/2023	5	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	3,680
FS09	11/17/2022	4	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	5,790
FS09A	10/11/2023	4.5	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	1,750
FS10	11/18/2022	4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	893
FS10A	10/11/2023	4.5	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	1,970
FS11	11/18/2022	4	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	2,370
FS11A	10/11/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	763
FS12	11/18/2022	4	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	11,900
FS12A	10/11/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	361

**Notes:**

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Code

Grey text represents samples that have been excavated

&lt;": Laboratory Analytical result is less than reporting limit

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

\* Indicates sample was collected in area to be reclaimed after remediation is complete; reclamation for chloride in the top 4 feet is 600 mg/kg and total TPH is 100 mg/kg.


GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

									
<b>TABLE 1</b> <b>SOIL SAMPLE ANALYTICAL RESULTS</b> LVP SWD #001 WPX Energy Permian, LLC Eddy County, New Mexico Ensolum Project No. 03A1978044									
Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	100	600
Confirmation Sidewall Soil Sample Analytical Results									
SW01	11/15/2022	0-5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	261
SW02	11/18/2022	0-5	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	140
SW03	11/18/2022	0-4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	94.2

**Notes:**

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Code

Grey text represents samples that have been excavated

&lt;": Laboratory Analytical result is less than reporting limit

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

\* Indicates sample was collected in area to be reclaimed after remediation is complete; reclamation for chloride in the top 4 feet is 600 mg/kg and total TPH is 100 mg/kg.

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes



## APPENDIX F

### Laboratory Analytical Reports & Chain-of-Custody Documentation

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Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Devon Team  
Ensolum  
705 W. Wadley  
Suite 210  
Midland, Texas 79701

Generated 11/28/2022 4:27:42 PM

## JOB DESCRIPTION

LVP SWD #001  
SDG NUMBER 03A1987044

## JOB NUMBER

890-3481-1

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  
11/28/2022 4:27:42 PM

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

Client: Ensolum  
Project/Site: LVP SWD #001

Laboratory Job ID: 890-3481-1  
SDG: 03A1987044

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QC Sample Results . . . . .	9
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Definitions/Glossary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3481-1  
SDG: 03A1987044

Qualifiers

GC VOA

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

GC Semi VOA

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

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: LVP SWD #001

Job ID: 890-3481-1  
SDG: 03A1987044

Job ID: 890-3481-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative  
890-3481-1

Receipt

The samples were received on 11/15/2022 3:23 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 analyzed were received and analyzed from an unpreserved bulk soil jar: FS01 (890-3481-1) and FS02 (890-3481-2).

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: Surrogate recovery for the following samples were outside control limits: (LCS 880-39882/2-A) and (LCSD 880-39882/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD\_NM: Surrogate recovery for the following sample was outside control limits: (880-21715-A-1-H MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD\_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-39882 and analytical batch 880-39958 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10.

Method 8015MOD\_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-39882 and analytical batch 880-39958 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.

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: LVP SWD #001

Job ID: 890-3481-1  
SDG: 03A1987044

Client Sample ID: FS01

Lab Sample ID: 890-3481-1

Date Collected: 11/15/22 13:00

Matrix: Solid

Date Received: 11/15/22 15:23

Sample Depth: 5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		11/22/22 17:45	11/23/22 17:31	1
Toluene	<0.00198	U	0.00198		mg/Kg		11/22/22 17:45	11/23/22 17:31	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		11/22/22 17:45	11/23/22 17:31	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		11/22/22 17:45	11/23/22 17:31	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		11/22/22 17:45	11/23/22 17:31	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		11/22/22 17:45	11/23/22 17:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130	11/22/22 17:45	11/23/22 17:31	1
1,4-Difluorobenzene (Surr)	91		70 - 130	11/22/22 17:45	11/23/22 17:31	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			11/28/22 16:23	1

## Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			11/21/22 11:18	1

## Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	49.9		mg/Kg		11/18/22 07:28	11/19/22 19:18	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		11/18/22 07:28	11/19/22 19:18	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/18/22 07:28	11/19/22 19:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130	11/18/22 07:28	11/19/22 19:18	1
o-Terphenyl	107		70 - 130	11/18/22 07:28	11/19/22 19:18	1

## Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	105		4.99		mg/Kg			11/22/22 00:09	1

Client Sample ID: FS02

Lab Sample ID: 890-3481-2

Date Collected: 11/15/22 13:30

Matrix: Solid

Date Received: 11/15/22 15:23

Sample Depth: 4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		11/22/22 17:45	11/23/22 17:51	1
Toluene	<0.00198	U	0.00198		mg/Kg		11/22/22 17:45	11/23/22 17:51	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		11/22/22 17:45	11/23/22 17:51	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		11/22/22 17:45	11/23/22 17:51	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		11/22/22 17:45	11/23/22 17:51	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		11/22/22 17:45	11/23/22 17:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130	11/22/22 17:45	11/23/22 17:51	1

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## Client Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3481-1  
SDG: 03A1987044

Client Sample ID: FS02

Lab Sample ID: 890-3481-2

Date Collected: 11/15/22 13:30

Matrix: Solid

Date Received: 11/15/22 15:23

Sample Depth: 4

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	99		70 - 130	11/22/22 17:45	11/23/22 17:51	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			11/28/22 16:23	1

## Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			11/21/22 11:18	1

## Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	50.0		mg/Kg		11/18/22 07:28	11/19/22 19:40	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/18/22 07:28	11/19/22 19:40	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/18/22 07:28	11/19/22 19:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130				11/18/22 07:28	11/19/22 19:40	1
o-Terphenyl	116		70 - 130				11/18/22 07:28	11/19/22 19:40	1

## Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	178		5.00		mg/Kg			11/22/22 00:26	1

Surrogate Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3481-1  
SDG: 03A1987044

Method: 8021B - Volatile Organic Compounds (GC)  
Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-21911-A-1-A MS	Matrix Spike	101	119
880-21911-A-1-B MSD	Matrix Spike Duplicate	95	112
890-3481-1	FS01	107	91
890-3481-2	FS02	97	99
LCS 880-40254/1-A	Lab Control Sample	108	114
LCSD 880-40254/2-A	Lab Control Sample Dup	100	111
MB 880-40254/5-A	Method Blank	85	101
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-21715-A-1-H MS	Matrix Spike	66 S1-	67 S1-
880-21715-A-1-I MSD	Matrix Spike Duplicate	84	86
890-3481-1	FS01	93	107
890-3481-2	FS02	100	116
LCS 880-39882/2-A	Lab Control Sample	198 S1+	226 S1+
LCSD 880-39882/3-A	Lab Control Sample Dup	214 S1+	241 S1+
MB 880-39882/1-A	Method Blank	95	111
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3481-1  
SDG: 03A1987044

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

Lab Sample ID: MB 880-40254/5-A

Matrix: Solid

Analysis Batch: 40265

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 40254

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/22/22 17:45	11/23/22 12:42	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/22/22 17:45	11/23/22 12:42	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/22/22 17:45	11/23/22 12:42	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/22/22 17:45	11/23/22 12:42	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/22/22 17:45	11/23/22 12:42	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/22/22 17:45	11/23/22 12:42	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		70 - 130	11/22/22 17:45	11/23/22 12:42	1
1,4-Difluorobenzene (Surr)	101		70 - 130	11/22/22 17:45	11/23/22 12:42	1

Lab Sample ID: LCS 880-40254/1-A

Matrix: Solid

Analysis Batch: 40265

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 40254

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1107		mg/Kg		111	70 - 130
Toluene	0.100	0.09513		mg/Kg		95	70 - 130
Ethylbenzene	0.100	0.1057		mg/Kg		106	70 - 130
m-Xylene & p-Xylene	0.200	0.2135		mg/Kg		107	70 - 130
o-Xylene	0.100	0.1038		mg/Kg		104	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	108		70 - 130
1,4-Difluorobenzene (Surr)	114		70 - 130

Lab Sample ID: LCSD 880-40254/2-A

Matrix: Solid

Analysis Batch: 40265

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 40254

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1083		mg/Kg		108	70 - 130	2	35
Toluene	0.100	0.09803		mg/Kg		98	70 - 130	3	35
Ethylbenzene	0.100	0.09819		mg/Kg		98	70 - 130	7	35
m-Xylene & p-Xylene	0.200	0.2067		mg/Kg		103	70 - 130	3	35
o-Xylene	0.100	0.1011		mg/Kg		101	70 - 130	3	35

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

Lab Sample ID: 880-21911-A-1-A MS

Matrix: Solid

Analysis Batch: 40265

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 40254

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00202	U	0.101	0.1164		mg/Kg		115	70 - 130
Toluene	<0.00202	U	0.101	0.09673		mg/Kg		96	70 - 130

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## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3481-1  
SDG: 03A1987044

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

Lab Sample ID: 880-21911-A-1-A MS

Matrix: Solid

Analysis Batch: 40265

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 40254

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.101	0.09883		mg/Kg		98	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.202	0.1966		mg/Kg		97	70 - 130
o-Xylene	<0.00202	U	0.101	0.09491		mg/Kg		94	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	119		70 - 130

Lab Sample ID: 880-21911-A-1-B MSD

Matrix: Solid

Analysis Batch: 40265

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 40254

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0994	0.1045		mg/Kg		105	70 - 130	11	35
Toluene	<0.00202	U	0.0994	0.08845		mg/Kg		89	70 - 130	9	35
Ethylbenzene	<0.00202	U	0.0994	0.08907		mg/Kg		90	70 - 130	10	35
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1744		mg/Kg		88	70 - 130	12	35
o-Xylene	<0.00202	U	0.0994	0.08420		mg/Kg		84	70 - 130	12	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
1,4-Difluorobenzene (Surr)	112		70 - 130

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

Lab Sample ID: MB 880-39882/1-A

Matrix: Solid

Analysis Batch: 39958

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 39882

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/18/22 07:28	11/19/22 09:07	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/18/22 07:28	11/19/22 09:07	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/18/22 07:28	11/19/22 09:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130	11/18/22 07:28	11/19/22 09:07	1
o-Terphenyl	111		70 - 130	11/18/22 07:28	11/19/22 09:07	1

Lab Sample ID: LCS 880-39882/2-A

Matrix: Solid

Analysis Batch: 39958

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 39882

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	874.4		mg/Kg		87	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1088		mg/Kg		109	70 - 130

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## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3481-1  
SDG: 03A1987044

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

Lab Sample ID: LCS 880-39882/2-A

Matrix: Solid

Analysis Batch: 39958

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 39882

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	198	S1+	70 - 130
o-Terphenyl	226	S1+	70 - 130

Lab Sample ID: LCSD 880-39882/3-A

Matrix: Solid

Analysis Batch: 39958

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 39882

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1134	*1	mg/Kg		113	70 - 130	26	20
Diesel Range Organics (Over C10-C28)	1000	1280		mg/Kg		128	70 - 130	16	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	214	S1+	70 - 130
o-Terphenyl	241	S1+	70 - 130

Lab Sample ID: 880-21715-A-1-H MS

Matrix: Solid

Analysis Batch: 39958

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 39882

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 *1	999	793.6		mg/Kg		79	70 - 130
Diesel Range Organics (Over C10-C28)	220	F1 F2	999	741.0	F1	mg/Kg		52	70 - 130

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	66	S1-	70 - 130
o-Terphenyl	67	S1-	70 - 130

Lab Sample ID: 880-21715-A-1-I MSD

Matrix: Solid

Analysis Batch: 39958

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 39882

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 *1	997	902.1		mg/Kg		90	70 - 130	13	20
Diesel Range Organics (Over C10-C28)	220	F1 F2	997	943.2	F2	mg/Kg		72	70 - 130	24	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	84		70 - 130
o-Terphenyl	86		70 - 130

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QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3481-1  
SDG: 03A1987044

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-39830/1-A

Matrix: Solid

Analysis Batch: 40139

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/21/22 23:52	1

Lab Sample ID: LCS 880-39830/2-A

Matrix: Solid

Analysis Batch: 40139

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	256.0		mg/Kg		102	90 - 110

Lab Sample ID: LCSD 880-39830/3-A

Matrix: Solid

Analysis Batch: 40139

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	256.0		mg/Kg		102	90 - 110	0	20

Lab Sample ID: 890-3481-1 MS

Matrix: Solid

Analysis Batch: 40139

Client Sample ID: FS01

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	105		250	373.7		mg/Kg		108	90 - 110

Lab Sample ID: 890-3481-1 MSD

Matrix: Solid

Analysis Batch: 40139

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	105		250	373.5		mg/Kg		108	90 - 110	0	20



## QC Association Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3481-1  
SDG: 03A1987044

## GC VOA

## Prep Batch: 40254

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3481-1	FS01	Total/NA	Solid	5035	
890-3481-2	FS02	Total/NA	Solid	5035	
MB 880-40254/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-40254/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-40254/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-21911-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
880-21911-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 40265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3481-1	FS01	Total/NA	Solid	8021B	40254
890-3481-2	FS02	Total/NA	Solid	8021B	40254
MB 880-40254/5-A	Method Blank	Total/NA	Solid	8021B	40254
LCS 880-40254/1-A	Lab Control Sample	Total/NA	Solid	8021B	40254
LCSD 880-40254/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	40254
880-21911-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	40254
880-21911-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	40254

## Analysis Batch: 40504

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3481-1	FS01	Total/NA	Solid	Total BTEX	
890-3481-2	FS02	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Prep Batch: 39882

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3481-1	FS01	Total/NA	Solid	8015NM Prep	
890-3481-2	FS02	Total/NA	Solid	8015NM Prep	
MB 880-39882/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-39882/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-39882/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-21715-A-1-H MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-21715-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 39958

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3481-1	FS01	Total/NA	Solid	8015B NM	39882
890-3481-2	FS02	Total/NA	Solid	8015B NM	39882
MB 880-39882/1-A	Method Blank	Total/NA	Solid	8015B NM	39882
LCS 880-39882/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	39882
LCSD 880-39882/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	39882
880-21715-A-1-H MS	Matrix Spike	Total/NA	Solid	8015B NM	39882
880-21715-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	39882

## Analysis Batch: 40098

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3481-1	FS01	Total/NA	Solid	8015 NM	
890-3481-2	FS02	Total/NA	Solid	8015 NM	

Eurofins Carlsbad

QC Association Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3481-1  
SDG: 03A1987044

HPLC/IC

Leach Batch: 39830

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3481-1	FS01	Soluble	Solid	DI Leach	
890-3481-2	FS02	Soluble	Solid	DI Leach	
MB 880-39830/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-39830/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-39830/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3481-1 MS	FS01	Soluble	Solid	DI Leach	
890-3481-1 MSD	FS01	Soluble	Solid	DI Leach	

Analysis Batch: 40139

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3481-1	FS01	Soluble	Solid	300.0	39830
890-3481-2	FS02	Soluble	Solid	300.0	39830
MB 880-39830/1-A	Method Blank	Soluble	Solid	300.0	39830
LCS 880-39830/2-A	Lab Control Sample	Soluble	Solid	300.0	39830
LCSD 880-39830/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	39830
890-3481-1 MS	FS01	Soluble	Solid	300.0	39830
890-3481-1 MSD	FS01	Soluble	Solid	300.0	39830

Lab Chronicle

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3481-1  
SDG: 03A1987044

Client Sample ID: FS01  
Date Collected: 11/15/22 13:00  
Date Received: 11/15/22 15:23

Lab Sample ID: 890-3481-1  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	40254	11/22/22 17:45	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40265	11/23/22 17:31	EL	EET MID
Total/NA	Analysis	Total BTEX		1			40504	11/28/22 16:23	SM	EET MID
Total/NA	Analysis	8015 NM		1			40098	11/21/22 11:18	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	39882	11/18/22 07:28	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	39958	11/19/22 19:18	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	39830	11/17/22 14:36	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	40139	11/22/22 00:09	CH	EET MID

Client Sample ID: FS02  
Date Collected: 11/15/22 13:30  
Date Received: 11/15/22 15:23

Lab Sample ID: 890-3481-2  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	40254	11/22/22 17:45	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40265	11/23/22 17:51	EL	EET MID
Total/NA	Analysis	Total BTEX		1			40504	11/28/22 16:23	SM	EET MID
Total/NA	Analysis	8015 NM		1			40098	11/21/22 11:18	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	39882	11/18/22 07:28	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	39958	11/19/22 19:40	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	39830	11/17/22 14:36	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	40139	11/22/22 00:26	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: LVP SWD #001

Job ID: 890-3481-1  
SDG: 03A1987044

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	T104704400-22-24	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

Method Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3481-1  
SDG: 03A1987044

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: LVP SWD #001

Job ID: 890-3481-1  
SDG: 03A1987044

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3481-1	FS01	Solid	11/15/22 13:00	11/15/22 15:23	5
890-3481-2	FS02	Solid	11/15/22 13:30	11/15/22 15:23	4

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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: \_\_\_\_\_

www.xenco.com Page 1 of 1

Project Manager:	Joseph Hernandez	Bill to: (if different)	Jim Raley
Company Name:	Ensolum	Company Name:	WPX
Address:	3122 National Parks HWY	Address:	5315 Buena Vista Dr.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	281-702-2329	Email:	jhernandez@Ensolum.com, jim.raley@dvn.com

Program: <input checked="" 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:

ANALYSIS REQUEST

Project Name:	LVP SWD #001	Turn Around	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	Pres. Code	
Project Number:	03A1987044	Due Date:	5 Day TAT		
Project Location:	Rural Eddy, NM	TAT starts the day received by the lab, if received by 4:30pm			
Sampler's Name:	Gilbert Moreno	Wet Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
CC #:	9005003893	Thermometer ID:	100007		
SAMPLE RECEIPT	Temp Blank: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Correction Factor:	0.0		
Samples Received Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Temperature Reading:	8.0		
Cooler Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Corrected Temperature:	8.0		
Sample Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
Total Containers:					



890-3481 Chain of Custody

Preservative Codes	None: NO	DI Water: H <sub>2</sub> O
	Cool: Cool	MeOH: Me
	HCL: HC	HNO <sub>3</sub> : HN
	H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub>	NaOH: Na
	H <sub>3</sub> PO <sub>4</sub> : HP	
	NaHSO <sub>4</sub> : NABIS	
	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub>	
	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
-----------------------	--------	--------------	--------------	-------	-----------	-----------	------------------------	------------	-------------	-----------------

FS01	S	11.15.22	13:00	5'	Comp	1	X	X	X	
FS02	S	11.15.22	13:30	4'	Comp	1	X	X	X	

Incident ID  
NAPP2135033453

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<sub>2</sub> 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 \$65.00 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
		11.15.22 15:23			

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3481-1

SDG Number: 03A1987044

Login Number: 3481

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	

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3481-1

SDG Number: 03A1987044

Login Number: 3481

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 11/17/22 02:07 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	



Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Devon Team  
Ensolum  
705 W. Wadley  
Suite 210  
Midland, Texas 79701

Generated 11/28/2022 4:28:30 PM

## JOB DESCRIPTION

LVP SWD #001  
SDG NUMBER 03A1987044


## JOB NUMBER

890-3482-1

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  
11/28/2022 4:28:30 PM

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

Client: Ensolum  
Project/Site: LVP SWD #001

Laboratory Job ID: 890-3482-1  
SDG: 03A1987044

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Definitions/Glossary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3482-1  
SDG: 03A1987044

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
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: LVP SWD #001

Job ID: 890-3482-1  
SDG: 03A1987044

Job ID: 890-3482-1

Laboratory: Eurofins Carlsbad

Narrative	
Job Narrative 890-3482-1	

Receipt

The sample was received on 11/15/2022 3:23 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.0°C

Receipt Exceptions

The following sample was received and analyzed from an unpreserved bulk soil jar: SW01 (890-3482-1).

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: Surrogate recovery for the following sample was outside control limits: (880-21689-A-4-B). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD\_NM: The method blank for preparation batch 880-40184 and analytical batch 880-40168 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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 880-39829 and analytical batch 880-40152 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.

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## Client Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3482-1  
SDG: 03A1987044

Client Sample ID: SW01

Lab Sample ID: 890-3482-1

Date Collected: 11/15/22 12:30

Matrix: Solid

Date Received: 11/15/22 15:23

Sample Depth: 0 - 6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		11/22/22 17:45	11/23/22 18:12	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/22/22 17:45	11/23/22 18:12	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/22/22 17:45	11/23/22 18:12	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/22/22 17:45	11/23/22 18:12	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/22/22 17:45	11/23/22 18:12	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/22/22 17:45	11/23/22 18:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130	11/22/22 17:45	11/23/22 18:12	1
1,4-Difluorobenzene (Surr)	98		70 - 130	11/22/22 17:45	11/23/22 18:12	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			11/28/22 16:23	1

## Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			11/23/22 11:46	1

## Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		11/22/22 09:39	11/22/22 19:04	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		11/22/22 09:39	11/22/22 19:04	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/22/22 09:39	11/22/22 19:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	92		70 - 130	11/22/22 09:39	11/22/22 19:04	1
o-Terphenyl	89		70 - 130	11/22/22 09:39	11/22/22 19:04	1

## Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	261		5.00		mg/Kg			11/22/22 01:10	1

Eurofins Carlsbad

Surrogate Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3482-1  
SDG: 03A1987044

Method: 8021B - Volatile Organic Compounds (GC)  
Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-21911-A-1-A MS	Matrix Spike	101	119
880-21911-A-1-B MSD	Matrix Spike Duplicate	95	112
890-3482-1	SW01	98	98
LCS 880-40254/1-A	Lab Control Sample	108	114
LCSD 880-40254/2-A	Lab Control Sample Dup	100	111
MB 880-40254/5-A	Method Blank	85	101
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-21689-A-4-C MS	Matrix Spike	104	82
880-21689-A-4-D MSD	Matrix Spike Duplicate	112	86
890-3482-1	SW01	92	89
LCS 880-40184/2-A	Lab Control Sample	117	105
LCSD 880-40184/3-A	Lab Control Sample Dup	98	102
MB 880-40184/1-A	Method Blank	112	107
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3482-1  
SDG: 03A1987044

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

Lab Sample ID: MB 880-40254/5-A

Matrix: Solid

Analysis Batch: 40265

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 40254

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/22/22 17:45	11/23/22 12:42	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/22/22 17:45	11/23/22 12:42	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/22/22 17:45	11/23/22 12:42	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/22/22 17:45	11/23/22 12:42	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/22/22 17:45	11/23/22 12:42	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/22/22 17:45	11/23/22 12:42	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		70 - 130	11/22/22 17:45	11/23/22 12:42	1
1,4-Difluorobenzene (Surr)	101		70 - 130	11/22/22 17:45	11/23/22 12:42	1

Lab Sample ID: LCS 880-40254/1-A

Matrix: Solid

Analysis Batch: 40265

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 40254

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1107		mg/Kg		111	70 - 130
Toluene	0.100	0.09513		mg/Kg		95	70 - 130
Ethylbenzene	0.100	0.1057		mg/Kg		106	70 - 130
m-Xylene & p-Xylene	0.200	0.2135		mg/Kg		107	70 - 130
o-Xylene	0.100	0.1038		mg/Kg		104	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	108		70 - 130
1,4-Difluorobenzene (Surr)	114		70 - 130

Lab Sample ID: LCSD 880-40254/2-A

Matrix: Solid

Analysis Batch: 40265

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 40254

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1083		mg/Kg		108	70 - 130	2	35
Toluene	0.100	0.09803		mg/Kg		98	70 - 130	3	35
Ethylbenzene	0.100	0.09819		mg/Kg		98	70 - 130	7	35
m-Xylene & p-Xylene	0.200	0.2067		mg/Kg		103	70 - 130	3	35
o-Xylene	0.100	0.1011		mg/Kg		101	70 - 130	3	35

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

Lab Sample ID: 880-21911-A-1-A MS

Matrix: Solid

Analysis Batch: 40265

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 40254

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00202	U	0.101	0.1164		mg/Kg		115	70 - 130
Toluene	<0.00202	U	0.101	0.09673		mg/Kg		96	70 - 130

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## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3482-1  
SDG: 03A1987044

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

Lab Sample ID: 880-21911-A-1-A MS

Matrix: Solid

Analysis Batch: 40265

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 40254

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.101	0.09883		mg/Kg		98	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.202	0.1966		mg/Kg		97	70 - 130
o-Xylene	<0.00202	U	0.101	0.09491		mg/Kg		94	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	119		70 - 130

Lab Sample ID: 880-21911-A-1-B MSD

Matrix: Solid

Analysis Batch: 40265

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 40254

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0994	0.1045		mg/Kg		105	70 - 130	11	35
Toluene	<0.00202	U	0.0994	0.08845		mg/Kg		89	70 - 130	9	35
Ethylbenzene	<0.00202	U	0.0994	0.08907		mg/Kg		90	70 - 130	10	35
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1744		mg/Kg		88	70 - 130	12	35
o-Xylene	<0.00202	U	0.0994	0.08420		mg/Kg		84	70 - 130	12	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
1,4-Difluorobenzene (Surr)	112		70 - 130

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

Lab Sample ID: MB 880-40184/1-A

Matrix: Solid

Analysis Batch: 40168

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 40184

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/22/22 08:19	11/22/22 08:21	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/22/22 08:19	11/22/22 08:21	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/22/22 08:19	11/22/22 08:21	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	112		70 - 130	11/22/22 08:19	11/22/22 08:21	1
o-Terphenyl	107		70 - 130	11/22/22 08:19	11/22/22 08:21	1

Lab Sample ID: LCS 880-40184/2-A

Matrix: Solid

Analysis Batch: 40168

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 40184

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	863.4		mg/Kg		86	70 - 130
Diesel Range Organics (Over C10-C28)	1000	979.4		mg/Kg		98	70 - 130

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QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3482-1  
SDG: 03A1987044

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

Lab Sample ID: LCS 880-40184/2-A  
Matrix: Solid  
Analysis Batch: 40168

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 40184

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	117		70 - 130
o-Terphenyl	105		70 - 130

Lab Sample ID: LCSD 880-40184/3-A  
Matrix: Solid  
Analysis Batch: 40168

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 40184

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	886.1		mg/Kg		89	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	1000	938.8		mg/Kg		94	70 - 130	4	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	98		70 - 130
o-Terphenyl	102		70 - 130

Lab Sample ID: 880-21689-A-4-C MS  
Matrix: Solid  
Analysis Batch: 40168

Client Sample ID: Matrix Spike  
Prep Type: Total/NA  
Prep Batch: 40184

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	998	751.2		mg/Kg		75	70 - 130
Diesel Range Organics (Over C10-C28)	<49.8	U	998	888.4		mg/Kg		89	70 - 130

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	104		70 - 130
o-Terphenyl	82		70 - 130

Lab Sample ID: 880-21689-A-4-D MSD  
Matrix: Solid  
Analysis Batch: 40168

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA  
Prep Batch: 40184

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	996	809.0		mg/Kg		81	70 - 130	7	20
Diesel Range Organics (Over C10-C28)	<49.8	U	996	937.4		mg/Kg		94	70 - 130	5	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	112		70 - 130
o-Terphenyl	86		70 - 130

## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3482-1  
SDG: 03A1987044

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-39829/1-A

Matrix: Solid

Analysis Batch: 40152

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/21/22 21:36	1

Lab Sample ID: LCS 880-39829/2-A

Matrix: Solid

Analysis Batch: 40152

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	241.6		mg/Kg		97	90 - 110

Lab Sample ID: LCSD 880-39829/3-A

Matrix: Solid

Analysis Batch: 40152

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	253.5		mg/Kg		101	90 - 110	5	20

Lab Sample ID: 890-3479-A-1-B MS

Matrix: Solid

Analysis Batch: 40152

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	1220		253	1408	4	mg/Kg		76	90 - 110

Lab Sample ID: 890-3479-A-1-C MSD

Matrix: Solid

Analysis Batch: 40152

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	1220		253	1417	4	mg/Kg		79	90 - 110	1	20

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## QC Association Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3482-1  
SDG: 03A1987044

## GC VOA

## Prep Batch: 40254

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3482-1	SW01	Total/NA	Solid	5035	
MB 880-40254/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-40254/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-40254/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-21911-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
880-21911-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 40265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3482-1	SW01	Total/NA	Solid	8021B	40254
MB 880-40254/5-A	Method Blank	Total/NA	Solid	8021B	40254
LCS 880-40254/1-A	Lab Control Sample	Total/NA	Solid	8021B	40254
LCSD 880-40254/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	40254
880-21911-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	40254
880-21911-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	40254

## Analysis Batch: 40505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3482-1	SW01	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Analysis Batch: 40168

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3482-1	SW01	Total/NA	Solid	8015B NM	40184
MB 880-40184/1-A	Method Blank	Total/NA	Solid	8015B NM	40184
LCS 880-40184/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	40184
LCSD 880-40184/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	40184
880-21689-A-4-C MS	Matrix Spike	Total/NA	Solid	8015B NM	40184
880-21689-A-4-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	40184

## Prep Batch: 40184

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3482-1	SW01	Total/NA	Solid	8015NM Prep	
MB 880-40184/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-40184/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-40184/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-21689-A-4-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-21689-A-4-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 40299

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3482-1	SW01	Total/NA	Solid	8015 NM	

## HPLC/IC

## Leach Batch: 39829

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3482-1	SW01	Soluble	Solid	DI Leach	
MB 880-39829/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-39829/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-39829/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

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QC Association Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3482-1  
SDG: 03A1987044

HPLC/IC (Continued)

Leach Batch: 39829 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3479-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3479-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 40152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3482-1	SW01	Soluble	Solid	300.0	39829
MB 880-39829/1-A	Method Blank	Soluble	Solid	300.0	39829
LCS 880-39829/2-A	Lab Control Sample	Soluble	Solid	300.0	39829
LCSD 880-39829/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	39829
890-3479-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	39829
890-3479-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	39829

Lab Chronicle

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3482-1  
SDG: 03A1987044

Client Sample ID: SW01

Lab Sample ID: 890-3482-1

Date Collected: 11/15/22 12:30

Matrix: Solid

Date Received: 11/15/22 15:23

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	40254	11/22/22 17:45	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40265	11/23/22 18:12	EL	EET MID
Total/NA	Analysis	Total BTEX		1			40505	11/28/22 16:23	SM	EET MID
Total/NA	Analysis	8015 NM		1			40299	11/23/22 11:46	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	40184	11/22/22 09:39	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	40168	11/22/22 19:04	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	39829	11/17/22 14:33	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	40152	11/22/22 01:10	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: LVP SWD #001

Job ID: 890-3482-1  
SDG: 03A1987044

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	T104704400-22-24	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



Method Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3482-1  
SDG: 03A1987044

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: LVP SWD #001

Job ID: 890-3482-1  
SDG: 03A1987044

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3482-1	SW01	Solid	11/15/22 12:30	11/15/22 15:23	0 - 6

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



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:

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Project Manager:	Joseph Hernandez	Bill to: (if different)	Jim Raley
Company Name:	Ensolum	Company Name:	WPX
Address:	3122 National Parks HWY	Address:	5315 Buena Vista Dr.
City, State ZIP:	Carlsbad, NM 86220	City, State ZIP:	Carlsbad, NM 86220
Phone:	281-702-2329	Email:	jherandez@Ensolum.com, jim.raley@dyn.com

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:

ANALYSIS REQUEST

Project Name:	LVP SWD #001	Turn Around	Pres. Code
Project Number:	03A1987044	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	
Project Location:	Rural Eddy, NM	Due Date:	5 Day TAT
Sampler's Name:	Gilbert Moreno	TAT starts the day received by the lab, if received by 4:30pm	
CC #:	9005003893	Temp Blank:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
SAMPLE RECEIPT	Temp Blank:	Thermometer ID:	11/15/22
Samples Received Intact:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Correction Factor:	1.00
Cooler Custody Seals:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Temperature Reading:	2.2
Sample Custody Seals:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Corrected Temperature:	2.2
Total Containers:			



890-3482 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	Preservative Codes
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SW01	S	11.15.22	12:30	0-6'	Comp	1	CHLORIDES (EPA: 300.0) TPH (8015) BTX (8021)	None, NO DI Water: H <sub>2</sub> O Cool: Cool HCL: HC H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub> H <sub>3</sub> PO <sub>4</sub> : HP NaHSO <sub>4</sub> : NABIS Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub> Zn Acetate+NaOH: Zn NaOH+Ascorbic Acid: SAPC
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Incident ID

NAPP2135033453

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<sub>2</sub> 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
		11.15.22 15:23			

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3482-1

SDG Number: 03A1987044

Login Number: 3482

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	

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3482-1

SDG Number: 03A1987044

Login Number: 3482

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 11/17/22 02:07 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	



Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Devon Team  
Ensolum  
705 W. Wadley  
Suite 210  
Midland, Texas 79701

Generated 11/30/2022 9:48:37 AM

## JOB DESCRIPTION

LVP SWD #001  
SDG NUMBER 03A1987044

## JOB NUMBER

890-3493-1


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  
11/30/2022 9:48:37 AM

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



Client: Ensolum  
Project/Site: LVP SWD #001

Laboratory Job ID: 890-3493-1  
SDG: 03A1987044

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Definitions/Glossary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3493-1  
SDG: 03A1987044

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1-	Surrogate recovery exceeds control limits, low biased.
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: LVP SWD #001

Job ID: 890-3493-1  
SDG: 03A1987044

**Job ID: 890-3493-1**

**Laboratory: Eurofins Carlsbad**

### Narrative

#### Job Narrative 890-3493-1

#### Receipt

The sample was received on 11/16/2022 3:31 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.6°C

#### Receipt Exceptions

The following sample was received and analyzed from an unpreserved bulk soil jar: FS03 (890-3493-1).

#### GC VOA

Method 8021B: Surrogate recovery for the following sample was outside control limits: (890-3493-A-1-E MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-40432 and analytical batch 880-40541 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

#### GC Semi VOA

Method 8015MOD\_NM: Surrogate recovery for the following sample was outside control limits: (880-21689-A-4-B). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD\_NM: The method blank for preparation batch 880-40184 and analytical batch 880-40168 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples 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: LVP SWD #001

Job ID: 890-3493-1  
SDG: 03A1987044

Client Sample ID: FS03

Lab Sample ID: 890-3493-1

Date Collected: 11/16/22 13:00

Matrix: Solid

Date Received: 11/16/22 15:31

Sample Depth: 4'

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U F1 F2	0.00201		mg/Kg		11/28/22 10:35	11/30/22 00:19	1
Toluene	<0.00201	U F1 F2	0.00201		mg/Kg		11/28/22 10:35	11/30/22 00:19	1
Ethylbenzene	<0.00201	U F1 F2	0.00201		mg/Kg		11/28/22 10:35	11/30/22 00:19	1
m-Xylene & p-Xylene	<0.00402	U F1 F2	0.00402		mg/Kg		11/28/22 10:35	11/30/22 00:19	1
o-Xylene	<0.00201	U F1	0.00201		mg/Kg		11/28/22 10:35	11/30/22 00:19	1
Xylenes, Total	<0.00402	U F1 F2	0.00402		mg/Kg		11/28/22 10:35	11/30/22 00:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	72		70 - 130	11/28/22 10:35	11/30/22 00:19	1
1,4-Difluorobenzene (Surr)	104		70 - 130	11/28/22 10:35	11/30/22 00:19	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			11/30/22 09:51	1

## Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			11/23/22 11:46	1

## Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		11/22/22 09:39	11/22/22 17:59	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		11/22/22 09:39	11/22/22 17:59	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/22/22 09:39	11/22/22 17:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	108		70 - 130	11/22/22 09:39	11/22/22 17:59	1
o-Terphenyl	106		70 - 130	11/22/22 09:39	11/22/22 17:59	1

## Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	164		4.96		mg/Kg			11/22/22 05:20	1

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## Surrogate Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3493-1  
SDG: 03A1987044

## 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)
890-3493-1	FS03	72	104
890-3493-1 MS	FS03	72	104
890-3493-1 MSD	FS03	69 S1-	102
LCS 880-40432/1-A	Lab Control Sample	91	109
LCSD 880-40432/2-A	Lab Control Sample Dup	87	109
MB 880-40432/5-A	Method Blank	73	110
MB 880-40470/5-A	Method Blank	72	109
<b>Surrogate Legend</b>			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-21689-A-4-C MS	Matrix Spike	104	82
880-21689-A-4-D MSD	Matrix Spike Duplicate	112	86
890-3493-1	FS03	108	106
LCS 880-40184/2-A	Lab Control Sample	117	105
LCSD 880-40184/3-A	Lab Control Sample Dup	98	102
MB 880-40184/1-A	Method Blank	112	107
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3493-1  
SDG: 03A1987044

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

Lab Sample ID: MB 880-40432/5-A

Matrix: Solid

Analysis Batch: 40541

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 40432

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/28/22 10:35	11/29/22 23:50	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/28/22 10:35	11/29/22 23:50	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/28/22 10:35	11/29/22 23:50	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/28/22 10:35	11/29/22 23:50	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/28/22 10:35	11/29/22 23:50	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/28/22 10:35	11/29/22 23:50	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	73		70 - 130	11/28/22 10:35	11/29/22 23:50	1
1,4-Difluorobenzene (Surr)	110		70 - 130	11/28/22 10:35	11/29/22 23:50	1

Lab Sample ID: LCS 880-40432/1-A

Matrix: Solid

Analysis Batch: 40541

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 40432

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09748		mg/Kg		97	70 - 130
Toluene	0.100	0.1040		mg/Kg		104	70 - 130
Ethylbenzene	0.100	0.09734		mg/Kg		97	70 - 130
m-Xylene & p-Xylene	0.200	0.1695		mg/Kg		85	70 - 130
o-Xylene	0.100	0.08489		mg/Kg		85	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	91		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: LCSD 880-40432/2-A

Matrix: Solid

Analysis Batch: 40541

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 40432

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1091		mg/Kg		109	70 - 130	11	35
Toluene	0.100	0.1113		mg/Kg		111	70 - 130	7	35
Ethylbenzene	0.100	0.1029		mg/Kg		103	70 - 130	6	35
m-Xylene & p-Xylene	0.200	0.1785		mg/Kg		89	70 - 130	5	35
o-Xylene	0.100	0.08844		mg/Kg		88	70 - 130	4	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	87		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: 890-3493-1 MS

Matrix: Solid

Analysis Batch: 40541

Client Sample ID: FS03

Prep Type: Total/NA

Prep Batch: 40432

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U F1 F2	0.0996	0.02627	F1	mg/Kg		26	70 - 130
Toluene	<0.00201	U F1 F2	0.0996	0.02749	F1	mg/Kg		28	70 - 130

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## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3493-1  
SDG: 03A1987044

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

Lab Sample ID: 890-3493-1 MS

Matrix: Solid

Analysis Batch: 40541

Client Sample ID: FS03

Prep Type: Total/NA

Prep Batch: 40432

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U F1 F2	0.0996	0.03012	F1	mg/Kg		30	70 - 130
m-Xylene & p-Xylene	<0.00402	U F1 F2	0.199	0.05464	F1	mg/Kg		27	70 - 130
o-Xylene	<0.00201	U F1	0.0996	0.03019	F1	mg/Kg		30	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	72		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: 890-3493-1 MSD

Matrix: Solid

Analysis Batch: 40541

Client Sample ID: FS03

Prep Type: Total/NA

Prep Batch: 40432

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F1 F2	0.100	0.04789	F1 F2	mg/Kg		48	70 - 130	58	35
Toluene	<0.00201	U F1 F2	0.100	0.04517	F1 F2	mg/Kg		45	70 - 130	49	35
Ethylbenzene	<0.00201	U F1 F2	0.100	0.04427	F1 F2	mg/Kg		44	70 - 130	38	35
m-Xylene & p-Xylene	<0.00402	U F1 F2	0.200	0.08197	F1 F2	mg/Kg		41	70 - 130	40	35
o-Xylene	<0.00201	U F1	0.100	0.04193	F1	mg/Kg		41	70 - 130	33	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	69	S1-	70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: MB 880-40470/5-A

Matrix: Solid

Analysis Batch: 40541

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 40470

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/28/22 14:18	11/29/22 12:12	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/28/22 14:18	11/29/22 12:12	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/28/22 14:18	11/29/22 12:12	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/28/22 14:18	11/29/22 12:12	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/28/22 14:18	11/29/22 12:12	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/28/22 14:18	11/29/22 12:12	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	72		70 - 130	11/28/22 14:18	11/29/22 12:12	1
1,4-Difluorobenzene (Surr)	109		70 - 130	11/28/22 14:18	11/29/22 12:12	1

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

Lab Sample ID: MB 880-40184/1-A

Matrix: Solid

Analysis Batch: 40168

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 40184

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/22/22 08:19	11/22/22 08:21	1

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## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3493-1  
SDG: 03A1987044

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

Lab Sample ID: MB 880-40184/1-A

Matrix: Solid

Analysis Batch: 40168

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 40184

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/22/22 08:19	11/22/22 08:21	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/22/22 08:19	11/22/22 08:21	1
Surrogate	MB	MB	Limits				Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier							
1-Chlorooctane	112		70 - 130				11/22/22 08:19	11/22/22 08:21	1
o-Terphenyl	107		70 - 130				11/22/22 08:19	11/22/22 08:21	1

Lab Sample ID: LCS 880-40184/2-A

Matrix: Solid

Analysis Batch: 40168

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 40184

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits		
		Result	Qualifier						
Gasoline Range Organics (GRO)-C6-C10	1000	863.4		mg/Kg		86	70 - 130		
Diesel Range Organics (Over C10-C28)	1000	979.4		mg/Kg		98	70 - 130		
Surrogate		LCS	LCS				Limits		
		%Recovery	Qualifier						
1-Chlorooctane		117					70 - 130		
o-Terphenyl		105					70 - 130		

Lab Sample ID: LCSD 880-40184/3-A

Matrix: Solid

Analysis Batch: 40168

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 40184

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
		Result	Qualifier						
Gasoline Range Organics (GRO)-C6-C10	1000	886.1		mg/Kg		89	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	1000	938.8		mg/Kg		94	70 - 130	4	20
Surrogate		LCSD	LCSD				Limits		
		%Recovery	Qualifier						
1-Chlorooctane		98					70 - 130		
o-Terphenyl		102					70 - 130		

Lab Sample ID: 880-21689-A-4-C MS

Matrix: Solid

Analysis Batch: 40168

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 40184

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec Limits		
	Result	Qualifier		Result	Qualifier						
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	998	751.2		mg/Kg		75	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U	998	888.4		mg/Kg		89	70 - 130		
Surrogate	MS	MS	Limits								
	%Recovery	Qualifier									
1-Chlorooctane	104		70 - 130								
o-Terphenyl	82		70 - 130								

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## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3493-1  
SDG: 03A1987044

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

Lab Sample ID: 880-21689-A-4-D MSD

Matrix: Solid

Analysis Batch: 40168

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 40184

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	996	809.0		mg/Kg		81	70 - 130	7	20
Diesel Range Organics (Over C10-C28)	<49.8	U	996	937.4		mg/Kg		94	70 - 130	5	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	112		70 - 130								
o-Terphenyl	86		70 - 130								

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-39832/1-A

Matrix: Solid

Analysis Batch: 40153

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/22/22 01:46	1

Lab Sample ID: LCS 880-39832/2-A

Matrix: Solid

Analysis Batch: 40153

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	245.8		mg/Kg		98	90 - 110

Lab Sample ID: LCSD 880-39832/3-A

Matrix: Solid

Analysis Batch: 40153

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	241.8		mg/Kg		97	90 - 110	2	20

Lab Sample ID: 890-3477-A-3-D MS

Matrix: Solid

Analysis Batch: 40153

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	35.8		253	295.1		mg/Kg		103	90 - 110

Lab Sample ID: 890-3477-A-3-E MSD

Matrix: Solid

Analysis Batch: 40153

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	35.8		253	286.6		mg/Kg		99	90 - 110	3	20

Eurofins Carlsbad

## QC Association Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3493-1  
SDG: 03A1987044

## GC VOA

## Prep Batch: 40432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3493-1	FS03	Total/NA	Solid	5035	
MB 880-40432/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-40432/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-40432/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3493-1 MS	FS03	Total/NA	Solid	5035	
890-3493-1 MSD	FS03	Total/NA	Solid	5035	

## Prep Batch: 40470

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-40470/5-A	Method Blank	Total/NA	Solid	5035	

## Analysis Batch: 40541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3493-1	FS03	Total/NA	Solid	8021B	40432
MB 880-40432/5-A	Method Blank	Total/NA	Solid	8021B	40432
MB 880-40470/5-A	Method Blank	Total/NA	Solid	8021B	40470
LCS 880-40432/1-A	Lab Control Sample	Total/NA	Solid	8021B	40432
LCSD 880-40432/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	40432
890-3493-1 MS	FS03	Total/NA	Solid	8021B	40432
890-3493-1 MSD	FS03	Total/NA	Solid	8021B	40432

## Analysis Batch: 40669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3493-1	FS03	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Analysis Batch: 40168

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3493-1	FS03	Total/NA	Solid	8015B NM	40184
MB 880-40184/1-A	Method Blank	Total/NA	Solid	8015B NM	40184
LCS 880-40184/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	40184
LCSD 880-40184/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	40184
880-21689-A-4-C MS	Matrix Spike	Total/NA	Solid	8015B NM	40184
880-21689-A-4-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	40184

## Prep Batch: 40184

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3493-1	FS03	Total/NA	Solid	8015NM Prep	
MB 880-40184/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-40184/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-40184/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-21689-A-4-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-21689-A-4-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 40297

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3493-1	FS03	Total/NA	Solid	8015 NM	

Eurofins Carlsbad

QC Association Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3493-1  
SDG: 03A1987044

HPLC/IC

Leach Batch: 39832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3493-1	FS03	Soluble	Solid	DI Leach	
MB 880-39832/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-39832/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-39832/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3477-A-3-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3477-A-3-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 40153

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3493-1	FS03	Soluble	Solid	300.0	39832
MB 880-39832/1-A	Method Blank	Soluble	Solid	300.0	39832
LCS 880-39832/2-A	Lab Control Sample	Soluble	Solid	300.0	39832
LCSD 880-39832/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	39832
890-3477-A-3-D MS	Matrix Spike	Soluble	Solid	300.0	39832
890-3477-A-3-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	39832

Lab Chronicle

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3493-1  
SDG: 03A1987044

Client Sample ID: FS03

Date Collected: 11/16/22 13:00

Date Received: 11/16/22 15:31

Lab Sample ID: 890-3493-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	40432	11/28/22 10:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40541	11/30/22 00:19	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			40669	11/30/22 09:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			40297	11/23/22 11:46	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	40184	11/22/22 09:39	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	40168	11/22/22 17:59	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	39832	11/17/22 14:46	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	40153	11/22/22 05:20	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: LVP SWD #001

Job ID: 890-3493-1  
SDG: 03A1987044

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	T104704400-22-24	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

Method Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3493-1  
SDG: 03A1987044

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: LVP SWD #001

Job ID: 890-3493-1  
SDG: 03A1987044

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3493-1	FS03	Solid	11/16/22 13:00	11/16/22 15:31	4'

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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:	Joseph Hernandez	Bill to: (if different)	Jim Raley
Company Name:	Ensolum	Company Name:	WPX
Address:	3122 National Parks HWY	Address:	5315 Buena Vista Dr.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	281-702-2329	Email:	jhermandez@Ensolum.com, jim.raley@dyn.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:	LVP SWD #001	Turn Around		Pres. Code	ANALYSIS REQUEST										Preservative Codes		
Project Number:	03A1987044	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Rush												None: NO	DI Water: H <sub>2</sub> O	
Project Location:	Rural Eddy, NM	Due Date:	5 Day TAT											Cool: Cool	MeOH: Me		
Sampler's Name:	Gilbert Moreno	TAT starts the day received by the lab, if received by 4:30pm										HCL: HC	HNO <sub>3</sub> : HN				
CC #:	9005003893											H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub>	NaOH: Na				
SAMPLE RECEIPT		Temp Blank:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Wet Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No											H <sub>3</sub> PO <sub>4</sub> : HP	
Samples Received Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Thermometer ID:	TMA-207										NaHSO <sub>4</sub> : NABIS				
Cooler Custody Seals:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Correction Factor:	-0.2										Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NASO <sub>3</sub>				
Sample Custody Seals:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Temperature Reading:	2.8										Zn Acetate+NaOH: Zn				
Total Containers:		Corrected Temperature:	2.6										NaOH+Ascorbic Acid: SASC				

[illegible]

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 <sub>2</sub> Na Sr Ti Sn U V Zr
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 Xencro, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xencro 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 Xencro. A minimum charge of \$85.00 will be applied to each project, and a charge of \$5 for each sample submitted to Eurofins Xencro, 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
		11/10/22 1531			

Date: 08/25/2020 Raw 2020

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3493-1

SDG Number: 03A1987044

Login Number: 3493

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	

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3493-1

SDG Number: 03A1987044

Login Number: 3493

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 11/18/22 11:02 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	



Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Devon Team  
Ensolum  
705 W. Wadley  
Suite 210  
Midland, Texas 79701

Generated 11/30/2022 9:49:15 AM

## JOB DESCRIPTION

LVP SWD #001  
SDG NUMBER 03A1987044


## JOB NUMBER

890-3494-1

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  
11/30/2022 9:49:15 AM

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

Client: Ensolum  
Project/Site: LVP SWD #001

Laboratory Job ID: 890-3494-1  
SDG: 03A1987044

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Definitions/Glossary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3494-1  
SDG: 03A1987044

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1-	Surrogate recovery exceeds control limits, low biased.
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: LVP SWD #001

Job ID: 890-3494-1  
SDG: 03A1987044

Job ID: 890-3494-1

Laboratory: Eurofins Carlsbad

Narrative	Job Narrative 890-3494-1
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Receipt

The samples were received on 11/16/2022 3:31 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 2.6°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: FS04 (890-3494-1) and FS05 (890-3494-2).

GC VOA

Method 8021B: Surrogate recovery for the following sample was outside control limits: (890-3493-A-1-E MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-40432 and analytical batch 880-40541 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

GC Semi VOA

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.

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## Client Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3494-1  
SDG: 03A1987044

Client Sample ID: FS04

Lab Sample ID: 890-3494-1

Date Collected: 11/16/22 13:30

Matrix: Solid

Date Received: 11/16/22 15:31

Sample Depth: 5'

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/28/22 10:35	11/30/22 00:39	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/28/22 10:35	11/30/22 00:39	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/28/22 10:35	11/30/22 00:39	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/28/22 10:35	11/30/22 00:39	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/28/22 10:35	11/30/22 00:39	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/28/22 10:35	11/30/22 00:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		70 - 130	11/28/22 10:35	11/30/22 00:39	1
1,4-Difluorobenzene (Surr)	109		70 - 130	11/28/22 10:35	11/30/22 00:39	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/30/22 09:51	1

## Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			11/23/22 11:11	1

## Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		11/22/22 08:14	11/22/22 17:36	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		11/22/22 08:14	11/22/22 17:36	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		11/22/22 08:14	11/22/22 17:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	88		70 - 130	11/22/22 08:14	11/22/22 17:36	1
o-Terphenyl	91		70 - 130	11/22/22 08:14	11/22/22 17:36	1

## Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5920		50.5		mg/Kg			11/22/22 08:57	10

Client Sample ID: FS05

Lab Sample ID: 890-3494-2

Date Collected: 11/16/22 14:00

Matrix: Solid

Date Received: 11/16/22 15:31

Sample Depth: 5'

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/28/22 10:35	11/30/22 01:00	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/28/22 10:35	11/30/22 01:00	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/28/22 10:35	11/30/22 01:00	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/28/22 10:35	11/30/22 01:00	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/28/22 10:35	11/30/22 01:00	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/28/22 10:35	11/30/22 01:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	79		70 - 130	11/28/22 10:35	11/30/22 01:00	1

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## Client Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3494-1  
SDG: 03A1987044

Client Sample ID: FS05

Lab Sample ID: 890-3494-2

Date Collected: 11/16/22 14:00

Matrix: Solid

Date Received: 11/16/22 15:31

Sample Depth: 5'

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	112		70 - 130	11/28/22 10:35	11/30/22 01:00	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/30/22 09:51	1

## Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			11/23/22 11:11	1

## Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/22/22 08:14	11/22/22 17:58	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/22/22 08:14	11/22/22 17:58	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/22/22 08:14	11/22/22 17:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	89		70 - 130				11/22/22 08:14	11/22/22 17:58	1
o-Terphenyl	92		70 - 130				11/22/22 08:14	11/22/22 17:58	1

## Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9270		50.0		mg/Kg			11/22/22 09:02	10

## Surrogate Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3494-1  
SDG: 03A1987044

## 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)
890-3493-A-1-D MS	Matrix Spike	72	104
890-3493-A-1-E MSD	Matrix Spike Duplicate	69 S1-	102
890-3494-1	FS04	85	109
890-3494-2	FS05	79	112
LCS 880-40432/1-A	Lab Control Sample	91	109
LCSD 880-40432/2-A	Lab Control Sample Dup	87	109
MB 880-40432/5-A	Method Blank	73	110
MB 880-40470/5-A	Method Blank	72	109
<b>Surrogate Legend</b>			
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)
820-6532-A-1-E MS	Matrix Spike	108	98
820-6532-A-1-F MSD	Matrix Spike Duplicate	112	101
890-3494-1	FS04	88	91
890-3494-2	FS05	89	92
LCS 880-40176/2-A	Lab Control Sample	78	79
LCSD 880-40176/3-A	Lab Control Sample Dup	81	80
MB 880-40176/1-A	Method Blank	121	127
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3494-1  
SDG: 03A1987044

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

Lab Sample ID: MB 880-40432/5-A

Matrix: Solid

Analysis Batch: 40541

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 40432

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/28/22 10:35	11/29/22 23:50	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/28/22 10:35	11/29/22 23:50	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/28/22 10:35	11/29/22 23:50	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/28/22 10:35	11/29/22 23:50	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/28/22 10:35	11/29/22 23:50	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/28/22 10:35	11/29/22 23:50	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	73		70 - 130	11/28/22 10:35	11/29/22 23:50	1
1,4-Difluorobenzene (Surr)	110		70 - 130	11/28/22 10:35	11/29/22 23:50	1

Lab Sample ID: LCS 880-40432/1-A

Matrix: Solid

Analysis Batch: 40541

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 40432

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09748		mg/Kg		97	70 - 130
Toluene	0.100	0.1040		mg/Kg		104	70 - 130
Ethylbenzene	0.100	0.09734		mg/Kg		97	70 - 130
m-Xylene & p-Xylene	0.200	0.1695		mg/Kg		85	70 - 130
o-Xylene	0.100	0.08489		mg/Kg		85	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	91		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: LCSD 880-40432/2-A

Matrix: Solid

Analysis Batch: 40541

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 40432

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1091		mg/Kg		109	70 - 130	11	35
Toluene	0.100	0.1113		mg/Kg		111	70 - 130	7	35
Ethylbenzene	0.100	0.1029		mg/Kg		103	70 - 130	6	35
m-Xylene & p-Xylene	0.200	0.1785		mg/Kg		89	70 - 130	5	35
o-Xylene	0.100	0.08844		mg/Kg		88	70 - 130	4	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	87		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: 890-3493-A-1-D MS

Matrix: Solid

Analysis Batch: 40541

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 40432

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U F1 F2	0.0996	0.02627	F1	mg/Kg		26	70 - 130
Toluene	<0.00201	U F1 F2	0.0996	0.02749	F1	mg/Kg		28	70 - 130

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## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3494-1  
SDG: 03A1987044

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

Lab Sample ID: 890-3493-A-1-D MS

Matrix: Solid

Analysis Batch: 40541

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 40432

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U F1 F2	0.0996	0.03012	F1	mg/Kg		30	70 - 130
m-Xylene & p-Xylene	<0.00402	U F1 F2	0.199	0.05464	F1	mg/Kg		27	70 - 130
o-Xylene	<0.00201	U F1	0.0996	0.03019	F1	mg/Kg		30	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	72		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: 890-3493-A-1-E MSD

Matrix: Solid

Analysis Batch: 40541

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 40432

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F1 F2	0.100	0.04789	F1 F2	mg/Kg		48	70 - 130	58	35
Toluene	<0.00201	U F1 F2	0.100	0.04517	F1 F2	mg/Kg		45	70 - 130	49	35
Ethylbenzene	<0.00201	U F1 F2	0.100	0.04427	F1 F2	mg/Kg		44	70 - 130	38	35
m-Xylene & p-Xylene	<0.00402	U F1 F2	0.200	0.08197	F1 F2	mg/Kg		41	70 - 130	40	35
o-Xylene	<0.00201	U F1	0.100	0.04193	F1	mg/Kg		41	70 - 130	33	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	69	S1-	70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: MB 880-40470/5-A

Matrix: Solid

Analysis Batch: 40541

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 40470

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/28/22 14:18	11/29/22 12:12	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/28/22 14:18	11/29/22 12:12	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/28/22 14:18	11/29/22 12:12	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/28/22 14:18	11/29/22 12:12	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/28/22 14:18	11/29/22 12:12	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/28/22 14:18	11/29/22 12:12	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	72		70 - 130	11/28/22 14:18	11/29/22 12:12	1
1,4-Difluorobenzene (Surr)	109		70 - 130	11/28/22 14:18	11/29/22 12:12	1

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

Lab Sample ID: MB 880-40176/1-A

Matrix: Solid

Analysis Batch: 40164

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 40176

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/22/22 08:14	11/22/22 08:39	1

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## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3494-1  
SDG: 03A1987044

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

Lab Sample ID: MB 880-40176/1-A

Matrix: Solid

Analysis Batch: 40164

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 40176

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/22/22 08:14	11/22/22 08:39	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/22/22 08:14	11/22/22 08:39	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	121		70 - 130				11/22/22 08:14	11/22/22 08:39	1
o-Terphenyl	127		70 - 130				11/22/22 08:14	11/22/22 08:39	1

Lab Sample ID: LCS 880-40176/2-A

Matrix: Solid

Analysis Batch: 40164

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 40176

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	1000	968.9		mg/Kg		97	70 - 130		
Diesel Range Organics (Over C10-C28)	1000	773.9		mg/Kg		77	70 - 130		
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
1-Chlorooctane	78		70 - 130						
o-Terphenyl	79		70 - 130						

Lab Sample ID: LCSD 880-40176/3-A

Matrix: Solid

Analysis Batch: 40164

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 40176

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1000		mg/Kg		100	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	1000	785.6		mg/Kg		79	70 - 130	2	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	81		70 - 130						
o-Terphenyl	80		70 - 130						

Lab Sample ID: 820-6532-A-1-E MS

Matrix: Solid

Analysis Batch: 40164

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 40176

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	951.4		mg/Kg		93	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	998	787.3		mg/Kg		79	70 - 130		
Surrogate	MS %Recovery	MS Qualifier	Limits								
1-Chlorooctane	108		70 - 130								
o-Terphenyl	98		70 - 130								

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## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3494-1  
SDG: 03A1987044

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

Lab Sample ID: 820-6532-A-1-F MSD

Matrix: Solid

Analysis Batch: 40164

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 40176

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	997	991.1		mg/Kg		97	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	<49.9	U	997	815.9		mg/Kg		82	70 - 130	4	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	112		70 - 130								
o-Terphenyl	101		70 - 130								

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-39707/1-A

Matrix: Solid

Analysis Batch: 40151

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/22/22 06:28	1

Lab Sample ID: LCS 880-39707/2-A

Matrix: Solid

Analysis Batch: 40151

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	256.7		mg/Kg		103	90 - 110

Lab Sample ID: LCSD 880-39707/3-A

Matrix: Solid

Analysis Batch: 40151

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	257.3		mg/Kg		103	90 - 110	0	20

Lab Sample ID: 880-21560-A-11-E MS

Matrix: Solid

Analysis Batch: 40151

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	71.5		250	322.0		mg/Kg		100	90 - 110

Lab Sample ID: 880-21560-A-11-F MSD

Matrix: Solid

Analysis Batch: 40151

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	71.5		250	323.2		mg/Kg		101	90 - 110	0	20

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## QC Association Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3494-1  
SDG: 03A1987044

## GC VOA

## Prep Batch: 40432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3494-1	FS04	Total/NA	Solid	5035	
890-3494-2	FS05	Total/NA	Solid	5035	
MB 880-40432/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-40432/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-40432/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3493-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
890-3493-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Prep Batch: 40470

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-40470/5-A	Method Blank	Total/NA	Solid	5035	

## Analysis Batch: 40541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3494-1	FS04	Total/NA	Solid	8021B	40432
890-3494-2	FS05	Total/NA	Solid	8021B	40432
MB 880-40432/5-A	Method Blank	Total/NA	Solid	8021B	40432
MB 880-40470/5-A	Method Blank	Total/NA	Solid	8021B	40470
LCS 880-40432/1-A	Lab Control Sample	Total/NA	Solid	8021B	40432
LCSD 880-40432/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	40432
890-3493-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	40432
890-3493-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	40432

## Analysis Batch: 40670

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3494-1	FS04	Total/NA	Solid	Total BTEX	
890-3494-2	FS05	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Analysis Batch: 40164

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3494-1	FS04	Total/NA	Solid	8015B NM	40176
890-3494-2	FS05	Total/NA	Solid	8015B NM	40176
MB 880-40176/1-A	Method Blank	Total/NA	Solid	8015B NM	40176
LCS 880-40176/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	40176
LCSD 880-40176/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	40176
820-6532-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	40176
820-6532-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	40176

## Prep Batch: 40176

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3494-1	FS04	Total/NA	Solid	8015NM Prep	
890-3494-2	FS05	Total/NA	Solid	8015NM Prep	
MB 880-40176/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-40176/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-40176/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
820-6532-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
820-6532-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

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QC Association Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3494-1  
SDG: 03A1987044

GC Semi VOA

Analysis Batch: 40288

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3494-1	FS04	Total/NA	Solid	8015 NM	
890-3494-2	FS05	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 39707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3494-1	FS04	Soluble	Solid	DI Leach	
890-3494-2	FS05	Soluble	Solid	DI Leach	
MB 880-39707/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-39707/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-39707/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-21560-A-11-E MS	Matrix Spike	Soluble	Solid	DI Leach	
880-21560-A-11-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 40151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3494-1	FS04	Soluble	Solid	300.0	39707
890-3494-2	FS05	Soluble	Solid	300.0	39707
MB 880-39707/1-A	Method Blank	Soluble	Solid	300.0	39707
LCS 880-39707/2-A	Lab Control Sample	Soluble	Solid	300.0	39707
LCSD 880-39707/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	39707
880-21560-A-11-E MS	Matrix Spike	Soluble	Solid	300.0	39707
880-21560-A-11-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	39707

Lab Chronicle

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3494-1  
SDG: 03A1987044

Client Sample ID: FS04  
Date Collected: 11/16/22 13:30  
Date Received: 11/16/22 15:31

Lab Sample ID: 890-3494-1  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	40432	11/28/22 10:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40541	11/30/22 00:39	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			40670	11/30/22 09:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			40288	11/23/22 11:11	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	40176	11/22/22 08:14	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	40164	11/22/22 17:36	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	39707	11/21/22 10:44	KS	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	40151	11/22/22 08:57	SMC	EET MID

Client Sample ID: FS05  
Date Collected: 11/16/22 14:00  
Date Received: 11/16/22 15:31

Lab Sample ID: 890-3494-2  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	40432	11/28/22 10:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40541	11/30/22 01:00	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			40670	11/30/22 09:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			40288	11/23/22 11:11	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	40176	11/22/22 08:14	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	40164	11/22/22 17:58	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	39707	11/21/22 10:44	KS	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	40151	11/22/22 09:02	SMC	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: LVP SWD #001

Job ID: 890-3494-1  
SDG: 03A1987044

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	T104704400-22-24	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
- 2
- 3
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- 11
- 12
- 13
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Method Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3494-1  
SDG: 03A1987044

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: LVP SWD #001

Job ID: 890-3494-1  
SDG: 03A1987044

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3494-1	FS04	Solid	11/16/22 13:30	11/16/22 15:31	5'
890-3494-2	FS05	Solid	11/16/22 14:00	11/16/22 15:31	5'

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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: \_\_\_\_\_

www.xenco.com Page \_\_\_\_\_ of \_\_\_\_\_

Project Manager:	Joseph Hernandez	Bill to: (if different)	Jim Raley
Company Name:	Ensolum	Company Name:	WPX
Address:	3122 National Parks HWY	Address:	5315 Buena Vista Dr.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	281-702-2329	Email:	jhernandez@Ensolum.com, jim.ralej@dvn.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:	LVP SWD #001	Turn Around	Pres. Code	ANALYSIS REQUEST		Preservative Codes
Project Number:	03A1987044	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush				None: NO DI Water: H <sub>2</sub> O
Project Location:	Rural Eddy, NM	Due Date:	5 Day TAT			Cool: Cool MeOH: Me
Sampler's Name:	Gilbert Moreno	TAT starts the day received by the lab, if received by 4:30pm				HCL: HC HNO <sub>3</sub> : HN
CC #:	9005003893					H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub> NaOH: Na
SAMPLE RECEIPT		Temp Blank:	Yes No	Wet Ice:	Yes No	H <sub>3</sub> PO <sub>4</sub> : HP
Samples Received Intact:	Yes No	Thermometer ID:				NaHSO <sub>4</sub> : NABIS
Cooler Custody Seals:	Yes No N/A	Correction Factor:				Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub>
Sample Custody Seals:	Yes No	Temperature Reading:				Zn Acetate+NaOH: Zn
Total Containers:		Corrected Temperature:				NaOH+Ascorbic Acid: SACP

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
FS04	S	11.16.22	13:00	5'	Comp	1	X	X	X	
FS05	S	11.16.22	14:00	5'	Comp	1	X	X	X	Incident ID nAPFP2135033453

Total 200.7 / 6010 200.8 / 6020:		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 <sub>2</sub> 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			
Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	11/16/22 1534			

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3494-1

SDG Number: 03A1987044

Login Number: 3494

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	

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3494-1

SDG Number: 03A1987044

Login Number: 3494

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 11/18/22 11:02 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	



Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Devon Team  
Ensolum  
705 W. Wadley  
Suite 210  
Midland, Texas 79701

Generated 11/30/2022 1:38:00 PM

## JOB DESCRIPTION

LVP SWD #001  
SDG NUMBER 03A1987044

## JOB NUMBER

890-3538-1

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  
11/30/2022 1:38:00 PM

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

Client: Ensolum  
Project/Site: LVP SWD #001

Laboratory Job ID: 890-3538-1  
SDG: 03A1987044

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Definitions/Glossary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3538-1  
SDG: 03A1987044

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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



Case Narrative

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3538-1  
SDG: 03A1987044

Job ID: 890-3538-1

Laboratory: Eurofins Carlsbad

Narrative	
Job Narrative 890-3538-1	

Receipt

The samples were received on 11/18/2022 2:45 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 3.0°C

GC VOA

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

GC Semi VOA

Method 8015MOD\_NM: The surrogate recovery for the blank associated with preparation batch 880-40275 and analytical batch 880-40262 was outside the upper control limits.

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-40275/2-A) and (LCSD 880-40275/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: FS10 (890-3538-1), FS11 (890-3538-2), FS12 (890-3538-3), (890-3540-A-1-B), (890-3540-A-1-C MS) and (890-3540-A-1-D MSD). 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.

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## Client Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3538-1  
SDG: 03A1987044

Client Sample ID: FS10

Lab Sample ID: 890-3538-1

Date Collected: 11/18/22 12:00

Matrix: Solid

Date Received: 11/18/22 14:45

Sample Depth: 4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/28/22 14:35	11/29/22 16:33	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/28/22 14:35	11/29/22 16:33	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/28/22 14:35	11/29/22 16:33	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/28/22 14:35	11/29/22 16:33	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/28/22 14:35	11/29/22 16:33	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/28/22 14:35	11/29/22 16:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		70 - 130	11/28/22 14:35	11/29/22 16:33	1
1,4-Difluorobenzene (Surr)	90		70 - 130	11/28/22 14:35	11/29/22 16:33	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/29/22 17:14	1

## Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			11/28/22 11:40	1

## Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		11/23/22 09:52	11/23/22 14:11	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		11/23/22 09:52	11/23/22 14:11	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/23/22 09:52	11/23/22 14:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	107		70 - 130	11/23/22 09:52	11/23/22 14:11	1
o-Terphenyl	135	S1+	70 - 130	11/23/22 09:52	11/23/22 14:11	1

## Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	893		5.00		mg/Kg			11/24/22 01:27	1

Client Sample ID: FS11

Lab Sample ID: 890-3538-2

Date Collected: 11/18/22 12:10

Matrix: Solid

Date Received: 11/18/22 14:45

Sample Depth: 4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/28/22 14:35	11/29/22 16:54	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/28/22 14:35	11/29/22 16:54	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/28/22 14:35	11/29/22 16:54	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		11/28/22 14:35	11/29/22 16:54	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/28/22 14:35	11/29/22 16:54	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		11/28/22 14:35	11/29/22 16:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130	11/28/22 14:35	11/29/22 16:54	1

Eurofins Carlsbad

## Client Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3538-1  
SDG: 03A1987044

Client Sample ID: FS11

Lab Sample ID: 890-3538-2

Date Collected: 11/18/22 12:10

Matrix: Solid

Date Received: 11/18/22 14:45

Sample Depth: 4

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	105		70 - 130	11/28/22 14:35	11/29/22 16:54	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			11/29/22 17:14	1

## Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			11/28/22 11:40	1

## Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/23/22 09:52	11/23/22 14:33	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/23/22 09:52	11/23/22 14:33	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/23/22 09:52	11/23/22 14:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	121		70 - 130				11/23/22 09:52	11/23/22 14:33	1
o-Terphenyl	144	S1+	70 - 130				11/23/22 09:52	11/23/22 14:33	1

## Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2370		24.9		mg/Kg			11/24/22 01:33	5

Client Sample ID: FS12

Lab Sample ID: 890-3538-3

Date Collected: 11/18/22 12:20

Matrix: Solid

Date Received: 11/18/22 14:45

Sample Depth: 4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		11/28/22 14:35	11/29/22 17:14	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/28/22 14:35	11/29/22 17:14	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/28/22 14:35	11/29/22 17:14	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/28/22 14:35	11/29/22 17:14	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/28/22 14:35	11/29/22 17:14	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/28/22 14:35	11/29/22 17:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	11/28/22 14:35	11/29/22 17:14	1
1,4-Difluorobenzene (Surr)	106		70 - 130	11/28/22 14:35	11/29/22 17:14	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			11/30/22 10:54	1

## Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			11/28/22 11:40	1

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Client Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3538-1  
SDG: 03A1987044

Client Sample ID: FS12  
Date Collected: 11/18/22 12:20  
Date Received: 11/18/22 14:45  
Sample Depth: 4

Lab Sample ID: 890-3538-3  
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		11/23/22 09:52	11/23/22 14:55	1	
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		11/23/22 09:52	11/23/22 14:55	1	
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/23/22 09:52	11/23/22 14:55	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
1-Chlorooctane	107		70 - 130				11/23/22 09:52	11/23/22 14:55	1	
o-Terphenyl	135	S1+	70 - 130				11/23/22 09:52	11/23/22 14:55	1	

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	11900		99.2		mg/Kg			11/24/22 01:40	20	

Surrogate Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3538-1  
SDG: 03A1987044

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)
890-3537-A-1-C MS	Matrix Spike	97	118
890-3537-A-1-D MSD	Matrix Spike Duplicate	93	114
890-3538-1	FS10	91	90
890-3538-2	FS11	111	105
890-3538-3	FS12	101	106
LCS 880-40471/1-A	Lab Control Sample	106	109
LCSD 880-40471/2-A	Lab Control Sample Dup	93	113
MB 880-40471/5-A	Method Blank	82	104
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)
890-3538-1	FS10	107	135 S1+
890-3538-2	FS11	121	144 S1+
890-3538-3	FS12	107	135 S1+
890-3540-A-1-C MS	Matrix Spike	138 S1+	151 S1+
890-3540-A-1-D MSD	Matrix Spike Duplicate	119	140 S1+
LCS 880-40275/2-A	Lab Control Sample	206 S1+	246 S1+
LCSD 880-40275/3-A	Lab Control Sample Dup	208 S1+	244 S1+
MB 880-40275/1-A	Method Blank	129	160 S1+
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3538-1  
SDG: 03A1987044

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

Lab Sample ID: MB 880-40471/5-A

Matrix: Solid

Analysis Batch: 40540

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 40471

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/28/22 14:35	11/29/22 10:48	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/28/22 14:35	11/29/22 10:48	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/28/22 14:35	11/29/22 10:48	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/28/22 14:35	11/29/22 10:48	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/28/22 14:35	11/29/22 10:48	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/28/22 14:35	11/29/22 10:48	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	82		70 - 130	11/28/22 14:35	11/29/22 10:48	1
1,4-Difluorobenzene (Surr)	104		70 - 130	11/28/22 14:35	11/29/22 10:48	1

Lab Sample ID: LCS 880-40471/1-A

Matrix: Solid

Analysis Batch: 40540

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 40471

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1088		mg/Kg		109	70 - 130
Toluene	0.100	0.1011		mg/Kg		101	70 - 130
Ethylbenzene	0.100	0.1035		mg/Kg		103	70 - 130
m-Xylene & p-Xylene	0.200	0.2150		mg/Kg		108	70 - 130
o-Xylene	0.100	0.1054		mg/Kg		105	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: LCSD 880-40471/2-A

Matrix: Solid

Analysis Batch: 40540

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 40471

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1068		mg/Kg		107	70 - 130	2	35
Toluene	0.100	0.09285		mg/Kg		93	70 - 130	8	35
Ethylbenzene	0.100	0.08914		mg/Kg		89	70 - 130	15	35
m-Xylene & p-Xylene	0.200	0.1804		mg/Kg		90	70 - 130	18	35
o-Xylene	0.100	0.08869		mg/Kg		89	70 - 130	17	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	93		70 - 130
1,4-Difluorobenzene (Surr)	113		70 - 130

Lab Sample ID: 890-3537-A-1-C MS

Matrix: Solid

Analysis Batch: 40540

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 40471

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U	0.0996	0.1093		mg/Kg		110	70 - 130
Toluene	<0.00201	U	0.0996	0.09247		mg/Kg		93	70 - 130

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## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3538-1  
SDG: 03A1987044

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

Lab Sample ID: 890-3537-A-1-C MS

Matrix: Solid

Analysis Batch: 40540

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 40471

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.0996	0.08852		mg/Kg		89	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.199	0.1775		mg/Kg		89	70 - 130
o-Xylene	<0.00201	U	0.0996	0.08683		mg/Kg		87	70 - 130
Surrogate	%Recovery	MS Qualifier	MS Limits						
4-Bromofluorobenzene (Surr)	97		70 - 130						
1,4-Difluorobenzene (Surr)	118		70 - 130						

Lab Sample ID: 890-3537-A-1-D MSD

Matrix: Solid

Analysis Batch: 40540

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 40471

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0994	0.09554		mg/Kg		96	70 - 130	13	35
Toluene	<0.00201	U	0.0994	0.08081		mg/Kg		81	70 - 130	13	35
Ethylbenzene	<0.00201	U	0.0994	0.07589		mg/Kg		76	70 - 130	15	35
m-Xylene & p-Xylene	<0.00402	U	0.199	0.1519		mg/Kg		76	70 - 130	16	35
o-Xylene	<0.00201	U	0.0994	0.07410		mg/Kg		75	70 - 130	16	35
Surrogate	%Recovery	MSD Qualifier	MSD Limits								
4-Bromofluorobenzene (Surr)	93		70 - 130								
1,4-Difluorobenzene (Surr)	114		70 - 130								

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

Lab Sample ID: MB 880-40275/1-A

Matrix: Solid

Analysis Batch: 40262

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 40275

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/23/22 08:32	11/23/22 08:39	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/23/22 08:32	11/23/22 08:39	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/23/22 08:32	11/23/22 08:39	1
Surrogate	%Recovery	MB Qualifier	MB Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	129		70 - 130				11/23/22 08:32	11/23/22 08:39	1
o-Terphenyl	160	S1+	70 - 130				11/23/22 08:32	11/23/22 08:39	1

Lab Sample ID: LCS 880-40275/2-A

Matrix: Solid

Analysis Batch: 40262

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 40275

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1024		mg/Kg		102	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1217		mg/Kg		122	70 - 130

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## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3538-1  
SDG: 03A1987044

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

Lab Sample ID: LCS 880-40275/2-A

Matrix: Solid

Analysis Batch: 40262

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 40275

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	206	S1+	70 - 130
o-Terphenyl	246	S1+	70 - 130

Lab Sample ID: LCSD 880-40275/3-A

Matrix: Solid

Analysis Batch: 40262

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 40275

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	998.9		mg/Kg		100	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	1000	1210		mg/Kg		121	70 - 130	1	20
Surrogate	%Recovery	Qualifier	Limits						
1-Chlorooctane	208	S1+	70 - 130						
o-Terphenyl	244	S1+	70 - 130						

Lab Sample ID: 890-3540-A-1-C MS

Matrix: Solid

Analysis Batch: 40262

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 40275

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	1063		mg/Kg		107	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	997	1225		mg/Kg		121	70 - 130		
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	138	S1+	70 - 130								
o-Terphenyl	151	S1+	70 - 130								

Lab Sample ID: 890-3540-A-1-D MSD

Matrix: Solid

Analysis Batch: 40262

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 40275

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	999	901.4		mg/Kg		90	70 - 130	16	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	1116		mg/Kg		110	70 - 130	9	20
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	119		70 - 130								
o-Terphenyl	140	S1+	70 - 130								

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## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3538-1  
SDG: 03A1987044

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-40011/1-A

Matrix: Solid

Analysis Batch: 40326

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/23/22 22:20	1

Lab Sample ID: LCS 880-40011/2-A

Matrix: Solid

Analysis Batch: 40326

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	257.4		mg/Kg		103	90 - 110

Lab Sample ID: LCSD 880-40011/3-A

Matrix: Solid

Analysis Batch: 40326

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	257.7		mg/Kg		103	90 - 110	0	20

Lab Sample ID: 890-3533-A-5-B MS

Matrix: Solid

Analysis Batch: 40326

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	58.7		252	316.2		mg/Kg		102	90 - 110

Lab Sample ID: 890-3533-A-5-C MSD

Matrix: Solid

Analysis Batch: 40326

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	58.7		252	316.9		mg/Kg		103	90 - 110	0	20

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## QC Association Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3538-1  
SDG: 03A1987044

## GC VOA

## Prep Batch: 40471

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3538-1	FS10	Total/NA	Solid	5035	
890-3538-2	FS11	Total/NA	Solid	5035	
890-3538-3	FS12	Total/NA	Solid	5035	
MB 880-40471/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-40471/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-40471/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3537-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-3537-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 40540

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3538-1	FS10	Total/NA	Solid	8021B	40471
890-3538-2	FS11	Total/NA	Solid	8021B	40471
890-3538-3	FS12	Total/NA	Solid	8021B	40471
MB 880-40471/5-A	Method Blank	Total/NA	Solid	8021B	40471
LCS 880-40471/1-A	Lab Control Sample	Total/NA	Solid	8021B	40471
LCSD 880-40471/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	40471
890-3537-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	40471
890-3537-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	40471

## Analysis Batch: 40645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3538-1	FS10	Total/NA	Solid	Total BTEX	
890-3538-2	FS11	Total/NA	Solid	Total BTEX	
890-3538-3	FS12	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Analysis Batch: 40262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3538-1	FS10	Total/NA	Solid	8015B NM	40275
890-3538-2	FS11	Total/NA	Solid	8015B NM	40275
890-3538-3	FS12	Total/NA	Solid	8015B NM	40275
MB 880-40275/1-A	Method Blank	Total/NA	Solid	8015B NM	40275
LCS 880-40275/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	40275
LCSD 880-40275/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	40275
890-3540-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	40275
890-3540-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	40275

## Prep Batch: 40275

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3538-1	FS10	Total/NA	Solid	8015NM Prep	
890-3538-2	FS11	Total/NA	Solid	8015NM Prep	
890-3538-3	FS12	Total/NA	Solid	8015NM Prep	
MB 880-40275/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-40275/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-40275/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3540-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3540-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

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QC Association Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3538-1  
SDG: 03A1987044

GC Semi VOA

Analysis Batch: 40442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3538-1	FS10	Total/NA	Solid	8015 NM	
890-3538-2	FS11	Total/NA	Solid	8015 NM	
890-3538-3	FS12	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 40011

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3538-1	FS10	Soluble	Solid	DI Leach	
890-3538-2	FS11	Soluble	Solid	DI Leach	
890-3538-3	FS12	Soluble	Solid	DI Leach	
MB 880-40011/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-40011/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-40011/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3533-A-5-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3533-A-5-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 40326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3538-1	FS10	Soluble	Solid	300.0	40011
890-3538-2	FS11	Soluble	Solid	300.0	40011
890-3538-3	FS12	Soluble	Solid	300.0	40011
MB 880-40011/1-A	Method Blank	Soluble	Solid	300.0	40011
LCS 880-40011/2-A	Lab Control Sample	Soluble	Solid	300.0	40011
LCSD 880-40011/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	40011
890-3533-A-5-B MS	Matrix Spike	Soluble	Solid	300.0	40011
890-3533-A-5-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	40011

## Lab Chronicle

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3538-1  
SDG: 03A1987044

Client Sample ID: FS10

Lab Sample ID: 890-3538-1

Date Collected: 11/18/22 12:00

Matrix: Solid

Date Received: 11/18/22 14:45

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	40471	11/28/22 14:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40540	11/29/22 16:33	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			40645	11/29/22 17:14	SM	EET MID
Total/NA	Analysis	8015 NM		1			40442	11/28/22 11:40	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	40275	11/23/22 09:52	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	40262	11/23/22 14:11	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	40011	11/20/22 12:23	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	40326	11/24/22 01:27	CH	EET MID

Client Sample ID: FS11

Lab Sample ID: 890-3538-2

Date Collected: 11/18/22 12:10

Matrix: Solid

Date Received: 11/18/22 14:45

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	40471	11/28/22 14:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40540	11/29/22 16:54	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			40645	11/29/22 17:14	SM	EET MID
Total/NA	Analysis	8015 NM		1			40442	11/28/22 11:40	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	40275	11/23/22 09:52	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	40262	11/23/22 14:33	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	40011	11/20/22 12:23	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	40326	11/24/22 01:33	CH	EET MID

Client Sample ID: FS12

Lab Sample ID: 890-3538-3

Date Collected: 11/18/22 12:20

Matrix: Solid

Date Received: 11/18/22 14:45

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	40471	11/28/22 14:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40540	11/29/22 17:14	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			40645	11/30/22 10:54	SM	EET MID
Total/NA	Analysis	8015 NM		1			40442	11/28/22 11:40	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	40275	11/23/22 09:52	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	40262	11/23/22 14:55	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	40011	11/20/22 12:23	CH	EET MID
Soluble	Analysis	300.0		20	50 mL	50 mL	40326	11/24/22 01:40	CH	EET MID

## Laboratory References:

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

Eurofins Carlsbad

Accreditation/Certification Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3538-1  
SDG: 03A1987044

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	T104704400-22-24	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

Method Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3538-1  
SDG: 03A1987044

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: LVP SWD #001

Job ID: 890-3538-1  
SDG: 03A1987044

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3538-1	FS10	Solid	11/18/22 12:00	11/18/22 14:45	4
890-3538-2	FS11	Solid	11/18/22 12:10	11/18/22 14:45	4
890-3538-3	FS12	Solid	11/18/22 12:20	11/18/22 14:45	4

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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: \_\_\_\_\_

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Project Manager:	Joseph Hernandez	Bill to: (if different)	Jim Raley
Company Name:	Ensolum	Company Name:	WPX
Address:	3122 National Parks HWY	Address:	5315 Buena Vista Dr.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	281-702-2329	Email:	jhernandez@Ensolum.com, jim.raley@dvn.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:	LVP SWD #001	Turn Around	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	Pres. Code	
Project Number:	03A1987044	Due Date:	5 Day TAT		
Project Location:	Rural Eddy, NM	TAT starts the day received by the lab, if received by 4:30pm			
Sampler's Name:	Gilbert Moreno				
CC #:	9005003893				
SAMPLE RECEIPT	Temp Blank: <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Wet Ice: <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Samples Received Intact:	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Thermometer ID:	TN-007		
Cooler Custody Seals:	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Correction Factor:	-0.3		
Sample Custody Seals:	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Temperature Reading:	3.2		
Total Containers:		Corrected Temperature:	3.0		



890-3538 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	ANALYSIS REQUEST															
							Parameters															
							CHLORIDES (EPA: 300.0)															
							TPH (8015)															
							BTEX (8021)															
FS10	S	11.18.22	12:00	4'	Comp	1	X	X	X													
FS11	S	11.18.22	12:10	4'	Comp	1	X	X	X													
FS12	S	11.18.22	12:20	4'	Comp	1	X	X	X													
							Incident ID															
							nAPP2135033453															

*Confirms*  
11.18.22

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<sub>2</sub> 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>	11/18/22 14:40			



## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3538-1

SDG Number: 03A1987044

Login Number: 3538

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	

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3538-1

SDG Number: 03A1987044

Login Number: 3538

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 11/22/22 11:47 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	



Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Devon Team

Ensolum

601 N. Marienfeld St.

Suite 400

Midland, Texas 79701

Generated 12/1/2022 12:54:07 PM

## JOB DESCRIPTION

LVP SWD #001

SDG NUMBER Rural Eddy NM

## JOB NUMBER

890-3545-1

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  
12/1/2022 12:54:07 PM

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

Client: Ensolum  
Project/Site: LVP SWD #001

Laboratory Job ID: 890-3545-1  
SDG: Rural Eddy NM

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Definitions/Glossary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3545-1  
SDG: Rural Eddy NM

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
S1-	Surrogate recovery exceeds control limits, 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
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: LVP SWD #001

Job ID: 890-3545-1  
SDG: Rural Eddy NM

**Job ID: 890-3545-1**

**Laboratory: Eurofins Carlsbad**

### Narrative

#### Job Narrative 890-3545-1

#### Receipt

The sample was received on 11/22/2022 12:58 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.0°C

#### Receipt Exceptions

The following sample was received and analyzed from an unpreserved bulk soil jar: PH01 (890-3545-1).

#### GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-40588 and analytical batch 880-40656 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

#### GC Semi VOA

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-40686/5), (LCS 880-40653/2-A) and (LCSD 880-40653/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD\_NM: Surrogate recovery for the following sample was outside control limits: (890-3559-A-23-F). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD\_NM: The surrogate recovery for the blank associated with preparation batch 880-40653 and analytical batch 880-40686 was outside the upper control limits.

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

#### HPLC/IC

Method 300\_ORGFM\_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-40386 and analytical batch 880-40550 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. The associated sample is: PH01 (890-3545-1).

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: LVP SWD #001

Job ID: 890-3545-1  
SDG: Rural Eddy NM

Client Sample ID: PH01

Lab Sample ID: 890-3545-1

Date Collected: 11/22/22 12:00

Matrix: Solid

Date Received: 11/22/22 12:58

Sample Depth: 11'

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/29/22 10:58	11/30/22 18:59	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/29/22 10:58	11/30/22 18:59	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/29/22 10:58	11/30/22 18:59	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/29/22 10:58	11/30/22 18:59	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/29/22 10:58	11/30/22 18:59	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/29/22 10:58	11/30/22 18:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130	11/29/22 10:58	11/30/22 18:59	1
1,4-Difluorobenzene (Surr)	108		70 - 130	11/29/22 10:58	11/30/22 18:59	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			12/01/22 12:55	1

## Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			12/01/22 12:06	1

## Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		11/30/22 08:30	11/30/22 21:49	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		11/30/22 08:30	11/30/22 21:49	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/30/22 08:30	11/30/22 21:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	8	S1-	70 - 130	11/30/22 08:30	11/30/22 21:49	1
o-Terphenyl	0.9	S1-	70 - 130	11/30/22 08:30	11/30/22 21:49	1

## Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	48.8		4.98		mg/Kg			11/29/22 10:32	1

Eurofins Carlsbad



Surrogate Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3545-1  
SDG: Rural Eddy 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)
880-21976-A-1-E MS	Matrix Spike	99	116
880-21976-A-1-F MSD	Matrix Spike Duplicate	102	120
890-3545-1	PH01	97	108
LCS 880-40588/1-A	Lab Control Sample	88	115
LCSD 880-40588/2-A	Lab Control Sample Dup	92	117
MB 880-40588/5-A	Method Blank	84	101
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)
890-3545-1	PH01	8 S1-	0.9 S1-
890-3559-A-23-G MS	Matrix Spike	121	123
890-3559-A-23-H MSD	Matrix Spike Duplicate	124	126
LCS 880-40653/2-A	Lab Control Sample	183 S1+	217 S1+
LCSD 880-40653/3-A	Lab Control Sample Dup	170 S1+	200 S1+
MB 880-40653/1-A	Method Blank	116	145 S1+
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3545-1  
SDG: Rural Eddy NM

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

Lab Sample ID: MB 880-40588/5-A

Matrix: Solid

Analysis Batch: 40656

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 40588

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/29/22 10:58	11/30/22 11:46	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/29/22 10:58	11/30/22 11:46	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/29/22 10:58	11/30/22 11:46	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/29/22 10:58	11/30/22 11:46	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/29/22 10:58	11/30/22 11:46	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/29/22 10:58	11/30/22 11:46	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		70 - 130	11/29/22 10:58	11/30/22 11:46	1
1,4-Difluorobenzene (Surr)	101		70 - 130	11/29/22 10:58	11/30/22 11:46	1

Lab Sample ID: LCS 880-40588/1-A

Matrix: Solid

Analysis Batch: 40656

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 40588

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1178		mg/Kg		118	70 - 130
Toluene	0.100	0.09961		mg/Kg		100	70 - 130
Ethylbenzene	0.100	0.09377		mg/Kg		94	70 - 130
m-Xylene & p-Xylene	0.200	0.1903		mg/Kg		95	70 - 130
o-Xylene	0.100	0.09180		mg/Kg		92	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	88		70 - 130
1,4-Difluorobenzene (Surr)	115		70 - 130

Lab Sample ID: LCSD 880-40588/2-A

Matrix: Solid

Analysis Batch: 40656

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 40588

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1187		mg/Kg		119	70 - 130	1	35
Toluene	0.100	0.09880		mg/Kg		99	70 - 130	1	35
Ethylbenzene	0.100	0.09425		mg/Kg		94	70 - 130	1	35
m-Xylene & p-Xylene	0.200	0.1919		mg/Kg		96	70 - 130	1	35
o-Xylene	0.100	0.09325		mg/Kg		93	70 - 130	2	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	92		70 - 130
1,4-Difluorobenzene (Surr)	117		70 - 130

Lab Sample ID: 880-21976-A-1-E MS

Matrix: Solid

Analysis Batch: 40656

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 40588

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U	0.0996	0.08295		mg/Kg		83	70 - 130
Toluene	<0.00199	U F1	0.0996	0.06828	F1	mg/Kg		68	70 - 130

Eurofins Carlsbad

## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3545-1  
SDG: Rural Eddy NM

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

Lab Sample ID: 880-21976-A-1-E MS

Matrix: Solid

Analysis Batch: 40656

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 40588

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U F1	0.0996	0.06277	F1	mg/Kg		63	70 - 130
m-Xylene & p-Xylene	<0.00398	U F1	0.199	0.1265	F1	mg/Kg		63	70 - 130
o-Xylene	<0.00199	U F1	0.0996	0.06159	F1	mg/Kg		61	70 - 130
Surrogate	%Recovery	MS Qualifier	MS Limits						
4-Bromofluorobenzene (Surr)	99		70 - 130						
1,4-Difluorobenzene (Surr)	116		70 - 130						

Lab Sample ID: 880-21976-A-1-F MSD

Matrix: Solid

Analysis Batch: 40656

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 40588

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0996	0.08634		mg/Kg		87	70 - 130	4	35
Toluene	<0.00199	U F1	0.0996	0.06778	F1	mg/Kg		67	70 - 130	1	35
Ethylbenzene	<0.00199	U F1	0.0996	0.06442	F1	mg/Kg		65	70 - 130	3	35
m-Xylene & p-Xylene	<0.00398	U F1	0.199	0.1253	F1	mg/Kg		63	70 - 130	1	35
o-Xylene	<0.00199	U F1	0.0996	0.06065	F1	mg/Kg		60	70 - 130	2	35
Surrogate	%Recovery	MSD Qualifier	MSD Limits								
4-Bromofluorobenzene (Surr)	102		70 - 130								
1,4-Difluorobenzene (Surr)	120		70 - 130								

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

Lab Sample ID: MB 880-40653/1-A

Matrix: Solid

Analysis Batch: 40686

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 40653

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/30/22 08:30	11/30/22 14:25	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/30/22 08:30	11/30/22 14:25	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/30/22 08:30	11/30/22 14:25	1
Surrogate	%Recovery	MB Qualifier	MB Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	116		70 - 130				11/30/22 08:30	11/30/22 14:25	1
o-Terphenyl	145	S1+	70 - 130				11/30/22 08:30	11/30/22 14:25	1

Lab Sample ID: LCS 880-40653/2-A

Matrix: Solid

Analysis Batch: 40686

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 40653

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	994.8		mg/Kg		99	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1096		mg/Kg		110	70 - 130

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QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3545-1  
SDG: Rural Eddy NM

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

Lab Sample ID: LCS 880-40653/2-A  
Matrix: Solid  
Analysis Batch: 40686

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 40653

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	183	S1+	70 - 130
o-Terphenyl	217	S1+	70 - 130

Lab Sample ID: LCSD 880-40653/3-A  
Matrix: Solid  
Analysis Batch: 40686

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 40653

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	834.2		mg/Kg		83	70 - 130	18	20
Diesel Range Organics (Over C10-C28)	1000	993.6		mg/Kg		99	70 - 130	10	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	170	S1+	70 - 130
o-Terphenyl	200	S1+	70 - 130

Lab Sample ID: 890-3559-A-23-G MS  
Matrix: Solid  
Analysis Batch: 40686

Client Sample ID: Matrix Spike  
Prep Type: Total/NA  
Prep Batch: 40653

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	999	1262		mg/Kg		122	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1256		mg/Kg		122	70 - 130

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	121		70 - 130
o-Terphenyl	123		70 - 130

Lab Sample ID: 890-3559-A-23-H MSD  
Matrix: Solid  
Analysis Batch: 40686

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA  
Prep Batch: 40653

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	997	1183		mg/Kg		114	70 - 130	6	20
Diesel Range Organics (Over C10-C28)	<49.9	U	997	1325		mg/Kg		129	70 - 130	5	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	124		70 - 130
o-Terphenyl	126		70 - 130

## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3545-1  
SDG: Rural Eddy NM

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-40386/1-A

Matrix: Solid

Analysis Batch: 40550

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/29/22 09:19	1

Lab Sample ID: LCS 880-40386/2-A

Matrix: Solid

Analysis Batch: 40550

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	241.4		mg/Kg		97	90 - 110

Lab Sample ID: LCSD 880-40386/3-A

Matrix: Solid

Analysis Batch: 40550

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	242.0		mg/Kg		97	90 - 110	0	20

Lab Sample ID: 890-3551-A-4-A MS

Matrix: Solid

Analysis Batch: 40550

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	48.9		249	299.9		mg/Kg		101	90 - 110

Lab Sample ID: 890-3551-A-4-A MSD

Matrix: Solid

Analysis Batch: 40550

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	48.9		249	300.2		mg/Kg		101	90 - 110	0	20

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## QC Association Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3545-1  
SDG: Rural Eddy NM

## GC VOA

## Prep Batch: 40588

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3545-1	PH01	Total/NA	Solid	5035	
MB 880-40588/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-40588/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-40588/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-21976-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
880-21976-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 40656

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3545-1	PH01	Total/NA	Solid	8021B	40588
MB 880-40588/5-A	Method Blank	Total/NA	Solid	8021B	40588
LCS 880-40588/1-A	Lab Control Sample	Total/NA	Solid	8021B	40588
LCSD 880-40588/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	40588
880-21976-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	40588
880-21976-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	40588

## Analysis Batch: 40785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3545-1	PH01	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Prep Batch: 40653

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3545-1	PH01	Total/NA	Solid	8015NM Prep	
MB 880-40653/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-40653/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-40653/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3559-A-23-G MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3559-A-23-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 40686

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3545-1	PH01	Total/NA	Solid	8015B NM	40653
MB 880-40653/1-A	Method Blank	Total/NA	Solid	8015B NM	40653
LCS 880-40653/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	40653
LCSD 880-40653/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	40653
890-3559-A-23-G MS	Matrix Spike	Total/NA	Solid	8015B NM	40653
890-3559-A-23-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	40653

## Analysis Batch: 40776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3545-1	PH01	Total/NA	Solid	8015 NM	

## HPLC/IC

## Leach Batch: 40386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3545-1	PH01	Soluble	Solid	DI Leach	
MB 880-40386/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-40386/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-40386/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

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QC Association Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3545-1  
SDG: Rural Eddy NM

HPLC/IC (Continued)

Leach Batch: 40386 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3551-A-4-A MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3551-A-4-A MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 40550

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3545-1	PH01	Soluble	Solid	300.0	40386
MB 880-40386/1-A	Method Blank	Soluble	Solid	300.0	40386
LCS 880-40386/2-A	Lab Control Sample	Soluble	Solid	300.0	40386
LCSD 880-40386/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	40386
890-3551-A-4-A MS	Matrix Spike	Soluble	Solid	300.0	40386
890-3551-A-4-A MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	40386

Lab Chronicle

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3545-1  
SDG: Rural Eddy NM

Client Sample ID: PH01  
Date Collected: 11/22/22 12:00  
Date Received: 11/22/22 12:58

Lab Sample ID: 890-3545-1  
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			5.02 g	5 mL	40588	11/29/22 10:58	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40656	11/30/22 18:59	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			40785	12/01/22 12:55	SM	EET MID
Total/NA	Analysis	8015 NM		1			40776	12/01/22 12:06	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	40653	11/30/22 08:30	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	40686	11/30/22 21:49	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	40386	11/28/22 08:56	CH	EET MID
Soluble	Analysis	300.0		1			40550	11/29/22 10:32	SMC	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: LVP SWD #001

Job ID: 890-3545-1  
SDG: Rural Eddy 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	T104704400-22-24	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
2
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14

Method Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3545-1  
SDG: Rural Eddy 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: LVP SWD #001

Job ID: 890-3545-1  
SDG: Rural Eddy NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3545-1	PH01	Solid	11/22/22 12:00	11/22/22 12:58	11'

- 1
- 2
- 3
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- 9
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- 12
- 13
- 14

## 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:**

Page 1 of 1  
www.xenco.com



Project Manager:	Joseph Hernandez	Bill to: (if different)	Jim Raley
Company Name:	Ensolum	Company Name:	WPX
Address:	3122 National Parks HWY	Address:	5315 Buena Vista Dr.
City, State ZIP:	Carlsbad, NIM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	281-702-2329	Email:	jhernandez@Ensolum.com jim.raley@dwv.com

Work Order Comments	
Program:	UST/PT <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:		LVP SWD #001		Turn Around		Pres. Code		ANALYSIS RESULTS	
Project Number:		03A1987044		<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush					
Project Location:		Rural Eddy, NM		Due Date:		5 Day TAT			
Sampler's Name:		Gilbert Moreno		TAT starts the day received by the lab, if received by 4:30pm					
CC #:		9005003893							
<b>SAMPLE RECEIPT</b>				Temp Blank:	Yes	No	Wet Ice:	Yes	No
Samples Received Intact:				Yes	No	Thermometer ID:	1-10007		
Cooler Custody Seals:				Yes	No	Correction Factor:	-0.2		
Sample Custody Seals:				Yes	No	Temperature Reading:	1.2		
Total Containers:						Corrected Temperature:	1.0		

[illegible][illegible]

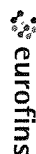
**Notice:** Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of 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 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 service.

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			11-22-22 12:55			
3			4			
			6			

## Eurofins Carlsbad

1089 N Canal St.  
Carlsbad NM 88220  
Phone 575-988-3199 Fax 575-988-3199

## Chain of Custody Record



## Environment Testing

[illegible]

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3545-1

SDG Number: Rural Eddy NM

Login Number: 3545

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	

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3545-1

SDG Number: Rural Eddy NM

Login Number: 3545

List Number: 2

Creator: Kramer, Jessica

List Source: Eurofins Midland

List Creation: 11/23/22 11:54 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").	N/A	





Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Devon Team

Ensolum

601 N. Marienfeld St.

Suite 400

Midland, Texas 79701

Generated 12/1/2022 12:59:13 PM

## JOB DESCRIPTION

LVP SWD #001

SDG NUMBER 03A1987044

## JOB NUMBER

890-3510-1

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  
12/1/2022 12:59:13 PM

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

Client: Ensolum  
Project/Site: LVP SWD #001

Laboratory Job ID: 890-3510-1  
SDG: 03A1987044

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Definitions/Glossary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3510-1  
SDG: 03A1987044

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
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: LVP SWD #001

Job ID: 890-3510-1  
SDG: 03A1987044

## Job ID: 890-3510-1

## Laboratory: Eurofins Carlsbad

## Narrative

Job Narrative  
890-3510-1

## Receipt

The samples were received on 11/17/2022 3:53 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: FS06 (890-3510-1), FS07 (890-3510-2), FS08 (890-3510-3) and FS09 (890-3510-4).

## GC VOA

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-40436 and analytical batch 880-40689 was outside the control limits.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-40719 and analytical batch 880-40689 was outside the control limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: FS06 (890-3510-1). 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 880-40341 and analytical batch 880-40260 was outside the upper control limits.

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-40341/2-A) and (LCSD 880-40341/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: (890-3498-A-1-B) and (890-3498-A-1-C MS). 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: FS07 (890-3510-2). 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: FS09 (890-3510-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD\_NM: The method blank for preparation batch 880-40341 and analytical batch 880-40260 contained Gasoline Range Organics (GRO)-C6-C10 and Diesel Range Organics (Over C10-C28) above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD\_NM: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 880-40341 and analytical batch 880-40260 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample 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.

## HPLC/IC

Method 300\_ORGFM\_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-40006 and analytical

Case Narrative

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3510-1  
SDG: 03A1987044

Job ID: 890-3510-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

batch 880-40248 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. The associated samples are: FS06 (890-3510-1), FS07 (890-3510-2), FS08 (890-3510-3), FS09 (890-3510-4), (890-3507-A-1-A), (890-3507-A-1-B MS) and (890-3507-A-1-C MSD).

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

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## Client Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3510-1  
SDG: 03A1987044

Client Sample ID: FS06

Lab Sample ID: 890-3510-1

Date Collected: 11/17/22 10:30

Matrix: Solid

Date Received: 11/17/22 15:53

Sample Depth: 4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/30/22 15:10	12/01/22 09:46	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/30/22 15:10	12/01/22 09:46	1
Ethylbenzene	0.00403		0.00200		mg/Kg		11/30/22 15:10	12/01/22 09:46	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/30/22 15:10	12/01/22 09:46	1
o-Xylene	0.119		0.00200		mg/Kg		11/30/22 15:10	12/01/22 09:46	1
Xylenes, Total	0.119		0.00400		mg/Kg		11/30/22 15:10	12/01/22 09:46	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene (Surr)	136	S1+	70 - 130				11/30/22 15:10	12/01/22 09:46	1
1,4-Difluorobenzene (Surr)	115		70 - 130				11/30/22 15:10	12/01/22 09:46	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.123		0.00400		mg/Kg			12/01/22 13:21	1

## Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			11/28/22 12:39	1

## Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/23/22 14:58	11/24/22 02:31	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/23/22 14:58	11/24/22 02:31	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/23/22 14:58	11/24/22 02:31	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1-Chlorooctane	108		70 - 130				11/23/22 14:58	11/24/22 02:31	1
o-Terphenyl	114		70 - 130				11/23/22 14:58	11/24/22 02:31	1

## Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14500		99.4		mg/Kg			11/23/22 06:51	20

Client Sample ID: FS07

Lab Sample ID: 890-3510-2

Date Collected: 11/17/22 11:00

Matrix: Solid

Date Received: 11/17/22 15:53

Sample Depth: 4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		11/30/22 15:10	12/01/22 10:12	1
Toluene	<0.00202	U	0.00202		mg/Kg		11/30/22 15:10	12/01/22 10:12	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		11/30/22 15:10	12/01/22 10:12	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		11/30/22 15:10	12/01/22 10:12	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		11/30/22 15:10	12/01/22 10:12	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		11/30/22 15:10	12/01/22 10:12	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene (Surr)	118		70 - 130				11/30/22 15:10	12/01/22 10:12	1

Eurofins Carlsbad

## Client Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3510-1  
SDG: 03A1987044

Client Sample ID: FS07

Lab Sample ID: 890-3510-2

Date Collected: 11/17/22 11:00

Matrix: Solid

Date Received: 11/17/22 15:53

Sample Depth: 4

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	100		70 - 130	11/30/22 15:10	12/01/22 10:12	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			12/01/22 13:21	1

## Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	57.1		49.9		mg/Kg			11/28/22 12:39	1

## Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	57.1		49.9		mg/Kg		11/23/22 14:58	11/24/22 02:53	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		11/23/22 14:58	11/24/22 02:53	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/23/22 14:58	11/24/22 02:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	127		70 - 130				11/23/22 14:58	11/24/22 02:53	1
o-Terphenyl	131	S1+	70 - 130				11/23/22 14:58	11/24/22 02:53	1

## Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12800		99.2		mg/Kg			11/23/22 06:57	20

Client Sample ID: FS08

Lab Sample ID: 890-3510-3

Date Collected: 11/17/22 11:30

Matrix: Solid

Date Received: 11/17/22 15:53

Sample Depth: 4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/30/22 15:10	12/01/22 10:37	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/30/22 15:10	12/01/22 10:37	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/30/22 15:10	12/01/22 10:37	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/30/22 15:10	12/01/22 10:37	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/30/22 15:10	12/01/22 10:37	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/30/22 15:10	12/01/22 10:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130	11/30/22 15:10	12/01/22 10:37	1
1,4-Difluorobenzene (Surr)	89		70 - 130	11/30/22 15:10	12/01/22 10:37	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			12/01/22 13:21	1

## Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			11/28/22 12:39	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3510-1  
SDG: 03A1987044

Client Sample ID: FS08  
Date Collected: 11/17/22 11:30  
Date Received: 11/17/22 15:53  
Sample Depth: 4

Lab Sample ID: 890-3510-3  
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/23/22 14:58	11/24/22 03:14	1	
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/23/22 14:58	11/24/22 03:14	1	
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/23/22 14:58	11/24/22 03:14	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
1-Chlorooctane	110		70 - 130				11/23/22 14:58	11/24/22 03:14	1	
o-Terphenyl	115		70 - 130				11/23/22 14:58	11/24/22 03:14	1	

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	9190		50.0		mg/Kg			11/23/22 07:02	10	

Client Sample ID: FS09  
Date Collected: 11/17/22 12:00  
Date Received: 11/17/22 15:53  
Sample Depth: 4

Lab Sample ID: 890-3510-4  
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	<0.00199	U	0.00199		mg/Kg		11/30/22 15:10	12/01/22 11:03	1	
Toluene	<0.00199	U	0.00199		mg/Kg		11/30/22 15:10	12/01/22 11:03	1	
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/30/22 15:10	12/01/22 11:03	1	
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/30/22 15:10	12/01/22 11:03	1	
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/30/22 15:10	12/01/22 11:03	1	
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/30/22 15:10	12/01/22 11:03	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	106		70 - 130				11/30/22 15:10	12/01/22 11:03	1	
1,4-Difluorobenzene (Surr)	100		70 - 130				11/30/22 15:10	12/01/22 11:03	1	

Method: TAL SOP Total BTEX - Total BTEX Calculation										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Total BTEX	<0.00398	U	0.00398		mg/Kg			12/01/22 13:21	1	

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Total TPH	<50.0	U	50.0		mg/Kg			11/28/22 12:39	1	

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/23/22 14:58	11/24/22 03:35	1	
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/23/22 14:58	11/24/22 03:35	1	
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/23/22 14:58	11/24/22 03:35	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
1-Chlorooctane	130		70 - 130				11/23/22 14:58	11/24/22 03:35	1	
o-Terphenyl	132	S1+	70 - 130				11/23/22 14:58	11/24/22 03:35	1	

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Client Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3510-1  
SDG: 03A1987044

Client Sample ID: FS09

Date Collected: 11/17/22 12:00

Date Received: 11/17/22 15:53

Sample Depth: 4

Lab Sample ID: 890-3510-4

Matrix: Solid

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5790		49.9		mg/Kg			11/23/22 07:08	10

## Surrogate Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3510-1  
SDG: 03A1987044

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-21907-A-2-D MS	Matrix Spike	118	109
880-21907-A-2-E MSD	Matrix Spike Duplicate	100	101
890-3510-1	FS06	136 S1+	115
890-3510-2	FS07	118	100
890-3510-3	FS08	93	89
890-3510-4	FS09	106	100
LCS 880-40719/1-A	Lab Control Sample	110	111
LCSD 880-40719/2-A	Lab Control Sample Dup	100	88
MB 880-40436/5-A	Method Blank	66 S1-	95
MB 880-40719/5-A	Method Blank	65 S1-	93
<b>Surrogate Legend</b>			
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)
890-3498-A-1-C MS	Matrix Spike	131 S1+	128
890-3498-A-1-D MSD	Matrix Spike Duplicate	118	118
890-3510-1	FS06	108	114
890-3510-2	FS07	127	131 S1+
890-3510-3	FS08	110	115
890-3510-4	FS09	130	132 S1+
LCS 880-40341/2-A	Lab Control Sample	126	141 S1+
LCSD 880-40341/3-A	Lab Control Sample Dup	122	136 S1+
MB 880-40341/1-A	Method Blank	140 S1+	149 S1+
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3510-1  
SDG: 03A1987044

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-40436/5-A							Client Sample ID: Method Blank		
Matrix: Solid							Prep Type: Total/NA		
Analysis Batch: 40689							Prep Batch: 40436		
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/28/22 11:21	11/30/22 17:06	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/28/22 11:21	11/30/22 17:06	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/28/22 11:21	11/30/22 17:06	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/28/22 11:21	11/30/22 17:06	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/28/22 11:21	11/30/22 17:06	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/28/22 11:21	11/30/22 17:06	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	66	S1-	70 - 130				11/28/22 11:21	11/30/22 17:06	1
1,4-Difluorobenzene (Surr)	95		70 - 130				11/28/22 11:21	11/30/22 17:06	1

Lab Sample ID: MB 880-40719/5-A							Client Sample ID: Method Blank		
Matrix: Solid							Prep Type: Total/NA		
Analysis Batch: 40689							Prep Batch: 40719		
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/30/22 15:10	12/01/22 06:43	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/30/22 15:10	12/01/22 06:43	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/30/22 15:10	12/01/22 06:43	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/30/22 15:10	12/01/22 06:43	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/30/22 15:10	12/01/22 06:43	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/30/22 15:10	12/01/22 06:43	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	65	S1-	70 - 130				11/30/22 15:10	12/01/22 06:43	1
1,4-Difluorobenzene (Surr)	93		70 - 130				11/30/22 15:10	12/01/22 06:43	1

Lab Sample ID: LCS 880-40719/1-A							Client Sample ID: Lab Control Sample		
Matrix: Solid							Prep Type: Total/NA		
Analysis Batch: 40689							Prep Batch: 40719		
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	0.100	0.1191		mg/Kg		119	70 - 130		
Toluene	0.100	0.1118		mg/Kg		112	70 - 130		
Ethylbenzene	0.100	0.09618		mg/Kg		96	70 - 130		
m-Xylene & p-Xylene	0.200	0.1982		mg/Kg		99	70 - 130		
o-Xylene	0.100	0.1060		mg/Kg		106	70 - 130		
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	110		70 - 130						
1,4-Difluorobenzene (Surr)	111		70 - 130						

Lab Sample ID: LCSD 880-40719/2-A							Client Sample ID: Lab Control Sample Dup		
Matrix: Solid							Prep Type: Total/NA		
Analysis Batch: 40689							Prep Batch: 40719		
Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	0.100	0.1094		mg/Kg		109	70 - 130	8	35

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## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3510-1  
SDG: 03A1987044

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

Lab Sample ID: LCSD 880-40719/2-A

Matrix: Solid

Analysis Batch: 40689

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 40719

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits			
Toluene	0.100	0.1122		mg/Kg		112	70 - 130		0	35
Ethylbenzene	0.100	0.09879		mg/Kg		99	70 - 130		3	35
m-Xylene & p-Xylene	0.200	0.1997		mg/Kg		100	70 - 130		1	35
o-Xylene	0.100	0.1042		mg/Kg		104	70 - 130		2	35

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	88		70 - 130

Lab Sample ID: 880-21907-A-2-D MS

Matrix: Solid

Analysis Batch: 40689

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 40719

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec	
									Limits	
Benzene	<0.00201	U	0.101	0.1014		mg/Kg		101	70 - 130	
Toluene	<0.00201	U	0.101	0.1069		mg/Kg		106	70 - 130	
Ethylbenzene	<0.00201	U	0.101	0.09371		mg/Kg		93	70 - 130	
m-Xylene & p-Xylene	<0.00402	U	0.202	0.1867		mg/Kg		93	70 - 130	
o-Xylene	<0.00201	U	0.101	0.09637		mg/Kg		96	70 - 130	

Surrogate	MS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	118		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: 880-21907-A-2-E MSD

Matrix: Solid

Analysis Batch: 40689

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 40719

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits			
Benzene	<0.00201	U	0.0994	0.09568		mg/Kg		96	70 - 130		6	35
Toluene	<0.00201	U	0.0994	0.09428		mg/Kg		95	70 - 130		13	35
Ethylbenzene	<0.00201	U	0.0994	0.08668		mg/Kg		87	70 - 130		8	35
m-Xylene & p-Xylene	<0.00402	U	0.199	0.1655		mg/Kg		83	70 - 130		12	35
o-Xylene	<0.00201	U	0.0994	0.1073		mg/Kg		108	70 - 130		11	35

Surrogate	MSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

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

Lab Sample ID: MB 880-40341/1-A

Matrix: Solid

Analysis Batch: 40260

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 40341

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/23/22 14:58	11/23/22 20:46	1

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## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3510-1  
SDG: 03A1987044

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

Lab Sample ID: MB 880-40341/1-A

Matrix: Solid

Analysis Batch: 40260

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 40341

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/23/22 14:58	11/23/22 20:46	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/23/22 14:58	11/23/22 20:46	1
Surrogate	MB	MB	Limits				Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier							
1-Chlorooctane	140	S1+	70 - 130				11/23/22 14:58	11/23/22 20:46	1
o-Terphenyl	149	S1+	70 - 130				11/23/22 14:58	11/23/22 20:46	1

Lab Sample ID: LCS 880-40341/2-A

Matrix: Solid

Analysis Batch: 40260

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 40341

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	1000	981.4		mg/Kg		98	70 - 130		
Diesel Range Organics (Over C10-C28)	1000	1013		mg/Kg		101	70 - 130		
Surrogate	LCS	LCS	Limits						
1-Chlorooctane	126		70 - 130						
o-Terphenyl	141	S1+	70 - 130						

Lab Sample ID: LCSD 880-40341/3-A

Matrix: Solid

Analysis Batch: 40260

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 40341

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1015		mg/Kg		101	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	1000	978.2		mg/Kg		98	70 - 130	3	20
Surrogate	LCSD	LCSD	Limits						
1-Chlorooctane	122		70 - 130						
o-Terphenyl	136	S1+	70 - 130						

Lab Sample ID: 890-3498-A-1-C MS

Matrix: Solid

Analysis Batch: 40260

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 40341

Analyte	Sample	Sample	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
	Result	Qualifier									
Gasoline Range Organics (GRO)-C6-C10	<49.8	U F2	997	1247		mg/Kg		121	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U	997	1161		mg/Kg		116	70 - 130		
Surrogate	MS	MS	Limits								
1-Chlorooctane	131	S1+	70 - 130								
o-Terphenyl	128		70 - 130								

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## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3510-1  
SDG: 03A1987044

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

Lab Sample ID: 890-3498-A-1-D MSD

Matrix: Solid

Analysis Batch: 40260

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 40341

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U F2	996	924.4	F2	mg/Kg		89	70 - 130	30	20
Diesel Range Organics (Over C10-C28)	<49.8	U	996	1069		mg/Kg		107	70 - 130	8	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	118		70 - 130								
o-Terphenyl	118		70 - 130								

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-40006/1-A

Matrix: Solid

Analysis Batch: 40248

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/23/22 05:43	1

Lab Sample ID: LCS 880-40006/2-A

Matrix: Solid

Analysis Batch: 40248

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	264.7		mg/Kg		106	90 - 110

Lab Sample ID: LCSD 880-40006/3-A

Matrix: Solid

Analysis Batch: 40248

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	262.7		mg/Kg		105	90 - 110	1	20

Lab Sample ID: 890-3507-A-1-B MS

Matrix: Solid

Analysis Batch: 40248

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	716	F1	250	938.8	F1	mg/Kg		89	90 - 110

Lab Sample ID: 890-3507-A-1-C MSD

Matrix: Solid

Analysis Batch: 40248

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	716	F1	250	935.8	F1	mg/Kg		88	90 - 110	0	20

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## QC Association Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3510-1  
SDG: 03A1987044

## GC VOA

## Prep Batch: 40436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-40436/5-A	Method Blank	Total/NA	Solid	5035	

## Analysis Batch: 40689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3510-1	FS06	Total/NA	Solid	8021B	40719
890-3510-2	FS07	Total/NA	Solid	8021B	40719
890-3510-3	FS08	Total/NA	Solid	8021B	40719
890-3510-4	FS09	Total/NA	Solid	8021B	40719
MB 880-40436/5-A	Method Blank	Total/NA	Solid	8021B	40436
MB 880-40719/5-A	Method Blank	Total/NA	Solid	8021B	40719
LCS 880-40719/1-A	Lab Control Sample	Total/NA	Solid	8021B	40719
LCSD 880-40719/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	40719
880-21907-A-2-D MS	Matrix Spike	Total/NA	Solid	8021B	40719
880-21907-A-2-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	40719

## Prep Batch: 40719

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3510-1	FS06	Total/NA	Solid	5035	
890-3510-2	FS07	Total/NA	Solid	5035	
890-3510-3	FS08	Total/NA	Solid	5035	
890-3510-4	FS09	Total/NA	Solid	5035	
MB 880-40719/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-40719/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-40719/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-21907-A-2-D MS	Matrix Spike	Total/NA	Solid	5035	
880-21907-A-2-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 40800

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3510-1	FS06	Total/NA	Solid	Total BTEX	
890-3510-2	FS07	Total/NA	Solid	Total BTEX	
890-3510-3	FS08	Total/NA	Solid	Total BTEX	
890-3510-4	FS09	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Analysis Batch: 40260

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3510-1	FS06	Total/NA	Solid	8015B NM	40341
890-3510-2	FS07	Total/NA	Solid	8015B NM	40341
890-3510-3	FS08	Total/NA	Solid	8015B NM	40341
890-3510-4	FS09	Total/NA	Solid	8015B NM	40341
MB 880-40341/1-A	Method Blank	Total/NA	Solid	8015B NM	40341
LCS 880-40341/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	40341
LCSD 880-40341/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	40341
890-3498-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	40341
890-3498-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	40341

## Prep Batch: 40341

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3510-1	FS06	Total/NA	Solid	8015NM Prep	

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## QC Association Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3510-1  
SDG: 03A1987044

## GC Semi VOA (Continued)

## Prep Batch: 40341 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3510-2	FS07	Total/NA	Solid	8015NM Prep	
890-3510-3	FS08	Total/NA	Solid	8015NM Prep	
890-3510-4	FS09	Total/NA	Solid	8015NM Prep	
MB 880-40341/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-40341/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-40341/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3498-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3498-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 40461

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3510-1	FS06	Total/NA	Solid	8015 NM	
890-3510-2	FS07	Total/NA	Solid	8015 NM	
890-3510-3	FS08	Total/NA	Solid	8015 NM	
890-3510-4	FS09	Total/NA	Solid	8015 NM	

## HPLC/IC

## Leach Batch: 40006

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3510-1	FS06	Soluble	Solid	DI Leach	
890-3510-2	FS07	Soluble	Solid	DI Leach	
890-3510-3	FS08	Soluble	Solid	DI Leach	
890-3510-4	FS09	Soluble	Solid	DI Leach	
MB 880-40006/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-40006/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-40006/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3507-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3507-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

## Analysis Batch: 40248

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3510-1	FS06	Soluble	Solid	300.0	40006
890-3510-2	FS07	Soluble	Solid	300.0	40006
890-3510-3	FS08	Soluble	Solid	300.0	40006
890-3510-4	FS09	Soluble	Solid	300.0	40006
MB 880-40006/1-A	Method Blank	Soluble	Solid	300.0	40006
LCS 880-40006/2-A	Lab Control Sample	Soluble	Solid	300.0	40006
LCSD 880-40006/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	40006
890-3507-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	40006
890-3507-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	40006

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Lab Chronicle

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3510-1  
SDG: 03A1987044

Client Sample ID: FS06  
Date Collected: 11/17/22 10:30  
Date Received: 11/17/22 15:53

Lab Sample ID: 890-3510-1  
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			5.00 g	5 mL	40719	11/30/22 15:10	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40689	12/01/22 09:46	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			40800	12/01/22 13:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			40461	11/28/22 12:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	40341	11/23/22 14:58	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	40260	11/24/22 02:31	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	40006	11/20/22 12:14	CH	EET MID
Soluble	Analysis	300.0		20	50 mL	50 mL	40248	11/23/22 06:51	SMC	EET MID

Client Sample ID: FS07  
Date Collected: 11/17/22 11:00  
Date Received: 11/17/22 15:53

Lab Sample ID: 890-3510-2  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	40719	11/30/22 15:10	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40689	12/01/22 10:12	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			40800	12/01/22 13:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			40461	11/28/22 12:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	40341	11/23/22 14:58	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	40260	11/24/22 02:53	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	40006	11/20/22 12:14	CH	EET MID
Soluble	Analysis	300.0		20	50 mL	50 mL	40248	11/23/22 06:57	SMC	EET MID

Client Sample ID: FS08  
Date Collected: 11/17/22 11:30  
Date Received: 11/17/22 15:53

Lab Sample ID: 890-3510-3  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	40719	11/30/22 15:10	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40689	12/01/22 10:37	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			40800	12/01/22 13:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			40461	11/28/22 12:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	40341	11/23/22 14:58	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	40260	11/24/22 03:14	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	40006	11/20/22 12:14	CH	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	40248	11/23/22 07:02	SMC	EET MID

Client Sample ID: FS09  
Date Collected: 11/17/22 12:00  
Date Received: 11/17/22 15:53

Lab Sample ID: 890-3510-4  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	40719	11/30/22 15:10	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40689	12/01/22 11:03	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			40800	12/01/22 13:21	SM	EET MID

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Lab Chronicle

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3510-1  
SDG: 03A1987044

Client Sample ID: FS09

Lab Sample ID: 890-3510-4

Date Collected: 11/17/22 12:00

Matrix: Solid

Date Received: 11/17/22 15:53

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			40461	11/28/22 12:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	40341	11/23/22 14:58	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	40260	11/24/22 03:35	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	40006	11/20/22 12:14	CH	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	40248	11/23/22 07:08	SMC	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: LVP SWD #001

Job ID: 890-3510-1  
SDG: 03A1987044

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	T104704400-22-24	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
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Method Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3510-1  
SDG: 03A1987044

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: LVP SWD #001

Job ID: 890-3510-1  
SDG: 03A1987044

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3510-1	FS06	Solid	11/17/22 10:30	11/17/22 15:53	4
890-3510-2	FS07	Solid	11/17/22 11:00	11/17/22 15:53	4
890-3510-3	FS08	Solid	11/17/22 11:30	11/17/22 15:53	4
890-3510-4	FS09	Solid	11/17/22 12:00	11/17/22 15:53	4

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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

Work Order No:

www.xenco.com Page of

Chain of Custody

Project Manager:	Joseph Hernandez	Bill to: (if different)	Jim Raley
Company Name:	Ensolum	Company Name:	WPX
Address:	3122 National Parks HWY	Address:	5315 Buena Vista Dr.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	281-702-2329	Email:	jhernandez@Ensolum.com, jim.raley@dvn.com

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:	LVP SWD #001	Turn Around	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	Pres. Code	
Project Number:	03A1987044	Due Date:	5 Day TAT		
Project Location:	Rural Eddy, NM	TAT starts the day received by the lab, if received by 4:30pm			
Sampler's Name:	Gilbert Moreno				
CC #:	9005003893				
SAMPLE RECEIPT	Temp Blank: <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Thermometer ID:	11111111		
Samples Received Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Correction Factor:	-0.2		
Cooler Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Temperature Reading:	2.2		
Sample Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Corrected Temperature:	2.0		
Total Containers:					



890-3510 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	CHLOR	TPH (	BTEX											Sample Comments
FS06	S	11.17.22	10:30	4'	Comp	1	X	X	X											Incident ID nAFP213503453
FS07	S	11.17.22	11:00	4'	Comp	1	X	X	X											
FS08	S	11.17.22	11:30	4'	Comp	1	X	X	X											
FS09	S	11.17.22	12:00	4'	Comp	1	X	X	X											
<del>11.17.22</del>																				

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<sub>2</sub> 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
		11-11-22 1553			

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3510-1

SDG Number: 03A1987044

Login Number: 3510

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	

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3510-1

SDG Number: 03A1987044

Login Number: 3510

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 11/21/22 08:46 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	





Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Devon Team  
Ensolum  
601 N. Marienfeld St.  
Suite 400  
Midland, Texas 79701

Generated 12/21/2022 2:00:52 PM Revision 1

## JOB DESCRIPTION

LVP SWD #001  
SDG NUMBER 03A1987044

## JOB NUMBER

890-3482-1

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  
12/21/2022 2:00:52 PM  
Revision 1

Authorized for release by  
Holly Taylor, Project Manager  
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Designee for  
Jessica Kramer, Project Manager  
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(432)704-5440

Client: Ensolum  
Project/Site: LVP SWD #001

Laboratory Job ID: 890-3482-1  
SDG: 03A1987044

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Definitions/Glossary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3482-1  
SDG: 03A1987044

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
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: LVP SWD #001

Job ID: 890-3482-1  
SDG: 03A1987044

**Job ID: 890-3482-1**

**Laboratory: Eurofins Carlsbad**

### Narrative

#### Job Narrative 890-3482-1

#### Revision

The report being provided is a revision of the original report sent on 11/28/2022. The report (revision 1) is being revised to change the depth of sampling from 0-6' to 0-5' per Gilbert Moreno. A revised COC was provided (email).

#### Receipt

The sample was received on 11/15/2022 3:23 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.0° C.

#### Receipt Exceptions

The following sample was received and analyzed from an unpreserved bulk soil jar: SW01 (890-3482-1).

#### GC VOA

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

#### GC Semi VOA

Method 8015B NM: Surrogate recovery for the following sample was outside control limits: (880-21689-A-4-B). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015B NM: The method blank for preparation batch 880-40184 and analytical batch 880-40168 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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

#### General Chemistry

Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-39829 and analytical batch 880-40152 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

#### Organic Prep

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

#### VOA Prep

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

## Client Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3482-1  
SDG: 03A1987044

Client Sample ID: SW01

Lab Sample ID: 890-3482-1

Date Collected: 11/15/22 12:30

Matrix: Solid

Date Received: 11/15/22 15:23

Sample Depth: 0 - 5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		11/22/22 17:45	11/23/22 18:12	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/22/22 17:45	11/23/22 18:12	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/22/22 17:45	11/23/22 18:12	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/22/22 17:45	11/23/22 18:12	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/22/22 17:45	11/23/22 18:12	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/22/22 17:45	11/23/22 18:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130	11/22/22 17:45	11/23/22 18:12	1
1,4-Difluorobenzene (Surr)	98		70 - 130	11/22/22 17:45	11/23/22 18:12	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			11/28/22 16:23	1

## Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			11/23/22 11:46	1

## Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		11/22/22 09:39	11/22/22 19:04	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		11/22/22 09:39	11/22/22 19:04	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/22/22 09:39	11/22/22 19:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	92		70 - 130	11/22/22 09:39	11/22/22 19:04	1
o-Terphenyl	89		70 - 130	11/22/22 09:39	11/22/22 19:04	1

## Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	261		5.00		mg/Kg			11/22/22 01:10	1

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## Surrogate Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3482-1  
SDG: 03A1987044

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

Matrix: Solid

Prep Type: Total/NA

## Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-21911-A-1-A MS	Matrix Spike	101	119
880-21911-A-1-B MSD	Matrix Spike Duplicate	95	112
890-3482-1	SW01	98	98
LCS 880-40254/1-A	Lab Control Sample	108	114
LCSD 880-40254/2-A	Lab Control Sample Dup	100	111
MB 880-40254/5-A	Method Blank	85	101

## Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

Prep Type: Total/NA

## Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-21689-A-4-C MS	Matrix Spike	104	82
880-21689-A-4-D MSD	Matrix Spike Duplicate	112	86
890-3482-1	SW01	92	89
LCS 880-40184/2-A	Lab Control Sample	117	105
LCSD 880-40184/3-A	Lab Control Sample Dup	98	102
MB 880-40184/1-A	Method Blank	112	107

## Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3482-1  
SDG: 03A1987044

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

Lab Sample ID: MB 880-40254/5-A

Matrix: Solid

Analysis Batch: 40265

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 40254

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/22/22 17:45	11/23/22 12:42	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/22/22 17:45	11/23/22 12:42	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/22/22 17:45	11/23/22 12:42	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/22/22 17:45	11/23/22 12:42	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/22/22 17:45	11/23/22 12:42	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/22/22 17:45	11/23/22 12:42	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		70 - 130	11/22/22 17:45	11/23/22 12:42	1
1,4-Difluorobenzene (Surr)	101		70 - 130	11/22/22 17:45	11/23/22 12:42	1

Lab Sample ID: LCS 880-40254/1-A

Matrix: Solid

Analysis Batch: 40265

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 40254

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1107		mg/Kg		111	70 - 130
Toluene	0.100	0.09513		mg/Kg		95	70 - 130
Ethylbenzene	0.100	0.1057		mg/Kg		106	70 - 130
m-Xylene & p-Xylene	0.200	0.2135		mg/Kg		107	70 - 130
o-Xylene	0.100	0.1038		mg/Kg		104	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	108		70 - 130
1,4-Difluorobenzene (Surr)	114		70 - 130

Lab Sample ID: LCSD 880-40254/2-A

Matrix: Solid

Analysis Batch: 40265

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 40254

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1083		mg/Kg		108	70 - 130	2	35
Toluene	0.100	0.09803		mg/Kg		98	70 - 130	3	35
Ethylbenzene	0.100	0.09819		mg/Kg		98	70 - 130	7	35
m-Xylene & p-Xylene	0.200	0.2067		mg/Kg		103	70 - 130	3	35
o-Xylene	0.100	0.1011		mg/Kg		101	70 - 130	3	35

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

Lab Sample ID: 880-21911-A-1-A MS

Matrix: Solid

Analysis Batch: 40265

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 40254

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00202	U	0.101	0.1164		mg/Kg		115	70 - 130
Toluene	<0.00202	U	0.101	0.09673		mg/Kg		96	70 - 130

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## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3482-1  
SDG: 03A1987044

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

Lab Sample ID: 880-21911-A-1-A MS

Matrix: Solid

Analysis Batch: 40265

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 40254

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.101	0.09883		mg/Kg		98	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.202	0.1966		mg/Kg		97	70 - 130
o-Xylene	<0.00202	U	0.101	0.09491		mg/Kg		94	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	119		70 - 130

Lab Sample ID: 880-21911-A-1-B MSD

Matrix: Solid

Analysis Batch: 40265

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 40254

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	<0.00202	U	0.0994	0.1045		mg/Kg		105	70 - 130	11	35
Toluene	<0.00202	U	0.0994	0.08845		mg/Kg		89	70 - 130	9	35
Ethylbenzene	<0.00202	U	0.0994	0.08907		mg/Kg		90	70 - 130	10	35
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1744		mg/Kg		88	70 - 130	12	35
o-Xylene	<0.00202	U	0.0994	0.08420		mg/Kg		84	70 - 130	12	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
1,4-Difluorobenzene (Surr)	112		70 - 130

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

Lab Sample ID: MB 880-40184/1-A

Matrix: Solid

Analysis Batch: 40168

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 40184

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/22/22 08:19	11/22/22 08:21	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/22/22 08:19	11/22/22 08:21	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/22/22 08:19	11/22/22 08:21	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	112		70 - 130	11/22/22 08:19	11/22/22 08:21	1
o-Terphenyl	107		70 - 130	11/22/22 08:19	11/22/22 08:21	1

Lab Sample ID: LCS 880-40184/2-A

Matrix: Solid

Analysis Batch: 40168

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 40184

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	863.4		mg/Kg		86	70 - 130
Diesel Range Organics (Over C10-C28)	1000	979.4		mg/Kg		98	70 - 130

Eurofins Carlsbad

## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3482-1  
SDG: 03A1987044

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

Lab Sample ID: LCS 880-40184/2-A

Matrix: Solid

Analysis Batch: 40168

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 40184

	LCS %Recovery	LCS Qualifier	Limits
Surrogate			
1-Chlorooctane	117		70 - 130
o-Terphenyl	105		70 - 130

Lab Sample ID: LCSD 880-40184/3-A

Matrix: Solid

Analysis Batch: 40168

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 40184

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	886.1		mg/Kg		89	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	1000	938.8		mg/Kg		94	70 - 130	4	20

	LCSD %Recovery	LCSD Qualifier	Limits
Surrogate			
1-Chlorooctane	98		70 - 130
o-Terphenyl	102		70 - 130

Lab Sample ID: 880-21689-A-4-C MS

Matrix: Solid

Analysis Batch: 40168

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 40184

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	998	751.2		mg/Kg		75	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U	998	888.4		mg/Kg		89	70 - 130		

	MS %Recovery	MS Qualifier	Limits
Surrogate			
1-Chlorooctane	104		70 - 130
o-Terphenyl	82		70 - 130

Lab Sample ID: 880-21689-A-4-D MSD

Matrix: Solid

Analysis Batch: 40168

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 40184

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	996	809.0		mg/Kg		81	70 - 130	7	20
Diesel Range Organics (Over C10-C28)	<49.8	U	996	937.4		mg/Kg		94	70 - 130	5	20

	MSD %Recovery	MSD Qualifier	Limits
Surrogate			
1-Chlorooctane	112		70 - 130
o-Terphenyl	86		70 - 130

Eurofins Carlsbad

## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3482-1  
SDG: 03A1987044

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-39829/1-A

Matrix: Solid

Analysis Batch: 40152

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/21/22 21:36	1

Lab Sample ID: LCS 880-39829/2-A

Matrix: Solid

Analysis Batch: 40152

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	241.6		mg/Kg		97	90 - 110

Lab Sample ID: LCSD 880-39829/3-A

Matrix: Solid

Analysis Batch: 40152

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	253.5		mg/Kg		101	90 - 110	5	20

Lab Sample ID: 890-3479-A-1-B MS

Matrix: Solid

Analysis Batch: 40152

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	1220		253	1408	4	mg/Kg		76	90 - 110

Lab Sample ID: 890-3479-A-1-C MSD

Matrix: Solid

Analysis Batch: 40152

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	1220		253	1417	4	mg/Kg		79	90 - 110	1	20

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## QC Association Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3482-1  
SDG: 03A1987044

## GC VOA

## Prep Batch: 40254

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3482-1	SW01	Total/NA	Solid	5035	
MB 880-40254/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-40254/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-40254/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-21911-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
880-21911-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 40265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3482-1	SW01	Total/NA	Solid	8021B	40254
MB 880-40254/5-A	Method Blank	Total/NA	Solid	8021B	40254
LCS 880-40254/1-A	Lab Control Sample	Total/NA	Solid	8021B	40254
LCSD 880-40254/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	40254
880-21911-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	40254
880-21911-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	40254

## Analysis Batch: 40505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3482-1	SW01	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Analysis Batch: 40168

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3482-1	SW01	Total/NA	Solid	8015B NM	40184
MB 880-40184/1-A	Method Blank	Total/NA	Solid	8015B NM	40184
LCS 880-40184/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	40184
LCSD 880-40184/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	40184
880-21689-A-4-C MS	Matrix Spike	Total/NA	Solid	8015B NM	40184
880-21689-A-4-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	40184

## Prep Batch: 40184

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3482-1	SW01	Total/NA	Solid	8015NM Prep	
MB 880-40184/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-40184/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-40184/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-21689-A-4-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-21689-A-4-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 40299

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3482-1	SW01	Total/NA	Solid	8015 NM	

## HPLC/IC

## Leach Batch: 39829

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3482-1	SW01	Soluble	Solid	DI Leach	
MB 880-39829/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-39829/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-39829/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

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QC Association Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3482-1  
SDG: 03A1987044

HPLC/IC (Continued)

Leach Batch: 39829 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3479-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3479-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 40152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3482-1	SW01	Soluble	Solid	300.0	39829
MB 880-39829/1-A	Method Blank	Soluble	Solid	300.0	39829
LCS 880-39829/2-A	Lab Control Sample	Soluble	Solid	300.0	39829
LCSD 880-39829/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	39829
890-3479-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	39829
890-3479-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	39829

Lab Chronicle

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3482-1  
SDG: 03A1987044

Client Sample ID: SW01  
Date Collected: 11/15/22 12:30  
Date Received: 11/15/22 15:23

Lab Sample ID: 890-3482-1  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	40254	11/22/22 17:45	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40265	11/23/22 18:12	EL	EET MID
Total/NA	Analysis	Total BTEX		1			40505	11/28/22 16:23	SM	EET MID
Total/NA	Analysis	8015 NM		1			40299	11/23/22 11:46	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	40184	11/22/22 09:39	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	40168	11/22/22 19:04	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	39829	11/17/22 14:33	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	40152	11/22/22 01:10	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: LVP SWD #001

Job ID: 890-3482-1  
SDG: 03A1987044

Laboratory: Eurofins Midland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
N/A	N/A	None on record.	

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Method Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3482-1  
SDG: 03A1987044

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



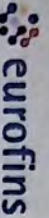
Sample Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3482-1  
SDG: 03A1987044

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3482-1	SW01	Solid	11/15/22 12:30	11/15/22 15:23	0 - 5

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Environmental Testing  
Mexico

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) 886-3199

Chain of Custody

Work Order No: \_\_\_\_\_

11/28/2022

www.xenoco.com Page 1 of 1

Project Manager:	Joseph Hernandez	Bill to: (if different)	Jim Riley
Company Name:	Ensolum	Company Name:	WPX
Address:	3122 National Parks HWY	Address:	5315 Buena Vista Dr.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	281-702-2329	Email:	jrhernandez@Ensolum.com, jim.riley@dvn.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:	LVP SWD #001	Turn Around	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	Pres. Code	
Project Number:	03A1987044	Due Date:	5 Day TAT		
Project Location:	Rural Eddy, NM	TAT starts the day received by the lab, if received by 4:30pm			
Sampler's Name:	Gilbert Moreno	Wet Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
CC #:	9005003893	Thermometer ID:	11/15/22		
SAMPLE RECEIPT	Temp Blank: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Correction Factor:	-0.0		
Samples Received Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Temperature Reading:	2.0		
Cooler Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Corrected Temperature:	2.0		
Sample Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
Total Containers:					



Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grav Comp	# of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	ANALYSIS REQUEST	Preservative Codes	Sample Comments
SW01	S	11.15.22	12:30	0-5'	1	1	X	X	X		None: NO Cool: Cool HCL: HC H2SO4: H2 H3PO4: HP NaHSO4: NABIS Na2S2O8: NaSO3 Zn Acetate+NaOH: Zn NaOH+Ascorbic Acid: SAPC	Incident ID nAPP2135033453

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 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 \$25.00 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>	11.15.22 15:23			

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3482-1

SDG Number: 03A1987044

Login Number: 3482

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	



## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3482-1

SDG Number: 03A1987044

**Login Number: 3482****List Number: 2****Creator: Rodriguez, Leticia****List Source: Eurofins Midland****List Creation: 11/17/22 02:07 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	



Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Devon Team  
Ensolum  
601 N. Marienfeld St.  
Suite 400  
Midland, Texas 79701

Generated 12/21/2022 2:06:42 PM Revision 1

## JOB DESCRIPTION

LVP SWD #001  
SDG NUMBER 03A1987044

## JOB NUMBER

890-3537-1

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  
12/21/2022 2:06:42 PM  
Revision 1

Authorized for release by  
Holly Taylor, Project Manager  
[Holly.Taylor@et.eurofinsus.com](mailto:Holly.Taylor@et.eurofinsus.com)  
Designee for  
Jessica Kramer, Project Manager  
[Jessica.Kramer@et.eurofinsus.com](mailto:Jessica.Kramer@et.eurofinsus.com)  
(432)704-5440

Client: Ensolum  
Project/Site: LVP SWD #001

Laboratory Job ID: 890-3537-1  
SDG: 03A1987044

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## Definitions/Glossary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3537-1  
SDG: 03A1987044

## Qualifiers

## GC VOA

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

## GC Semi VOA

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

## HPLC/IC

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

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
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: LVP SWD #001

Job ID: 890-3537-1  
SDG: 03A1987044

### Job ID: 890-3537-1

#### Laboratory: Eurofins Carlsbad

#### Narrative

#### Job Narrative 890-3537-1

##### Revision

The report being provided is a revision of the original report sent on 11/29/2022. The report (revision 1) is being revised to change the sampling depth from 0-6' to 0-5' per Glibert Moreno. A revised COC was provided (email).

##### Receipt

The samples were received on 11/18/2022 2:45 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.0° C.

##### GC VOA

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

##### GC Semi VOA

Method 8015B NM: The surrogate recovery for the blank associated with preparation batch 880-40275 and analytical batch 880-40262 was outside the upper control limits.

Method 8015B NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-40275/2-A) and (LCSD 880-40275/3-A). Evidence of matrix interferences is not obvious.

Method 8015B NM: Surrogate recovery for the following samples were outside control limits: SW02 (890-3537-1), (890-3540-A-1-B), (890-3540-A-1-C MS) and (890-3540-A-1-D MSD). 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.

##### General Chemistry

Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-40010 and analytical batch 880-40325 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

##### Organic Prep

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

##### VOA Prep

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

## Client Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3537-1  
SDG: 03A1987044

Client Sample ID: SW02

Lab Sample ID: 890-3537-1

Date Collected: 11/18/22 12:30

Matrix: Solid

Date Received: 11/18/22 14:45

Sample Depth: 0 - 5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		11/28/22 14:35	11/29/22 11:10	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/28/22 14:35	11/29/22 11:10	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/28/22 14:35	11/29/22 11:10	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/28/22 14:35	11/29/22 11:10	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/28/22 14:35	11/29/22 11:10	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/28/22 14:35	11/29/22 11:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130	11/28/22 14:35	11/29/22 11:10	1
1,4-Difluorobenzene (Surr)	106		70 - 130	11/28/22 14:35	11/29/22 11:10	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			11/29/22 14:49	1

## Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			11/28/22 11:40	1

## Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/23/22 09:52	11/23/22 13:28	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/23/22 09:52	11/23/22 13:28	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/23/22 09:52	11/23/22 13:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	111		70 - 130	11/23/22 09:52	11/23/22 13:28	1
o-Terphenyl	138	S1+	70 - 130	11/23/22 09:52	11/23/22 13:28	1

## Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	140		4.96		mg/Kg			11/23/22 23:07	1

Client Sample ID: SW03

Lab Sample ID: 890-3537-2

Date Collected: 11/18/22 12:40

Matrix: Solid

Date Received: 11/18/22 14:45

Sample Depth: 0 - 4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/28/22 14:35	11/29/22 16:13	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/28/22 14:35	11/29/22 16:13	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/28/22 14:35	11/29/22 16:13	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/28/22 14:35	11/29/22 16:13	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/28/22 14:35	11/29/22 16:13	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/28/22 14:35	11/29/22 16:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		70 - 130	11/28/22 14:35	11/29/22 16:13	1

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## Client Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3537-1  
SDG: 03A1987044

Client Sample ID: SW03

Lab Sample ID: 890-3537-2

Date Collected: 11/18/22 12:40

Matrix: Solid

Date Received: 11/18/22 14:45

Sample Depth: 0 - 4

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	109		70 - 130	11/28/22 14:35	11/29/22 16:13	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/29/22 17:14	1

## Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			11/28/22 11:40	1

## Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		11/23/22 09:52	11/23/22 13:49	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		11/23/22 09:52	11/23/22 13:49	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/23/22 09:52	11/23/22 13:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130				11/23/22 09:52	11/23/22 13:49	1
o-Terphenyl	130		70 - 130				11/23/22 09:52	11/23/22 13:49	1

## Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	94.2		4.95		mg/Kg			11/23/22 23:15	1

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## Surrogate Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3537-1  
SDG: 03A1987044

## 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)
890-3537-1	SW02	95	106
890-3537-1 MS	SW02	97	118
890-3537-1 MSD	SW02	93	114
890-3537-2	SW03	91	109
LCS 880-40471/1-A	Lab Control Sample	106	109
LCSD 880-40471/2-A	Lab Control Sample Dup	93	113
MB 880-40471/5-A	Method Blank	82	104

## 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)
890-3537-1	SW02	111	138 S1+
890-3537-2	SW03	105	130
890-3540-A-1-C MS	Matrix Spike	138 S1+	151 S1+
890-3540-A-1-D MSD	Matrix Spike Duplicate	119	140 S1+
LCS 880-40275/2-A	Lab Control Sample	206 S1+	246 S1+
LCSD 880-40275/3-A	Lab Control Sample Dup	208 S1+	244 S1+
MB 880-40275/1-A	Method Blank	129	160 S1+

## Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3537-1  
SDG: 03A1987044

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

Lab Sample ID: MB 880-40471/5-A

Matrix: Solid

Analysis Batch: 40540

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 40471

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/28/22 14:35	11/29/22 10:48	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/28/22 14:35	11/29/22 10:48	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/28/22 14:35	11/29/22 10:48	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/28/22 14:35	11/29/22 10:48	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/28/22 14:35	11/29/22 10:48	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/28/22 14:35	11/29/22 10:48	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	82		70 - 130	11/28/22 14:35	11/29/22 10:48	1
1,4-Difluorobenzene (Surr)	104		70 - 130	11/28/22 14:35	11/29/22 10:48	1

Lab Sample ID: LCS 880-40471/1-A

Matrix: Solid

Analysis Batch: 40540

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 40471

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1088		mg/Kg		109	70 - 130
Toluene	0.100	0.1011		mg/Kg		101	70 - 130
Ethylbenzene	0.100	0.1035		mg/Kg		103	70 - 130
m-Xylene & p-Xylene	0.200	0.2150		mg/Kg		108	70 - 130
o-Xylene	0.100	0.1054		mg/Kg		105	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: LCSD 880-40471/2-A

Matrix: Solid

Analysis Batch: 40540

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 40471

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1068		mg/Kg		107	70 - 130	2	35
Toluene	0.100	0.09285		mg/Kg		93	70 - 130	8	35
Ethylbenzene	0.100	0.08914		mg/Kg		89	70 - 130	15	35
m-Xylene & p-Xylene	0.200	0.1804		mg/Kg		90	70 - 130	18	35
o-Xylene	0.100	0.08869		mg/Kg		89	70 - 130	17	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	93		70 - 130
1,4-Difluorobenzene (Surr)	113		70 - 130

Lab Sample ID: 890-3537-1 MS

Matrix: Solid

Analysis Batch: 40540

Client Sample ID: SW02

Prep Type: Total/NA

Prep Batch: 40471

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U	0.0996	0.1093		mg/Kg		110	70 - 130
Toluene	<0.00201	U	0.0996	0.09247		mg/Kg		93	70 - 130

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## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3537-1  
SDG: 03A1987044

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

Lab Sample ID: 890-3537-1 MS

Matrix: Solid

Analysis Batch: 40540

Client Sample ID: SW02

Prep Type: Total/NA

Prep Batch: 40471

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.0996	0.08852		mg/Kg		89	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.199	0.1775		mg/Kg		89	70 - 130
o-Xylene	<0.00201	U	0.0996	0.08683		mg/Kg		87	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		70 - 130
1,4-Difluorobenzene (Surr)	118		70 - 130

Lab Sample ID: 890-3537-1 MSD

Matrix: Solid

Analysis Batch: 40540

Client Sample ID: SW02

Prep Type: Total/NA

Prep Batch: 40471

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	<0.00201	U	0.0994	0.09554		mg/Kg		96	70 - 130	13	35
Toluene	<0.00201	U	0.0994	0.08081		mg/Kg		81	70 - 130	13	35
Ethylbenzene	<0.00201	U	0.0994	0.07589		mg/Kg		76	70 - 130	15	35
m-Xylene & p-Xylene	<0.00402	U	0.199	0.1519		mg/Kg		76	70 - 130	16	35
o-Xylene	<0.00201	U	0.0994	0.07410		mg/Kg		75	70 - 130	16	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	93		70 - 130
1,4-Difluorobenzene (Surr)	114		70 - 130

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

Lab Sample ID: MB 880-40275/1-A

Matrix: Solid

Analysis Batch: 40262

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 40275

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/23/22 08:32	11/23/22 08:39	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/23/22 08:32	11/23/22 08:39	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/23/22 08:32	11/23/22 08:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	129		70 - 130	11/23/22 08:32	11/23/22 08:39	1
o-Terphenyl	160	S1+	70 - 130	11/23/22 08:32	11/23/22 08:39	1

Lab Sample ID: LCS 880-40275/2-A

Matrix: Solid

Analysis Batch: 40262

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 40275

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1024		mg/Kg		102	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1217		mg/Kg		122	70 - 130

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## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3537-1  
SDG: 03A1987044

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

Lab Sample ID: LCS 880-40275/2-A

Matrix: Solid

Analysis Batch: 40262

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 40275

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	206	S1+	70 - 130
o-Terphenyl	246	S1+	70 - 130

Lab Sample ID: LCSD 880-40275/3-A

Matrix: Solid

Analysis Batch: 40262

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 40275

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	998.9		mg/Kg		100	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	1210		mg/Kg		121	70 - 130	1	20
Surrogate	LCSD	LCSD									
	%Recovery	Qualifier	Limits								
1-Chlorooctane	208	S1+	70 - 130								
o-Terphenyl	244	S1+	70 - 130								

Lab Sample ID: 890-3540-A-1-C MS

Matrix: Solid

Analysis Batch: 40262

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 40275

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	997	1063		mg/Kg		107	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	997	1225		mg/Kg		121	70 - 130		
Surrogate	MS	MS									
	%Recovery	Qualifier	Limits								
1-Chlorooctane	138	S1+	70 - 130								
o-Terphenyl	151	S1+	70 - 130								

Lab Sample ID: 890-3540-A-1-D MSD

Matrix: Solid

Analysis Batch: 40262

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 40275

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	999	901.4		mg/Kg		90	70 - 130	16	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	1116		mg/Kg		110	70 - 130	9	20
Surrogate	MSD	MSD									
	%Recovery	Qualifier	Limits								
1-Chlorooctane	119		70 - 130								
o-Terphenyl	140	S1+	70 - 130								

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## QC Sample Results

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3537-1  
SDG: 03A1987044

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-40010/1-A

Matrix: Solid

Analysis Batch: 40325

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/23/22 19:11	1

Lab Sample ID: LCS 880-40010/2-A

Matrix: Solid

Analysis Batch: 40325

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	243.9		mg/Kg		98	90 - 110

Lab Sample ID: LCSD 880-40010/3-A

Matrix: Solid

Analysis Batch: 40325

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	246.3		mg/Kg		99	90 - 110	1	20

Lab Sample ID: 890-3526-A-1-B MS

Matrix: Solid

Analysis Batch: 40325

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	458	F1	250	669.7	F1	mg/Kg		85	90 - 110

Lab Sample ID: 890-3526-A-1-C MSD

Matrix: Solid

Analysis Batch: 40325

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	458	F1	250	670.8	F1	mg/Kg		85	90 - 110	0	20

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## QC Association Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3537-1  
SDG: 03A1987044

## GC VOA

## Prep Batch: 40471

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3537-1	SW02	Total/NA	Solid	5035	
890-3537-2	SW03	Total/NA	Solid	5035	
MB 880-40471/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-40471/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-40471/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3537-1 MS	SW02	Total/NA	Solid	5035	
890-3537-1 MSD	SW02	Total/NA	Solid	5035	

## Analysis Batch: 40540

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3537-1	SW02	Total/NA	Solid	8021B	40471
890-3537-2	SW03	Total/NA	Solid	8021B	40471
MB 880-40471/5-A	Method Blank	Total/NA	Solid	8021B	40471
LCS 880-40471/1-A	Lab Control Sample	Total/NA	Solid	8021B	40471
LCSD 880-40471/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	40471
890-3537-1 MS	SW02	Total/NA	Solid	8021B	40471
890-3537-1 MSD	SW02	Total/NA	Solid	8021B	40471

## Analysis Batch: 40618

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3537-1	SW02	Total/NA	Solid	Total BTEX	
890-3537-2	SW03	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Analysis Batch: 40262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3537-1	SW02	Total/NA	Solid	8015B NM	40275
890-3537-2	SW03	Total/NA	Solid	8015B NM	40275
MB 880-40275/1-A	Method Blank	Total/NA	Solid	8015B NM	40275
LCS 880-40275/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	40275
LCSD 880-40275/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	40275
890-3540-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	40275
890-3540-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	40275

## Prep Batch: 40275

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3537-1	SW02	Total/NA	Solid	8015NM Prep	
890-3537-2	SW03	Total/NA	Solid	8015NM Prep	
MB 880-40275/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-40275/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-40275/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3540-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3540-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 40441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3537-1	SW02	Total/NA	Solid	8015 NM	
890-3537-2	SW03	Total/NA	Solid	8015 NM	

Eurofins Carlsbad

## QC Association Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3537-1  
SDG: 03A1987044

## HPLC/IC

## Leach Batch: 40010

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3537-1	SW02	Soluble	Solid	DI Leach	
890-3537-2	SW03	Soluble	Solid	DI Leach	
MB 880-40010/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-40010/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-40010/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3526-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3526-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

## Analysis Batch: 40325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3537-1	SW02	Soluble	Solid	300.0	40010
890-3537-2	SW03	Soluble	Solid	300.0	40010
MB 880-40010/1-A	Method Blank	Soluble	Solid	300.0	40010
LCS 880-40010/2-A	Lab Control Sample	Soluble	Solid	300.0	40010
LCSD 880-40010/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	40010
890-3526-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	40010
890-3526-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	40010

## Lab Chronicle

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3537-1  
SDG: 03A1987044

Client Sample ID: SW02

Lab Sample ID: 890-3537-1

Date Collected: 11/18/22 12:30

Matrix: Solid

Date Received: 11/18/22 14:45

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	40471	11/28/22 14:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40540	11/29/22 11:10	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			40618	11/29/22 14:49	SM	EET MID
Total/NA	Analysis	8015 NM		1			40441	11/28/22 11:40	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	40275	11/23/22 09:52	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	40262	11/23/22 13:28	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	40010	11/20/22 12:21	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	40325	11/23/22 23:07	CH	EET MID

Client Sample ID: SW03

Lab Sample ID: 890-3537-2

Date Collected: 11/18/22 12:40

Matrix: Solid

Date Received: 11/18/22 14:45

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	40471	11/28/22 14:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40540	11/29/22 16:13	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			40618	11/29/22 17:14	SM	EET MID
Total/NA	Analysis	8015 NM		1			40441	11/28/22 11:40	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	40275	11/23/22 09:52	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	40262	11/23/22 13:49	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	40010	11/20/22 12:21	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	40325	11/23/22 23:15	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: LVP SWD #001

Job ID: 890-3537-1  
SDG: 03A1987044

Laboratory: Eurofins Midland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
N/A	N/A	None on record.	

- 1
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Method Summary

Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3537-1  
SDG: 03A1987044

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

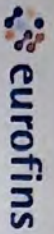
Client: Ensolum  
Project/Site: LVP SWD #001

Job ID: 890-3537-1  
SDG: 03A1987044

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3537-1	SW02	Solid	11/18/22 12:30	11/18/22 14:45	0 - 5
890-3537-2	SW03	Solid	11/18/22 12:40	11/18/22 14:45	0 - 4

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## Environmental Testing

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:**

Page 1 of 1

<b>Project Manager:</b>	Joseph Hernandez	<b>Bill to: (if different)</b>	Jim Raley
<b>Company Name:</b>	Ensolum	<b>Company Name:</b>	WPX
<b>Address:</b>	3122 National Parks HWY	<b>Address:</b>	5315 Buena Vista Dr.
<b>City, State ZIP:</b>	Carlsbad, NM 88220	<b>City, State ZIP:</b>	Carlsbad, NM 88220
<b>Phone:</b>	281-702-2329	<b>Email:</b>	jhernandez@Ensolum.com, jim.raley@dyn.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:		LVP SWD #001		Turn Around		Pres. Code		ANALYSIS REQUEST										Preservative Codes							
Project Number:		03A1987044		<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush														None: NO							
Project Location:		Rural Eddy, NM		Due Date:		5 Day TAT												Cool: Cool							
Sampler's Name:		Gilbert Moreno		TAT starts the day received by the lab, if received by 4:30pm														HCL: HC							
CC #:		9005003893																H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub>							
SAMPLE RECEIPT				Temp Blank:		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Wet Ice:		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>												H <sub>3</sub> PO <sub>4</sub> : HP			
Samples Received In tact:		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Thermometer ID:		T1W-137																NaHSO <sub>4</sub> : NABIS			
Cooler Custody Seals:		Yes No		N/A		Correction Factor:		-0.2														Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub>			
Sample Custody Seals:		Yes No		N/A		Temperature Reading:		3.2														Zn Acetate+NaOH: Zn			
Total Containers:						Corrected Temperature:		3.0														NaOH+Ascorbic Acid: SACP			

[illegible]

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 <sub>2</sub> 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

**Notices:** Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xeno, its affiliates and subcontractors. Reasonable standard terms and conditions of service, Eurofins Xeno 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 Xeno. A minimum charge of \$65.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xeno, 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>Carlyne</i>	<i>Aracela S. Luf</i>	11/16/22 1442			
1		4			
3		6			

Revised Date: 08/25/2020 Rev. 2000 2

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3537-1

SDG Number: 03A1987044

Login Number: 3537

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	



## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3537-1

SDG Number: 03A1987044

Login Number: 3537

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 11/22/22 11:47 AM

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	

## Envirotech Analytical Laboratory

Printed: 10/13/2023 1:02:42PM

## Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Devon Energy - Carlsbad	Date Received:	10/13/23 08:15	Work Order ID:	E310090
Phone:	(505) 382-1211	Date Logged In:	10/12/23 16:16	Logged In By:	Caitlin Mars
Email:	ashley.giovengo@wescominc.com	Due Date:	10/19/23 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierComments/ResolutionSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
  - Sample ID? Yes
  - Date/Time Collected? Yes
  - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Report to:

Ashley Giovengo



5796 U.S. Hwy 64  
Farmington, NM 87401

Phone: (505) 632-1881  
Envirotech-inc.com



# envirotech

*Practical Solutions for a Better Tomorrow*

## Analytical Report

Devon Energy - Carlsbad

Project Name: LVP SWD #001

Work Order: E310090

Job Number: 01058-0007

Received: 10/13/2023

Revision: 2

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
10/27/23

Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.  
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.  
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.  
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.  
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 10/27/23

Ashley Giovengo  
6488 7 Rivers Hwy  
Artesia, NM 88210



Project Name: LVP SWD #001  
Workorder: E310090  
Date Received: 10/13/2023 8:15:00AM

Ashley Giovengo,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 10/13/2023 8:15:00AM, under the Project Name: LVP SWD #001.

The analytical test results summarized in this report with the Project Name: LVP SWD #001 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

**Walter Hinchman**  
Laboratory Director  
Office: 505-632-1881  
Cell: 775-287-1762  
[whinchman@envirotech-inc.com](mailto:whinchman@envirotech-inc.com)

**Raina Schwanz**  
Laboratory Administrator  
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[rainaschwanz@envirotech-inc.com](mailto:rainaschwanz@envirotech-inc.com)

**Alexa Michaels**  
Sample Custody Officer  
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[labadmin@envirotech-inc.com](mailto:labadmin@envirotech-inc.com)

Field Offices:

**Southern New Mexico Area**

**Lynn Jarboe**  
Laboratory Technical Representative  
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[ljjarboe@envirotech-inc.com](mailto:ljjarboe@envirotech-inc.com)

**Michelle Golzaes**  
Client Representative  
Office: 505-421-LABS(5227)  
Cell: 505-947-8222  
[mgonzales@envirotech-inc.com](mailto:mgonzales@envirotech-inc.com)

Envirotech Web Address: [www.envirotech-inc.com](http://www.envirotech-inc.com)

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Sample Summary

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	10/27/23 12:49

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
FS04A - 5'	E310090-01A	Solid	10/11/23	10/13/23	Glass Jar, 2 oz.
FS05A - 5'	E310090-02A	Solid	10/11/23	10/13/23	Glass Jar, 2 oz.
FS06A - 4'	E310090-03A	Solid	10/11/23	10/13/23	Glass Jar, 2 oz.
FS07A - 4'	E310090-04A	Solid	10/11/23	10/13/23	Glass Jar, 2 oz.
FS08A - 5'	E310090-05A	Solid	10/11/23	10/13/23	Glass Jar, 2 oz.
FS09A - 4.5'	E310090-06A	Solid	10/11/23	10/13/23	Glass Jar, 2 oz.
FS10A - 4.5'	E310090-07A	Solid	10/11/23	10/13/23	Glass Jar, 2 oz.
FS11A - 4'	E310090-08A	Solid	10/11/23	10/13/23	Glass Jar, 2 oz.
FS12A - 4'	E310090-09A	Solid	10/11/23	10/13/23	Glass Jar, 2 oz.



## Sample Data

Devon Energy - Carlsbad  
6488 7 Rivers Hwy  
Artesia NM, 88210

Project Name: LVP SWD #001  
Project Number: 01058-0007  
Project Manager: Ashley Giovengo

**Reported:**  
10/27/2023 12:49:08PM

## FS04A - 5'

## E310090-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2341096
Benzene	ND	0.0250	1	10/13/23	10/13/23	
Ethylbenzene	ND	0.0250	1	10/13/23	10/13/23	
Toluene	ND	0.0250	1	10/13/23	10/13/23	
o-Xylene	ND	0.0250	1	10/13/23	10/13/23	
p,m-Xylene	ND	0.0500	1	10/13/23	10/13/23	
Total Xylenes	ND	0.0250	1	10/13/23	10/13/23	
Surrogate: 4-Bromochlorobenzene-PID	95.3 %	70-130		10/13/23	10/13/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2341096
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/13/23	10/13/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID	91.7 %	70-130		10/13/23	10/13/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: KM		Batch: 2341111
Diesel Range Organics (C10-C28)	ND	25.0	1	10/13/23	10/18/23	
Oil Range Organics (C28-C36)	ND	50.0	1	10/13/23	10/18/23	
Surrogate: n-Nonane	94.3 %	50-200		10/13/23	10/18/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2341099
Chloride	385	20.0	1	10/13/23	10/13/23	



## Sample Data

Devon Energy - Carlsbad  
6488 7 Rivers Hwy  
Artesia NM, 88210

Project Name: LVP SWD #001  
Project Number: 01058-0007  
Project Manager: Ashley Giovengo

**Reported:**  
10/27/2023 12:49:08PM

FS05A - 5'

E310090-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: RKS		Batch: 2341096	
Benzene	ND	0.0250	1	10/13/23	10/13/23	
Ethylbenzene	ND	0.0250	1	10/13/23	10/13/23	
Toluene	ND	0.0250	1	10/13/23	10/13/23	
o-Xylene	ND	0.0250	1	10/13/23	10/13/23	
p,m-Xylene	ND	0.0500	1	10/13/23	10/13/23	
Total Xylenes	ND	0.0250	1	10/13/23	10/13/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	95.3 %	70-130		10/13/23	10/13/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: RKS		Batch: 2341096	
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/13/23	10/13/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	90.5 %	70-130		10/13/23	10/13/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: KM		Batch: 2341111	
Diesel Range Organics (C10-C28)	ND	25.0	1	10/13/23	10/18/23	
Oil Range Organics (C28-C36)	ND	50.0	1	10/13/23	10/18/23	
<i>Surrogate: n-Nonane</i>	86.2 %	50-200		10/13/23	10/18/23	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: IY		Batch: 2341099	
Chloride	1540	20.0	1	10/13/23	10/13/23	





Sample Data

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name: LVP SWD #001 Project Number: 01058-0007 Project Manager: Ashley Giovengo	Reported: 10/27/2023 12:49:08PM
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FS06A - 4'  
E310090-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: RKS		Batch: 2341096	
Benzene	ND	0.0250	1	10/13/23	10/13/23	
Ethylbenzene	ND	0.0250	1	10/13/23	10/13/23	
Toluene	ND	0.0250	1	10/13/23	10/13/23	
o-Xylene	ND	0.0250	1	10/13/23	10/13/23	
p,m-Xylene	ND	0.0500	1	10/13/23	10/13/23	
Total Xylenes	ND	0.0250	1	10/13/23	10/13/23	
Surrogate: 4-Bromochlorobenzene-PID	94.8 %	70-130		10/13/23	10/13/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: RKS		Batch: 2341096	
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/13/23	10/13/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID	91.2 %	70-130		10/13/23	10/13/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: KM		Batch: 2341111	
Diesel Range Organics (C10-C28)	ND	25.0	1	10/13/23	10/18/23	
Oil Range Organics (C28-C36)	ND	50.0	1	10/13/23	10/18/23	
Surrogate: n-Nonane	96.4 %	50-200		10/13/23	10/18/23	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: IY		Batch: 2341099	
Chloride	3010	40.0	2	10/13/23	10/13/23	



## Sample Data

Devon Energy - Carlsbad  
6488 7 Rivers Hwy  
Artesia NM, 88210

Project Name: LVP SWD #001  
Project Number: 01058-0007  
Project Manager: Ashley Giovengo

**Reported:**  
10/27/2023 12:49:08PM

FS07A - 4'

E310090-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2341096
Benzene	ND	0.0250	1	10/13/23	10/13/23	
Ethylbenzene	ND	0.0250	1	10/13/23	10/13/23	
Toluene	ND	0.0250	1	10/13/23	10/13/23	
o-Xylene	ND	0.0250	1	10/13/23	10/13/23	
p,m-Xylene	ND	0.0500	1	10/13/23	10/13/23	
Total Xylenes	ND	0.0250	1	10/13/23	10/13/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	95.0 %	70-130		10/13/23	10/13/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2341096
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/13/23	10/13/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	90.6 %	70-130		10/13/23	10/13/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: KM		Batch: 2341111
Diesel Range Organics (C10-C28)	ND	25.0	1	10/13/23	10/18/23	
Oil Range Organics (C28-C36)	ND	50.0	1	10/13/23	10/18/23	
<i>Surrogate: n-Nonane</i>						
	95.3 %	50-200		10/13/23	10/18/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2341099
Chloride	2160	40.0	2	10/13/23	10/13/23	



## Sample Data

Devon Energy - Carlsbad  
6488 7 Rivers Hwy  
Artesia NM, 88210

Project Name: LVP SWD #001  
Project Number: 01058-0007  
Project Manager: Ashley Giovengo

**Reported:**  
10/27/2023 12:49:08PM

FS08A - 5'

E310090-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2341096
Benzene	ND	0.0250	1	10/13/23	10/13/23	
Ethylbenzene	ND	0.0250	1	10/13/23	10/13/23	
Toluene	ND	0.0250	1	10/13/23	10/13/23	
o-Xylene	ND	0.0250	1	10/13/23	10/13/23	
p,m-Xylene	ND	0.0500	1	10/13/23	10/13/23	
Total Xylenes	ND	0.0250	1	10/13/23	10/13/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	94.5 %	70-130		10/13/23	10/13/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2341096
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/13/23	10/13/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	90.0 %	70-130		10/13/23	10/13/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: KM		Batch: 2341111
Diesel Range Organics (C10-C28)	ND	25.0	1	10/13/23	10/18/23	
Oil Range Organics (C28-C36)	ND	50.0	1	10/13/23	10/18/23	
<i>Surrogate: n-Nonane</i>						
	80.7 %	50-200		10/13/23	10/18/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2341099
Chloride	3680	40.0	2	10/13/23	10/13/23	



Sample Data

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name: LVP SWD #001 Project Number: 01058-0007 Project Manager: Ashley Giovengo	Reported: 10/27/2023 12:49:08PM
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FS09A - 4.5'  
E310090-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: RKS		Batch: 2341096	
Benzene	ND	0.0250	1	10/13/23	10/13/23	
Ethylbenzene	ND	0.0250	1	10/13/23	10/13/23	
Toluene	ND	0.0250	1	10/13/23	10/13/23	
o-Xylene	ND	0.0250	1	10/13/23	10/13/23	
p,m-Xylene	ND	0.0500	1	10/13/23	10/13/23	
Total Xylenes	ND	0.0250	1	10/13/23	10/13/23	
Surrogate: 4-Bromochlorobenzene-PID	94.9 %	70-130		10/13/23	10/13/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: RKS		Batch: 2341096	
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/13/23	10/13/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID	90.9 %	70-130		10/13/23	10/13/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: KM		Batch: 2341111	
Diesel Range Organics (C10-C28)	ND	25.0	1	10/13/23	10/18/23	
Oil Range Organics (C28-C36)	ND	50.0	1	10/13/23	10/18/23	
Surrogate: n-Nonane	91.6 %	50-200		10/13/23	10/18/23	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: IY		Batch: 2341099	
Chloride	1750	20.0	1	10/13/23	10/13/23	



## Sample Data

Devon Energy - Carlsbad  
6488 7 Rivers Hwy  
Artesia NM, 88210

Project Name: LVP SWD #001  
Project Number: 01058-0007  
Project Manager: Ashley Giovengo

**Reported:**  
10/27/2023 12:49:08PM

## FS10A - 4.5'

## E310090-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2341096
Benzene	ND	0.0250	1	10/13/23	10/13/23	
Ethylbenzene	ND	0.0250	1	10/13/23	10/13/23	
Toluene	ND	0.0250	1	10/13/23	10/13/23	
o-Xylene	ND	0.0250	1	10/13/23	10/13/23	
p,m-Xylene	ND	0.0500	1	10/13/23	10/13/23	
Total Xylenes	ND	0.0250	1	10/13/23	10/13/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	94.7 %	70-130		10/13/23	10/13/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2341096
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/13/23	10/13/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	90.6 %	70-130		10/13/23	10/13/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: KM		Batch: 2341111
Diesel Range Organics (C10-C28)	ND	25.0	1	10/13/23	10/18/23	
Oil Range Organics (C28-C36)	ND	50.0	1	10/13/23	10/18/23	
<i>Surrogate: n-Nonane</i>						
	100 %	50-200		10/13/23	10/18/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2341099
Chloride	1970	20.0	1	10/13/23	10/13/23	



## Sample Data

Devon Energy - Carlsbad  
6488 7 Rivers Hwy  
Artesia NM, 88210

Project Name: LVP SWD #001  
Project Number: 01058-0007  
Project Manager: Ashley Giovengo

**Reported:**  
10/27/2023 12:49:08PM

FS11A - 4'

E310090-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2341096
Benzene	ND	0.0250	1	10/13/23	10/14/23	
Ethylbenzene	ND	0.0250	1	10/13/23	10/14/23	
Toluene	ND	0.0250	1	10/13/23	10/14/23	
o-Xylene	ND	0.0250	1	10/13/23	10/14/23	
p,m-Xylene	ND	0.0500	1	10/13/23	10/14/23	
Total Xylenes	ND	0.0250	1	10/13/23	10/14/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	94.7 %	70-130		10/13/23	10/14/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2341096
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/13/23	10/14/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	90.4 %	70-130		10/13/23	10/14/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: KM		Batch: 2341111
Diesel Range Organics (C10-C28)	ND	25.0	1	10/13/23	10/18/23	
Oil Range Organics (C28-C36)	ND	50.0	1	10/13/23	10/18/23	
<i>Surrogate: n-Nonane</i>						
	97.1 %	50-200		10/13/23	10/18/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2341099
Chloride	763	20.0	1	10/13/23	10/13/23	



Sample Data

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name: LVP SWD #001 Project Number: 01058-0007 Project Manager: Ashley Giovengo	Reported: 10/27/2023 12:49:08PM
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FS12A - 4'  
E310090-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: RKS		Batch: 2341096	
Benzene	ND	0.0250	1	10/13/23	10/14/23	
Ethylbenzene	ND	0.0250	1	10/13/23	10/14/23	
Toluene	ND	0.0250	1	10/13/23	10/14/23	
o-Xylene	ND	0.0250	1	10/13/23	10/14/23	
p,m-Xylene	ND	0.0500	1	10/13/23	10/14/23	
Total Xylenes	ND	0.0250	1	10/13/23	10/14/23	
Surrogate: 4-Bromochlorobenzene-PID	94.8 %	70-130		10/13/23	10/14/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: RKS		Batch: 2341096	
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/13/23	10/14/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID	90.8 %	70-130		10/13/23	10/14/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: KM		Batch: 2341111	
Diesel Range Organics (C10-C28)	ND	25.0	1	10/13/23	10/18/23	
Oil Range Organics (C28-C36)	ND	50.0	1	10/13/23	10/18/23	
Surrogate: n-Nonane	91.9 %	50-200		10/13/23	10/18/23	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: IY		Batch: 2341099	
Chloride	361	20.0	1	10/13/23	10/13/23	



## QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	10/27/2023 12:49:08PM

## Volatile Organics by EPA 8021B

Analyst: RKS

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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## Blank (2341096-BLK1)

Prepared: 10/13/23 Analyzed: 10/13/23

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.42		8.00		92.8	70-130			

## LCS (2341096-BS1)

Prepared: 10/13/23 Analyzed: 10/13/23

Benzene	4.78	0.0250	5.00		95.6	70-130			
Ethylbenzene	4.62	0.0250	5.00		92.4	70-130			
Toluene	4.79	0.0250	5.00		95.8	70-130			
o-Xylene	4.76	0.0250	5.00		95.2	70-130			
p,m-Xylene	9.57	0.0500	10.0		95.7	70-130			
Total Xylenes	14.3	0.0250	15.0		95.6	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.52		8.00		93.9	70-130			

## Matrix Spike (2341096-MS1)

Source: E310083-01

Prepared: 10/13/23 Analyzed: 10/13/23

Benzene	4.89	0.0250	5.00	ND	97.7	54-133			
Ethylbenzene	4.70	0.0250	5.00	ND	94.1	61-133			
Toluene	4.89	0.0250	5.00	ND	97.9	61-130			
o-Xylene	4.84	0.0250	5.00	ND	96.8	63-131			
p,m-Xylene	9.74	0.0500	10.0	ND	97.4	63-131			
Total Xylenes	14.6	0.0250	15.0	ND	97.2	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.60		8.00		95.0	70-130			

## Matrix Spike Dup (2341096-MSD1)

Source: E310083-01

Prepared: 10/13/23 Analyzed: 10/13/23

Benzene	4.76	0.0250	5.00	ND	95.2	54-133	2.61	20	
Ethylbenzene	4.59	0.0250	5.00	ND	91.8	61-133	2.45	20	
Toluene	4.77	0.0250	5.00	ND	95.3	61-130	2.61	20	
o-Xylene	4.72	0.0250	5.00	ND	94.5	63-131	2.49	20	
p,m-Xylene	9.52	0.0500	10.0	ND	95.2	63-131	2.35	20	
Total Xylenes	14.2	0.0250	15.0	ND	94.9	63-131	2.39	20	
Surrogate: 4-Bromochlorobenzene-PID	7.64		8.00		95.5	70-130			





QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	10/27/2023 12:49:08PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: RKS

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2341096-BLK1) Prepared: 10/13/23 Analyzed: 10/13/23

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.22		8.00		90.2	70-130			

LCS (2341096-BS2) Prepared: 10/13/23 Analyzed: 10/13/23

Gasoline Range Organics (C6-C10)	46.6	20.0	50.0		93.3	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.26		8.00		90.7	70-130			

Matrix Spike (2341096-MS2) Source: E310083-01 Prepared: 10/13/23 Analyzed: 10/13/23

Gasoline Range Organics (C6-C10)	45.9	20.0	50.0	ND	91.8	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.35		8.00		91.9	70-130			

Matrix Spike Dup (2341096-MSD2) Source: E310083-01 Prepared: 10/13/23 Analyzed: 10/13/23

Gasoline Range Organics (C6-C10)	45.0	20.0	50.0	ND	90.1	70-130	1.91	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.32		8.00		91.5	70-130			



QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	10/27/2023 12:49:08PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2341111-BLK1)					Prepared: 10/13/23 Analyzed: 10/18/23				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	48.3		50.0		96.6	50-200			

LCS (2341111-BS1)					Prepared: 10/13/23 Analyzed: 10/18/23				
Diesel Range Organics (C10-C28)	248	25.0	250		99.3	38-132			
Surrogate: n-Nonane	47.8		50.0		95.7	50-200			

Matrix Spike (2341111-MS1)					Source: E310090-07		Prepared: 10/13/23 Analyzed: 10/18/23		
Diesel Range Organics (C10-C28)	247	25.0	250	ND	98.7	38-132			
Surrogate: n-Nonane	49.7		50.0		99.4	50-200			

Matrix Spike Dup (2341111-MSD1)					Source: E310090-07		Prepared: 10/13/23 Analyzed: 10/18/23		
Diesel Range Organics (C10-C28)	266	25.0	250	ND	107	38-132	7.65	20	
Surrogate: n-Nonane	53.1		50.0		106	50-200			



QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	10/27/2023 12:49:08PM

Anions by EPA 300.0/9056A

Analyst: IY

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2341099-BLK1)					Prepared: 10/13/23 Analyzed: 10/13/23				
Chloride	ND	20.0							
LCS (2341099-BS1)					Prepared: 10/13/23 Analyzed: 10/13/23				
Chloride	246	20.0	250		98.3	90-110			
Matrix Spike (2341099-MS1)					Source: E310079-21		Prepared: 10/13/23 Analyzed: 10/13/23		
Chloride	251	20.0	250	ND	100	80-120			
Matrix Spike Dup (2341099-MSD1)					Source: E310079-21		Prepared: 10/13/23 Analyzed: 10/13/23		
Chloride	253	20.0	250	ND	101	80-120	0.882	20	

QC Summary Report Comment:  
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.  
Therefore, hand calculated values may differ slightly.



Definitions and Notes

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	
6488 7 Rivers Hwy	Project Number:	01058-0007	Reported:
Artesia NM, 88210	Project Manager:	Ashley Giovengo	10/27/23 12:49

- ND Analyte NOT DETECTED at or above the reporting limit
  - NR Not Reported
  - RPD Relative Percent Difference
  - DNI Did Not Ignite
  - DNR Did not react with the addition of acid or base.
- Note (1): Methods marked with \*\* are non-accredited methods.
- Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



## Project Information

## Chain of Custody

Page 1 of 1

E310090 CM

Client: Devon Energy	<b>Bill To</b>	<b>Lab Use Only</b>	<b>TAT</b>	<b>EPA Program</b>				
Project: LVP SWD #001	Attention: Jim Raley	Lab WO# <del>E31090</del>	1D 2D 3D Standard	CWA SDWA				
Project Manager: Ashley Giovengo	Address: 5315 Buena Vista Dr	Job Number 01058-0007	X					
Address: 3122 National Parks Hwy	City, State, Zip: Carlsbad NM, 88220	Analysis and Method		RCRA				
City, State, Zip: Carlsbad NM, 88220	Phone: (575)689-7597	TPH GRO/DRO/ORO by 8015	BTEX by 8021	VOC by 8260				
Phone: 575-988-0055	Email: jim.raley@dvn.com				Metals 6010	Chloride 300.0	BGDOC NM	GDOC TX
Email: agiovengo@ensolum.com								
Report due by:								

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number	TPH GRO/DRO/ORO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	BGDOC NM	GDOC TX	Remarks
11:20	10/11/2023	Rock	1	FS04 - 5'	1						X		
11:27	10/11/2023	Rock	1	FS05 - 5'	2						X		
10:07	10/11/2023	Rock	1	FS06 - 4'	3						X		
11:02	10/11/2023	Rock	1	FS07 - 4'	4						X		
11:10	10/11/2023	Rock	1	FS08 - 5'	5						X		
9:54	10/11/2023	Rock	1	FS09 - 4.5'	6						X		
9:45	10/11/2023	Rock	1	FS10 - 4.5'	7						X		
10:23	10/11/2023	Rock	1	FS11 - 4'	8						X		
10:42	10/11/2023	Rock	1	FS12 - 4'	9						X		

**Additional Instructions:** Please CC: cburton@ensolum.com, agiovengo@ensolum.com, jim.raley@dvn.com, chamilton@ensolum.com

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.						Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 5°C on subsequent days.					
Sampled by: Chad Hamilton, Ethan Haft											
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	<b>Lab Use Only</b> Received on ice: <input checked="" type="radio"/> Y / <input type="radio"/> N T1 _____ T2 _____ T3 _____ AVG Temp °C <u>4</u>					
<i>Michelle Gayle</i>	10/12/23	10:45	<i>Michelle Gayle</i>	10/12/23	10:45						
<i>Andrew Musso</i>	10/12/23	1800	<i>Andrew Musso</i>	10/12/23	1800						
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time						
<i>Andrew Musso</i>	10/12/23	2400	<i>Carthia Mares</i>	10/13/23	8:15						
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other						Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA					
Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.											



# envirotech

## Envirotech Analytical Laboratory

Printed: 10/13/2023 1:02:42PM

## Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Devon Energy - Carlsbad	Date Received:	10/13/23 08:15	Work Order ID:	E310090
Phone:	(505) 382-1211	Date Logged In:	10/12/23 16:16	Logged In By:	Caitlin Mars
Email:	ashley.giovengo@wescominc.com	Due Date:	10/19/23 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierComments/ResolutionSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
  - Sample ID? Yes
  - Date/Time Collected? Yes
  - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.









## APPENDIX G

### Email Correspondence

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## Erick Herrera

---

**From:** Erick Herrera  
**Sent:** Wednesday, November 9, 2022 3:44 PM  
**To:** OCD.Enviro@emnrd.nm.gov; 'CFO\_Spill, BLM\_NM'  
**Cc:** Raley, Jim; Devon-Team  
**Subject:** WPX Site Sampling Activity Update (11/14 - 11/18)

Good afternoon,

WPX anticipates conducting confirmation soil sampling activities at the following sites between November 14<sup>th</sup> – November 18<sup>th</sup>, 2022:

Site Name: LVP #001  
API: 30-015-42234  
Incident Number: nAPP2135033453

Thank you,



**Erick Herrera**  
Staff Geologist  
281-777-4152  
**Ensolum, LLC**  
in f

**PLEASE NOTE OUR NEW CORPORATE ADDRESS:**

Ensolum, LLC  
8330 LBJ Freeway, Ste. B830  
Dallas, TX 75243

**From:** [Enviro, OCD, EMNRD](#)  
**To:** [Joseph Hernandez](#)  
**Cc:** [Bratcher, Michael, EMNRD](#); [Nobui, Jennifer, EMNRD](#)  
**Subject:** RE: [EXTERNAL] WPX Site Sampling Activity Update (11/21 - 11/23)  
**Date:** Thursday, November 17, 2022 9:05:00 AM  
**Attachments:** [image006.png](#)  
[image007.png](#)  
[image008.png](#)  
[image009.png](#)

---

[ \*\*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](mailto:Jocelyn.Harimon@emnrd.nm.gov)  
[http:// www.emnrd.nm.gov](http://www.emnrd.nm.gov)



---

**From:** Joseph Hernandez <jhernandez@ensolum.com>  
**Sent:** Wednesday, November 16, 2022 4:40 PM  
**To:** Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>; 'CFO\_Spill, BLM\_NM' <blm\_nm\_cfo\_spill@blm.gov>  
**Cc:** Raley, Jim <jim.raley@dvn.com>; Devon-Team <Devon-Team@ensolum.com>  
**Subject:** [EXTERNAL] WPX Site Sampling Activity Update (11/21 - 11/23)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.


Good afternoon,

WPX anticipates conducting confirmation soil sampling activities at the following sites between November 21<sup>st</sup> – November 23<sup>rd</sup>, 2022:

Site Name: LVP #001  
API: 30-015-42234  
Incident Number: nAPP2135033453

**Joseph S. Hernandez**



Senior Geologist  
281-702-2329  
Ensolum, LLC  
in f 

**PLEASE NOTE OUR NEW CORPORATE ADDRESS:**

Ensolum, LLC

8330 LBJ Freeway, Ste. B830

Dallas, TX 75243

**From:** [Cole Burton](#)  
**To:** [Enviro, OCD, EMNRD](#)  
**Cc:** [Ashley Giovengo](#); [Raley, Jim](#); [Chad Hamilton](#)  
**Subject:** 48-hour Confirmation Sampling Notification Email - LVP SWD #001 - Incident Number nAPP2135033453  
**Date:** Tuesday, October 10, 2023 7:32:00 AM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)

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Hello,

We intend to collect confirmation samples at Devon Energy's, LVP SWD #001 site (Incident Number nAPP2135033453) beginning on Wednesday, October 11, 2023, at 09:00 am MST through Thursday, October 12, 2023.

Please let us know if you plan to be onsite to oversee the sampling.

Thanks,



**Cole Burton**  
Project Manager  
575-706-5056  
**Ensolum, LLC**  
in f 



APPENDIX H

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	nAPP2135033453
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: WPX Energy Permian, LLC	OGRID: 246289
Contact Name: Jim Raley	Contact Telephone: 575-689-7597
Contact email: jim.ralej@dvn.com	Incident # (assigned by OCD ) nAPP2135033453
Contact mailing address: 5315 Buena Vista Dr., Carlsbad NM 88220	

Location of Release Source

Latitude 32.3330917 \_\_\_\_\_ Longitude -104.0850372 \_\_\_\_\_  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: LVP SWD #001	Site Type: SWD
Date Release Discovered: December 3 <sup>rd</sup> , 2021	API# (if applicable) 30-015-42234

Unit Letter	Section	Township	Range	County
I	04	23S	28E	Eddy

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

Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls) 0	Volume Recovered (bbls) 0
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 200	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: Connection point on underground produced water transfer line failed. Line was uncovered for repair and extent of release delineated.


$$bbl\ estimate = (saturated\ soil\ volume(ft^3)) / (4.21((ft^3)/(bbl\ equivalent))) * estimated\ soil\ porosity\ (\%) + recovered\ fluids\ (bbls)$$

Incident ID	nAPP2135033453
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? Exceeds 25bbls of Produced Water released.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc) Yes. Mike Bratcher and Emily Hernandez on 12/3/2021 via email.	

## 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: James Raley	Title: Environmental Specialist
Signature: 	Date: 12/16/2021
email: jim.raley@dvn.com	Telephone: 575-689-7597
<b>OCD Only</b>	
Received by: Ramona Marcus	Date: 12/20/2021

**District I**  
1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720  
**District II**  
811 S. First St., Artesia, NM 88210  
Phone:(575) 748-1283 Fax:(575) 748-9720  
**District III**  
1000 Rio Brazos Rd., Aztec, NM 87410  
Phone:(505) 334-6178 Fax:(505) 334-6170  
**District IV**  
1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS  
  
Action 67514

CONDITIONS

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 67514
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rmarcus	When submitting future reports regarding this release, please submit the calculations used or specific justification for the volumes reported on the initial C-141	12/20/2021



Incident ID	nAPP2135033453
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>&lt;50</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 <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

### **Characterization Report Checklist:** *Each of the following items must be included in the report.*

- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☒ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☒ Boring or excavation logs
- ☒ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

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

State of New Mexico  
Oil Conservation Division

Page 4

Incident ID	nAPP2135033453
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: Jim Raley

Title: Environmental Specialist

Signature: \_\_\_\_\_

Date: 4/11/2022

email: jim.raley@dvni.com

Telephone: 575-689-7597

**OCD Only**

Received by: \_\_\_\_\_

Date: \_\_\_\_\_

Incident ID	nAPP2135033453
District RP	
Facility ID	
Application ID	

## Remediation Plan

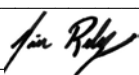
**Remediation Plan Checklist:** *Each of the following items must be included in the plan.*

- ☐ 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: Jim Raley Title: Environmental Specialist  
Signature:  Date: 12/4/2023  
email: jim.raley@dvns.com Telephone: 575-689-7597

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

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

Signature: \_\_\_\_\_ Date: \_\_\_\_\_



## APPENDIX C

### Email Correspondence

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**From:** [Raley, Jim](#)  
**To:** [Ashley Giovengo](#); [Cole Burton](#)  
**Subject:** FW: [EXTERNAL] The Oil Conservation Division (OCD) has rejected the application, Application ID: 292677  
**Date:** Thursday, February 29, 2024 6:59:12 AM  
**Attachments:** [image001.png](#)

---

[ \*\*EXTERNAL EMAIL \*\* ]

Ashley,

Denial on LVP SWD. Figure out what they are talking about on the sampling. We might just get a hammer hoe out there and finish it up, but lets talk about it first.

Setup call with me in near future.

**Jim Raley** | Environmental Professional - Permian Basin  
5315 Buena Vista Dr., Carlsbad, NM 88220  
C: (575)689-7597 | [jim.ralej@div.com](mailto:jim.ralej@div.com)



---

**From:** OCDOnline@state.nm.us <OCDOnline@state.nm.us>  
**Sent:** Wednesday, February 28, 2024 1:17 PM  
**To:** Raley, Jim <Jim.Raley@div.com>  
**Subject:** [EXTERNAL] The Oil Conservation Division (OCD) has rejected the application, Application ID: 292677

To whom it may concern (c/o James Raley for WPX Energy Permian, LLC),

The OCD has rejected the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nAPP2135033453, for the following reasons:

- **Remediation plan denied. OCD will no longer approve liner installations for contaminant mitigation. The site must be remediated to the most stringent criteria in Table 1. WPX Energy Permian must collect at least 26 five-point confirmation samples from the walls and the base of excavation as stated in your remediation plan that was accepted by OCD on 8/9/2022. In the data you submitted with this report only 15 samples were collected. Submit remediation closure plan to OCD by May 28, 2024.**

The rejected C-141 can be found in the OCD Online: Permitting - Action Status, under the Application ID: 292677.

Please review and make the required correction(s) prior to resubmitting.

If you have any questions why this application was rejected or believe it was rejected in error, please contact me prior to submitting an additional C-141.

Thank you,

Shelly Wells  
Environmental Specialist-A  
505-469-7520  
[Shelly.Wells@emnrd.nm.gov](mailto:Shelly.Wells@emnrd.nm.gov)

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

Confidentiality Warning: This message and any attachments are intended only for the use of the intended recipient(s), are confidential, and may be privileged. If you are not the intended recipient, you are hereby notified that any review, retransmission, conversion to hard copy, copying, circulation or other use of all or any portion of this message and any attachments is strictly prohibited. If you are not the intended recipient, please notify the sender immediately by return e-mail, and delete this message and any attachments from your system.

**From:** [Ashley Giovengo](#)  
**To:** [Dan Moir](#)  
**Subject:** FW: [EXTERNAL] WPX Energy - LVP SWD #001 - Incident Number nAPP2135033453  
**Date:** Tuesday, April 30, 2024 10:51:12 PM  
**Attachments:** [image006.png](#)  
[image007.png](#)  
[image008.png](#)  
[image009.png](#)

---

**Ashley Giovengo**

Senior Scientist

575-988-0055

**Ensolum, LLC**in f 

“Your authenticity is your superpower.” – Unknown

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**From:** Hamlet, Robert, EMNRD <[Robert.Hamlet@emnrd.nm.gov](mailto:Robert.Hamlet@emnrd.nm.gov)>  
**Sent:** Tuesday, April 16, 2024 1:16 PM  
**To:** Ashley Giovengo <[agiovengo@ensolum.com](mailto:agiovengo@ensolum.com)>  
**Cc:** Raley, Jim <[jim.ralej@dyn.com](mailto:jim.ralej@dyn.com)>; Cole Burton <[cburton@ensolum.com](mailto:cburton@ensolum.com)>  
**Subject:** RE: [EXTERNAL] WPX Energy - LVP SWD #001 - Incident Number nAPP2135033453

[ \*\*EXTERNAL EMAIL\*\* ]

Thanks for the update Ashley.

**Robert Hamlet • Environmental Specialist - Advanced**

Environmental Bureau

EMNRD - Oil Conservation Division

506 W. Texas Ave. | Artesia, NM 88210

575.909.0302 | [robert.hamlet@state.nm.us](mailto:robert.hamlet@state.nm.us)<http://www.emnrd.state.nm.us/OCD/>

---

**From:** Ashley Giovengo <[agiovengo@ensolum.com](mailto:agiovengo@ensolum.com)>  
**Sent:** Tuesday, April 16, 2024 12:24 PM  
**To:** Hamlet, Robert, EMNRD <[Robert.Hamlet@emnrd.nm.gov](mailto:Robert.Hamlet@emnrd.nm.gov)>  
**Cc:** Raley, Jim <[jim.ralej@dyn.com](mailto:jim.ralej@dyn.com)>; Cole Burton <[cburton@ensolum.com](mailto:cburton@ensolum.com)>  
**Subject:** [EXTERNAL] WPX Energy - LVP SWD #001 - Incident Number nAPP2135033453

---

**CAUTION:** This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Good Afternoon, Robert,

I am writing to inform you of WPX's intentions to return to the LVP SWD #001 (Site) to complete the excavation and confirmation sampling associated with a produced water release (Incident Number nAPP2135033453). This Site is located approximately 1,085 feet from the Pecos River in Eddy County, New Mexico and has been the subject of ongoing delineation, excavation, and confirmation sampling for the last 2 years. The difficulty in completing the exaction at this Site can be attributed to over four feet of moderately-cemented conglomerate and indurated caliche beginning at 5.5 feet below ground surface (bgs). NMOCD approved a Remediation Work plan with conditions on 08/09/2022 with a confirmation sampling variance of every 500 square feet from the floor and sidewall of the excavations. The original excavation area was expected to be larger in size (13,000 square feet) and following the approved sampling variance, a total of 26 composite confirmation soil samples were to be collected. The final excavation extent only measured 5,668 square feet and as such, a total of 12 composite confirmation floor samples and 3 composite confirmation sidewall soil samples were collected. Seven out of the fifteen confirmation soil samples collected on October 11, 2023, exceed the Site Closure Criteria at depths ranging from 4 feet bgs to 5.5 feet bgs. Ensolum personnel will return to the Site on April 18, 2024, to further advance the excavation with a larger trackhoe and hydraulic hammer head attachment and to recollect the failing confirmation soil samples. We just wanted to make sure you agreed that due to the size of the actual excavation area; we were not planning on collecting a total of 26 composite samples as was noted in the denial. We will be collecting samples that represent the approved variance of 500 sq. ft. , which totaled 15 and 7 of those exceeded the closure criteria.

Thanks,



**Ashley Giovengo**

Senior Scientist

575-988-0055

**Ensolum, LLC**

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"Your authenticity is your superpower." – Unknown



**From:** [Raley, Jim](#)  
**To:** [Ashley Giovengo](#)  
**Cc:** [Cole Burton](#); [Israel Estrella](#)  
**Subject:** RE: [EXTERNAL] 48-hour Confirmation Sampling Notification - LVP SWD #001 - Incident Number nAPP2135033453  
**Date:** Monday, April 22, 2024 9:16:29 AM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)  
[image005.png](#)

---

**[ \*\*EXTERNAL EMAIL \*\* ]**

Sampling notification made on 04/22/2024 for following dates at nAPP2135033453 (LVP).

04/24  
04/25  
04/26  
04/28  
04/29

**Jim Raley** | Environmental Professional - Permian Basin  
5315 Buena Vista Dr., Carlsbad, NM 88220  
C: (575)689-7597 | [jim.ralej@dyn.com](mailto:jim.ralej@dyn.com)



---

**From:** Raley, Jim  
**Sent:** Tuesday, April 16, 2024 3:42 PM  
**To:** Ashley Giovengo <[agiovengo@ensolum.com](mailto:agiovengo@ensolum.com)>  
**Cc:** Cole Burton <[cburton@ensolum.com](mailto:cburton@ensolum.com)>; Israel Estrella <[iestrella@ensolum.com](mailto:iestrella@ensolum.com)>  
**Subject:** RE: [EXTERNAL] 48-hour Confirmation Sampling Notification - LVP SWD #001 - Incident Number nAPP2135033453

Submitted 4/18, 4/19, 4/20, 4/22, 4/23

Let me know if need more time by Monday 4/22/2024

**Jim Raley** | Environmental Professional - Permian Basin  
5315 Buena Vista Dr., Carlsbad, NM 88220  
C: (575)689-7597 | [jim.ralej@dyn.com](mailto:jim.ralej@dyn.com)



---

**From:** Ashley Giovengo <[agiovengo@ensolum.com](mailto:agiovengo@ensolum.com)>  
**Sent:** Tuesday, April 16, 2024 1:29 PM  
**To:** Enviro, OCD, EMNRD <[ocd.enviro@emnrd.nm.gov](mailto:ocd.enviro@emnrd.nm.gov)>; Hamlet, Robert, EMNRD <[Robert.Hamlet@emnrd.nm.gov](mailto:Robert.Hamlet@emnrd.nm.gov)>; Raley, Jim <[Jim.Raley@dyn.com](mailto:Jim.Raley@dyn.com)>  
**Cc:** Cole Burton <[cburton@ensolum.com](mailto:cburton@ensolum.com)>; Chad Hamilton <[chamilton@ensolum.com](mailto:chamilton@ensolum.com)>; Israel Estrella <[iestrella@ensolum.com](mailto:iestrella@ensolum.com)>  
**Subject:** [EXTERNAL] 48-hour Confirmation Sampling Notification - LVP SWD #001 - Incident Number nAPP2135033453

Hello,

Please see the 48-hour confirmation sampling notification for the LVP SWD #001 Site (Incident Number nAPP2135033453)

What is the sampling surface area in square feet	5,668 sq. ft.
What is the estimated number of samples that will be gathered	7
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	04/18/2024
Time sampling will commence	09:00am MST.

Please provide any information necessary for observers to contact samplers	Sampler: Cole Burton (575)-706-5056
Please provide any information necessary for navigation to sampling site	32.3330917, -104.0850372

NMOCD District II,

Please see the 48-hour notice for the LVP SWD #001, WPX will enter this information into NMOCD web portal.

Thanks,



**Ashley Giovengo**

Senior Scientist

575-988-0055

Ensolum, LLC

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"Your authenticity is your superpower." – Unknown

Confidentiality Warning: This message and any attachments are intended only for the use of the intended recipient(s), are confidential, and may be privileged. If you are not the intended recipient, you are hereby notified that any review, retransmission, conversion to hard copy, copying, circulation or other use of all or any portion of this message and any attachments is strictly prohibited. If you are not the intended recipient, please notify the sender immediately by return e-mail, and delete this message and any attachments from your system.

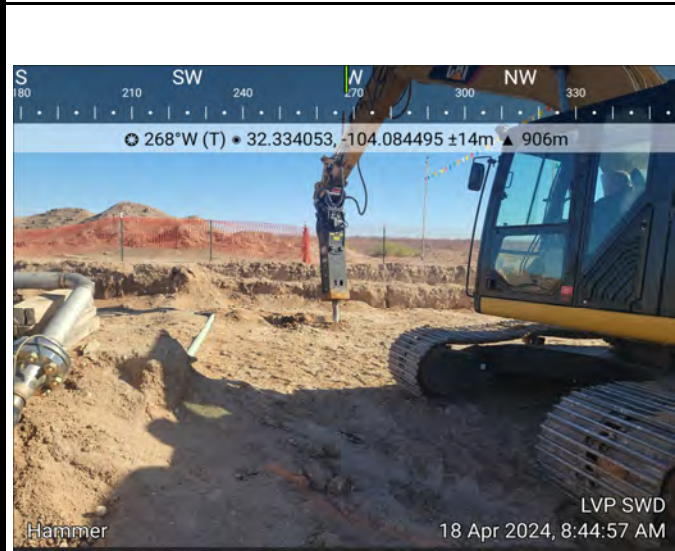


## APPENDIX D

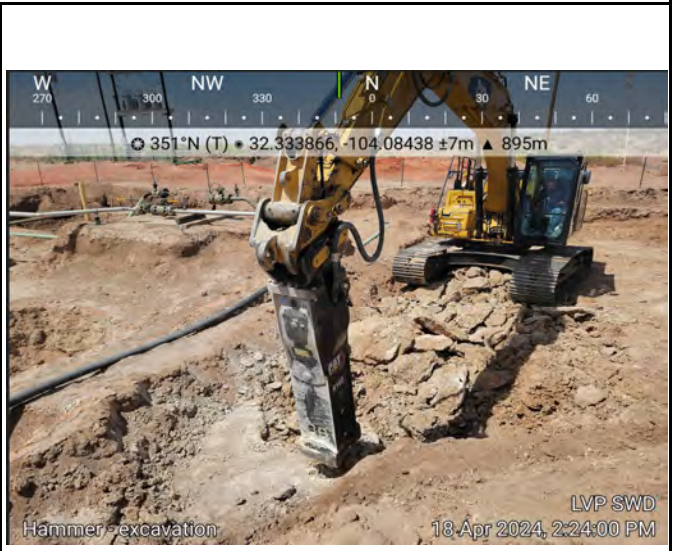
### Photographic Log



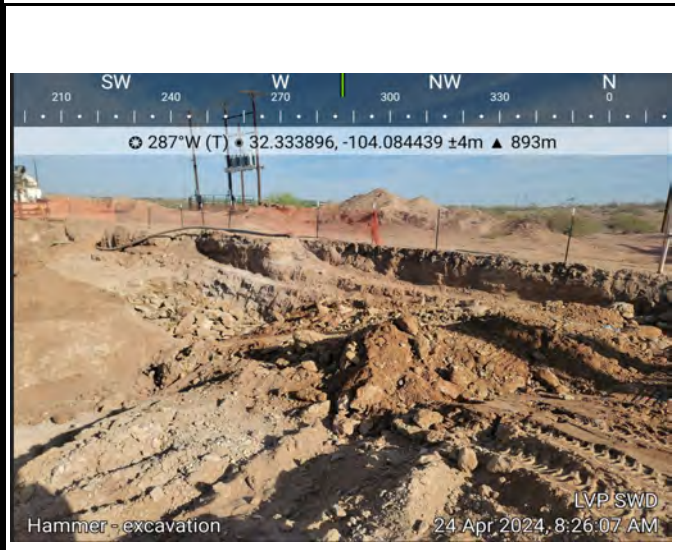
**Photographic Log**  
WPX Energy Permian, LLC.  
LVP SWD #001  
nAPP2135033453



Photograph: 1                                      Date: 4/18/24  
Description: Larger track hoe with hammer attachment  
View: West



Photograph: 2                                      Date: 4/18/24  
Description: Excavation through conglomerate soil  
View: North



Photograph: 3                                      Date: 4/24/24  
Description: Broken conglomerates and caliche  
View: West-northwest



Photograph: 4                                      Date: 4/24/24  
Description: Excavation at depth with hammer bit  
View: Southwest-west



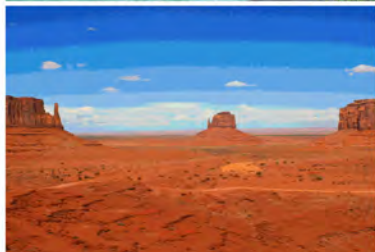
## APPENDIX E

### Laboratory Analytical Reports & Chain-of-Custody Documentation

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Report to:

Ashley Giovengo



# envirotech

*Practical Solutions for a Better Tomorrow*

## Analytical Report

Devon Energy - Carlsbad

Project Name: LVP SWD #001

Work Order: E312086

Job Number: 01058-0007

Received: 12/13/2023

Revision: 1

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
12/20/23

5796 U.S. Hwy 64  
Farmington, NM 87401

Phone: (505) 632-1881  
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.  
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.  
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.  
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.  
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.



Date Reported: 12/20/23

Ashley Giovengo  
6488 7 Rivers Hwy  
Artesia, NM 88210



Project Name: LVP SWD #001  
Workorder: E312086  
Date Received: 12/13/2023 1:00:00PM

Ashley Giovengo,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 12/13/2023 1:00:00PM, under the Project Name: LVP SWD #001.

The analytical test results summarized in this report with the Project Name: LVP SWD #001 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

**Walter Hinchman**  
Laboratory Director  
Office: 505-632-1881  
Cell: 775-287-1762  
[whinchman@envirotech-inc.com](mailto:whinchman@envirotech-inc.com)

**Raina Schwanz**  
Laboratory Administrator  
Office: 505-632-1881  
[rainaschwanz@envirotech-inc.com](mailto:rainaschwanz@envirotech-inc.com)

**Alexa Michaels**  
Sample Custody Officer  
Office: 505-632-1881  
[labadmin@envirotech-inc.com](mailto:labadmin@envirotech-inc.com)

Field Offices:

**Southern New Mexico Area**

**Lynn Jarboe**  
Laboratory Technical Representative  
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Client Representative  
Office: 505-421-LABS(5227)  
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[mgonzales@envirotech-inc.com](mailto:mgonzales@envirotech-inc.com)

Envirotech Web Address: [www.envirotech-inc.com](http://www.envirotech-inc.com)

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Sample Summary

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/20/23 15:48

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SS02-0'	E312086-01A	Soil	12/11/23	12/13/23	Glass Jar, 2 oz.



Sample Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported: 12/20/2023 3:48:23PM
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	

SS02-0'

E312086-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: RKS		Batch: 2350076	
Benzene	ND	0.0250	1	12/14/23	12/17/23	
Ethylbenzene	ND	0.0250	1	12/14/23	12/17/23	
Toluene	ND	0.0250	1	12/14/23	12/17/23	
o-Xylene	ND	0.0250	1	12/14/23	12/17/23	
p,m-Xylene	ND	0.0500	1	12/14/23	12/17/23	
Total Xylenes	ND	0.0250	1	12/14/23	12/17/23	
Surrogate: 4-Bromochlorobenzene-PID	81.4 %	70-130		12/14/23	12/17/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: RKS		Batch: 2350076	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/14/23	12/17/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID	89.2 %	70-130		12/14/23	12/17/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: KM		Batch: 2350072	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/14/23	12/16/23	
Oil Range Organics (C28-C36)	ND	50.0	1	12/14/23	12/16/23	
Surrogate: n-Nonane	81.9 %	50-200		12/14/23	12/16/23	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: BA		Batch: 2351045	
Chloride	501	20.0	1	12/19/23	12/20/23	



QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/20/2023 3:48:23PM

Volatile Organics by EPA 8021B

Analyst: RKS

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2350076-BLK1) Prepared: 12/14/23 Analyzed: 12/15/23

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.64		8.00		95.5	70-130			

LCS (2350076-BS1) Prepared: 12/14/23 Analyzed: 12/15/23

Benzene	4.90	0.0250	5.00		98.0	70-130			
Ethylbenzene	4.72	0.0250	5.00		94.4	70-130			
Toluene	4.90	0.0250	5.00		98.0	70-130			
o-Xylene	4.83	0.0250	5.00		96.7	70-130			
p,m-Xylene	9.76	0.0500	10.0		97.6	70-130			
Total Xylenes	14.6	0.0250	15.0		97.3	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.72		8.00		96.5	70-130			

Matrix Spike (2350076-MS1) Source: E312087-02 Prepared: 12/14/23 Analyzed: 12/19/23

Benzene	5.00	0.0250	5.00	ND	99.9	54-133			
Ethylbenzene	4.85	0.0250	5.00	ND	97.0	61-133			
Toluene	5.02	0.0250	5.00	ND	100	61-130			
o-Xylene	4.96	0.0250	5.00	ND	99.1	63-131			
p,m-Xylene	10.0	0.0500	10.0	ND	100	63-131			
Total Xylenes	15.0	0.0250	15.0	ND	99.9	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.62		8.00		95.2	70-130			

Matrix Spike Dup (2350076-MSD1) Source: E312087-02 Prepared: 12/14/23 Analyzed: 12/17/23

Benzene	4.99	0.0250	5.00	ND	99.7	54-133	0.217	20	
Ethylbenzene	4.73	0.0250	5.00	ND	94.6	61-133	2.49	20	
Toluene	4.96	0.0250	5.00	ND	99.2	61-130	1.21	20	
o-Xylene	4.80	0.0250	5.00	ND	96.0	63-131	3.25	20	
p,m-Xylene	9.73	0.0500	10.0	ND	97.3	63-131	3.05	20	
Total Xylenes	14.5	0.0250	15.0	ND	96.9	63-131	3.12	20	
Surrogate: 4-Bromochlorobenzene-PID	6.15		8.00		76.9	70-130			



QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/20/2023 3:48:23PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: RKS

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2350076-BLK1) Prepared: 12/14/23 Analyzed: 12/15/23

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.97		8.00		87.2	70-130			

LCS (2350076-BS2) Prepared: 12/14/23 Analyzed: 12/19/23

Gasoline Range Organics (C6-C10)	47.4	20.0	50.0		94.8	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.09		8.00		88.6	70-130			

Matrix Spike (2350076-MS2) Source: E312087-02 Prepared: 12/14/23 Analyzed: 12/17/23

Gasoline Range Organics (C6-C10)	40.5	20.0	50.0	ND	81.1	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.17		8.00		89.6	70-130			

Matrix Spike Dup (2350076-MSD2) Source: E312087-02 Prepared: 12/14/23 Analyzed: 12/17/23

Gasoline Range Organics (C6-C10)	40.9	20.0	50.0	ND	81.8	70-130	0.891	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.09		8.00		88.6	70-130			



QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/20/2023 3:48:23PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
---------	-----------------	-----------------------------	-------------------------	---------------------------	----------	--------------------	----------	-------------------	-------

Blank (2350072-BLK1)					Prepared: 12/14/23 Analyzed: 12/15/23				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	45.0		50.0		89.9	50-200			

LCS (2350072-BS1)					Prepared: 12/14/23 Analyzed: 12/15/23				
Diesel Range Organics (C10-C28)	228	25.0	250		91.3	38-132			
Surrogate: n-Nonane	42.9		50.0		85.8	50-200			

Matrix Spike (2350072-MS1)					Source: E312075-05		Prepared: 12/14/23 Analyzed: 12/18/23		
Diesel Range Organics (C10-C28)	684	25.0	250	398	114	38-132			
Surrogate: n-Nonane	44.1		50.0		88.2	50-200			

Matrix Spike Dup (2350072-MSD1)					Source: E312075-05		Prepared: 12/14/23 Analyzed: 12/15/23		
Diesel Range Organics (C10-C28)	657	25.0	250	398	104	38-132	3.95	20	
Surrogate: n-Nonane	45.9		50.0		91.7	50-200			



QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/20/2023 3:48:23PM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2351045-BLK1)					Prepared: 12/19/23 Analyzed: 12/20/23				
Chloride	ND	20.0							
LCS (2351045-BS1)					Prepared: 12/19/23 Analyzed: 12/20/23				
Chloride	256	20.0	250		102	90-110			
Matrix Spike (2351045-MS1)					Source: E312127-01		Prepared: 12/19/23 Analyzed: 12/20/23		
Chloride	257	20.0	250	ND	103	80-120			
Matrix Spike Dup (2351045-MSD1)					Source: E312127-01		Prepared: 12/19/23 Analyzed: 12/20/23		
Chloride	264	20.0	250	ND	106	80-120	2.79	20	

QC Summary Report Comment:  
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.  
Therefore, hand calculated values may differ slightly.



Definitions and Notes

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	
6488 7 Rivers Hwy	Project Number:	01058-0007	Reported:
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/20/23 15:48

- ND      Analyte NOT DETECTED at or above the reporting limit
- NR      Not Reported
- RPD      Relative Percent Difference
- DNI      Did Not Ignite
- DNR      Did not react with the addition of acid or base.
- Note (1): Methods marked with \*\* are non-accredited methods.
- Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



[illegible]



## Envirotech Analytical Laboratory

Printed: 12/13/2023 4:50:38PM

## Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Devon Energy - Carlsbad	Date Received:	12/13/23 13:00	Work Order ID:	E312086
Phone:	(505) 382-1211	Date Logged In:	12/12/23 13:59	Logged In By:	Jordan Montano
Email:	ashley.giovengo@wescominc.com	Due Date:	12/20/23 17:00 (5 day TAT)		

**Chain of Custody (COC)**

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: Courier**Comments/Resolution****Sample Turn Around Time (TAT)**

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

**Sample Cooler**

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C? Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

**Sample Container**

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

**Field Label**

20. Were field sample labels filled out with the minimum information:
  - Sample ID? Yes
  - Date/Time Collected? Yes
  - Collectors name? Yes

**Sample Preservation**

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

**Multiphase Sample Matrix**

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

**Subcontract Laboratory**

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

**Client Instruction**

Signature of client authorizing changes to the COC or sample disposition.

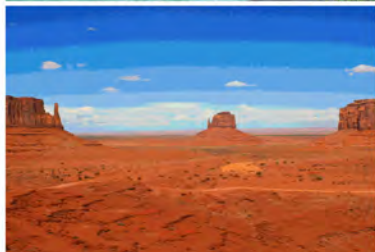
Date



envirotech Inc.

Report to:

Ashley Giovengo



# envirotech

*Practical Solutions for a Better Tomorrow*

## Analytical Report

Devon Energy - Carlsbad

Project Name: LVP SWD #001

Work Order: E312087

Job Number: 01058-0007

Received: 12/13/2023

Revision: 2

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
12/21/23

5796 U.S. Hwy 64  
Farmington, NM 87401

Phone: (505) 632-1881  
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.  
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.  
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.  
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.  
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 12/21/23

Ashley Giovengo  
6488 7 Rivers Hwy  
Artesia, NM 88210



Project Name: LVP SWD #001  
Workorder: E312087  
Date Received: 12/13/2023 1:00:00PM

Ashley Giovengo,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 12/13/2023 1:00:00PM, under the Project Name: LVP SWD #001.

The analytical test results summarized in this report with the Project Name: LVP SWD #001 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

**Walter Hinchman**  
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Sample Summary

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/21/23 14:07

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SS01-0'	E312087-01A	Soil	12/11/23	12/13/23	Glass Jar, 2 oz.
SS03-0'	E312087-02A	Soil	12/11/23	12/13/23	Glass Jar, 2 oz.
SS04-0'	E312087-03A	Soil	12/11/23	12/13/23	Glass Jar, 2 oz.
BH01-0'	E312087-04A	Soil	12/11/23	12/13/23	Glass Jar, 2 oz.
BH02-0'	E312087-05A	Soil	12/11/23	12/13/23	Glass Jar, 2 oz.



Case Narrative:

Project Name: LVP SWD #001

Workorder:E312087

Date Received: 12/13/23 13:00

The client requested the following sample(s) to be re-extracted and re-analyzed:

<u>Sample Name</u>	<u>Laboratory ID</u>	<u>Analysis</u>
SS01-0'	E312087-01	300.0 Chloride

The analytical test results summarized in this revised report represent this re-extraction and re-analysis.

If you have any questions regarding this report please feel free to contact Envirotech Inc.

Respectfully,

Walter Hinchman



## Sample Data

Devon Energy - Carlsbad  
6488 7 Rivers Hwy  
Artesia NM, 88210

Project Name: LVP SWD #001  
Project Number: 01058-0007  
Project Manager: Ashley Giovengo

**Reported:**  
12/21/2023 2:07:08PM

SS01-0'

E312087-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2350076
Benzene	ND	0.0250	1	12/14/23	12/17/23	
Ethylbenzene	ND	0.0250	1	12/14/23	12/17/23	
Toluene	ND	0.0250	1	12/14/23	12/17/23	
o-Xylene	ND	0.0250	1	12/14/23	12/17/23	
p,m-Xylene	ND	0.0500	1	12/14/23	12/17/23	
Total Xylenes	ND	0.0250	1	12/14/23	12/17/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	81.6 %	70-130		12/14/23	12/17/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2350076
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/14/23	12/17/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	88.5 %	70-130		12/14/23	12/17/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: KM		Batch: 2350074
Diesel Range Organics (C10-C28)	ND	25.0	1	12/14/23	12/15/23	
Oil Range Organics (C28-C36)	52.5	50.0	1	12/14/23	12/15/23	
<i>Surrogate: n-Nonane</i>						
	99.7 %	50-200		12/14/23	12/15/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2351069
Chloride	655	20.0	1	12/21/23	12/21/23	



Sample Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	<b>Reported:</b> 12/21/2023 2:07:08PM
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	

SS03-0'

E312087-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: RKS		Batch: 2350076	
Benzene	ND	0.0250	1	12/14/23	12/17/23	
Ethylbenzene	ND	0.0250	1	12/14/23	12/17/23	
Toluene	ND	0.0250	1	12/14/23	12/17/23	
o-Xylene	ND	0.0250	1	12/14/23	12/17/23	
p,m-Xylene	ND	0.0500	1	12/14/23	12/17/23	
Total Xylenes	ND	0.0250	1	12/14/23	12/17/23	
Surrogate: 4-Bromochlorobenzene-PID	76.4 %	70-130		12/14/23	12/17/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: RKS		Batch: 2350076	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/14/23	12/17/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID	89.9 %	70-130		12/14/23	12/17/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: KM		Batch: 2350074	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/14/23	12/15/23	
Oil Range Organics (C28-C36)	ND	50.0	1	12/14/23	12/15/23	
Surrogate: n-Nonane	98.0 %	50-200		12/14/23	12/15/23	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: BA		Batch: 2351045	
Chloride	262	20.0	1	12/19/23	12/20/23	





## Sample Data

Devon Energy - Carlsbad  
6488 7 Rivers Hwy  
Artesia NM, 88210

Project Name: LVP SWD #001  
Project Number: 01058-0007  
Project Manager: Ashley Giovengo

**Reported:**  
12/21/2023 2:07:08PM

SS04-0'

E312087-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: RKS		Batch: 2350076	
Benzene	ND	0.0250	1	12/14/23	12/17/23	
Ethylbenzene	ND	0.0250	1	12/14/23	12/17/23	
Toluene	ND	0.0250	1	12/14/23	12/17/23	
o-Xylene	ND	0.0250	1	12/14/23	12/17/23	
p,m-Xylene	ND	0.0500	1	12/14/23	12/17/23	
Total Xylenes	ND	0.0250	1	12/14/23	12/17/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	82.3 %	70-130		12/14/23	12/17/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: RKS		Batch: 2350076	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/14/23	12/17/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	88.4 %	70-130		12/14/23	12/17/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: KM		Batch: 2350074	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/14/23	12/16/23	
Oil Range Organics (C28-C36)	ND	50.0	1	12/14/23	12/16/23	
<i>Surrogate: n-Nonane</i>	102 %	50-200		12/14/23	12/16/23	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: BA		Batch: 2351045	
Chloride	303	20.0	1	12/19/23	12/20/23	



## Sample Data

Devon Energy - Carlsbad  
6488 7 Rivers Hwy  
Artesia NM, 88210

Project Name: LVP SWD #001  
Project Number: 01058-0007  
Project Manager: Ashley Giovengo

**Reported:**  
12/21/2023 2:07:08PM

BH01-0'

E312087-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2350076
Benzene	ND	0.0250	1	12/14/23	12/17/23	
Ethylbenzene	ND	0.0250	1	12/14/23	12/17/23	
Toluene	ND	0.0250	1	12/14/23	12/17/23	
o-Xylene	ND	0.0250	1	12/14/23	12/17/23	
p,m-Xylene	ND	0.0500	1	12/14/23	12/17/23	
Total Xylenes	ND	0.0250	1	12/14/23	12/17/23	
Surrogate: 4-Bromochlorobenzene-PID	83.1 %	70-130		12/14/23	12/17/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2350076
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/14/23	12/17/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID	88.9 %	70-130		12/14/23	12/17/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: KM		Batch: 2350074
Diesel Range Organics (C10-C28)	ND	25.0	1	12/14/23	12/16/23	
Oil Range Organics (C28-C36)	ND	50.0	1	12/14/23	12/16/23	
Surrogate: n-Nonane	100 %	50-200		12/14/23	12/16/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2351045
Chloride	9860	200	10	12/19/23	12/20/23	



## Sample Data

Devon Energy - Carlsbad  
6488 7 Rivers Hwy  
Artesia NM, 88210

Project Name: LVP SWD #001  
Project Number: 01058-0007  
Project Manager: Ashley Giovengo

**Reported:**  
12/21/2023 2:07:08PM

BH02-0'

E312087-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2350076
Benzene	ND	0.0250	1	12/14/23	12/17/23	
Ethylbenzene	ND	0.0250	1	12/14/23	12/17/23	
Toluene	ND	0.0250	1	12/14/23	12/17/23	
o-Xylene	ND	0.0250	1	12/14/23	12/17/23	
p,m-Xylene	ND	0.0500	1	12/14/23	12/17/23	
Total Xylenes	ND	0.0250	1	12/14/23	12/17/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	84.0 %	70-130		12/14/23	12/17/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2350076
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/14/23	12/17/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	88.5 %	70-130		12/14/23	12/17/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: KM		Batch: 2350074
Diesel Range Organics (C10-C28)	ND	25.0	1	12/14/23	12/16/23	
Oil Range Organics (C28-C36)	ND	50.0	1	12/14/23	12/16/23	
<i>Surrogate: n-Nonane</i>						
	99.9 %	50-200		12/14/23	12/16/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2351045
Chloride	13700	200	10	12/19/23	12/20/23	



QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/21/2023 2:07:08PM

Volatile Organics by EPA 8021B

Analyst: RKS

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2350076-BLK1)

Prepared: 12/14/23 Analyzed: 12/15/23

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.64		8.00		95.5	70-130			

LCS (2350076-BS1)

Prepared: 12/14/23 Analyzed: 12/15/23

Benzene	4.90	0.0250	5.00		98.0	70-130			
Ethylbenzene	4.72	0.0250	5.00		94.4	70-130			
Toluene	4.90	0.0250	5.00		98.0	70-130			
o-Xylene	4.83	0.0250	5.00		96.7	70-130			
p,m-Xylene	9.76	0.0500	10.0		97.6	70-130			
Total Xylenes	14.6	0.0250	15.0		97.3	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.72		8.00		96.5	70-130			

Matrix Spike (2350076-MS1)

Source: E312087-02 Prepared: 12/14/23 Analyzed: 12/19/23

Benzene	5.00	0.0250	5.00	ND	99.9	54-133			
Ethylbenzene	4.85	0.0250	5.00	ND	97.0	61-133			
Toluene	5.02	0.0250	5.00	ND	100	61-130			
o-Xylene	4.96	0.0250	5.00	ND	99.1	63-131			
p,m-Xylene	10.0	0.0500	10.0	ND	100	63-131			
Total Xylenes	15.0	0.0250	15.0	ND	99.9	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.62		8.00		95.2	70-130			

Matrix Spike Dup (2350076-MSD1)

Source: E312087-02 Prepared: 12/14/23 Analyzed: 12/17/23

Benzene	4.99	0.0250	5.00	ND	99.7	54-133	0.217	20	
Ethylbenzene	4.73	0.0250	5.00	ND	94.6	61-133	2.49	20	
Toluene	4.96	0.0250	5.00	ND	99.2	61-130	1.21	20	
o-Xylene	4.80	0.0250	5.00	ND	96.0	63-131	3.25	20	
p,m-Xylene	9.73	0.0500	10.0	ND	97.3	63-131	3.05	20	
Total Xylenes	14.5	0.0250	15.0	ND	96.9	63-131	3.12	20	
Surrogate: 4-Bromochlorobenzene-PID	6.15		8.00		76.9	70-130			



QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/21/2023 2:07:08PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: RKS

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2350076-BLK1) Prepared: 12/14/23 Analyzed: 12/15/23

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.97		8.00		87.2	70-130			

LCS (2350076-BS2) Prepared: 12/14/23 Analyzed: 12/19/23

Gasoline Range Organics (C6-C10)	47.4	20.0	50.0		94.8	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.09		8.00		88.6	70-130			

Matrix Spike (2350076-MS2) Source: E312087-02 Prepared: 12/14/23 Analyzed: 12/17/23

Gasoline Range Organics (C6-C10)	40.5	20.0	50.0	ND	81.1	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.17		8.00		89.6	70-130			

Matrix Spike Dup (2350076-MSD2) Source: E312087-02 Prepared: 12/14/23 Analyzed: 12/17/23

Gasoline Range Organics (C6-C10)	40.9	20.0	50.0	ND	81.8	70-130	0.891	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.09		8.00		88.6	70-130			



QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/21/2023 2:07:08PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2350074-BLK1)					Prepared: 12/14/23 Analyzed: 12/15/23				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	51.5		50.0		103	50-200			

LCS (2350074-BS1)					Prepared: 12/14/23 Analyzed: 12/15/23				
Diesel Range Organics (C10-C28)	271	25.0	250		108	38-132			
Surrogate: n-Nonane	50.8		50.0		102	50-200			

Matrix Spike (2350074-MS1)					Source: E312072-04		Prepared: 12/14/23 Analyzed: 12/15/23		
Diesel Range Organics (C10-C28)	294	25.0	250	31.0	105	38-132			
Surrogate: n-Nonane	49.4		50.0		98.8	50-200			

Matrix Spike Dup (2350074-MSD1)					Source: E312072-04		Prepared: 12/14/23 Analyzed: 12/15/23		
Diesel Range Organics (C10-C28)	301	25.0	250	31.0	108	38-132	2.25	20	
Surrogate: n-Nonane	50.4		50.0		101	50-200			



QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/21/2023 2:07:08PM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2351045-BLK1)					Prepared: 12/19/23 Analyzed: 12/20/23				
Chloride	ND	20.0							
LCS (2351045-BS1)					Prepared: 12/19/23 Analyzed: 12/20/23				
Chloride	256	20.0	250		102	90-110			
Matrix Spike (2351045-MS1)					Source: E312127-01		Prepared: 12/19/23 Analyzed: 12/20/23		
Chloride	257	20.0	250	ND	103	80-120			
Matrix Spike Dup (2351045-MSD1)					Source: E312127-01		Prepared: 12/19/23 Analyzed: 12/20/23		
Chloride	264	20.0	250	ND	106	80-120	2.79	20	



QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/21/2023 2:07:08PM

Anions by EPA 300.0/9056A

Analyst: IY

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2351069-BLK1)					Prepared: 12/20/23 Analyzed: 12/21/23				
Chloride	ND	20.0							
LCS (2351069-BS1)					Prepared: 12/20/23 Analyzed: 12/21/23				
Chloride	255	20.0	250		102	90-110			
Matrix Spike (2351069-MS1)					Source: E312119-42		Prepared: 12/20/23 Analyzed: 12/21/23		
Chloride	256	20.0	250	ND	102	80-120			
Matrix Spike Dup (2351069-MSD1)					Source: E312119-42		Prepared: 12/20/23 Analyzed: 12/21/23		
Chloride	256	20.0	250	ND	102	80-120	0.272	20	

QC Summary Report Comment:  
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.  
Therefore, hand calculated values may differ slightly.





Definitions and Notes

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	
6488 7 Rivers Hwy	Project Number:	01058-0007	Reported:
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/21/23 14:07

- ND      Analyte NOT DETECTED at or above the reporting limit
- NR      Not Reported
- RPD      Relative Percent Difference
- DNI      Did Not Ignite
- DNR      Did not react with the addition of acid or base.
- Note (1): Methods marked with \*\* are non-accredited methods.
- Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



## Project Information

## Chain of Custody

Page 1 of 1

Client: Devon					<b>Bill To</b> Attention: Dale Woodall Address: 205 E Bender Road #150 City, State, Zip: Hobbs NM, 88240 Phone: (575)748-1838 Email: dale.woodall@dv.com		Lab Use Only						TAT				EPA Program	
Project: LVP SWD #001							Lab WO# E312087		Job Number 01058-0007		1D	2D	3D	Standard	CWA	SDWA		
Project Manager: Ashley Giovengo							Analysis and Method						x		RCRA			
Address: 3122 National Parks Hwy							TPH GRO/DRO/ORO by 8015	BTX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	BGDOC NM	GDOC TX	State				
City, State, Zip: Carlsbad NM, 88220														NM	CO	UT	AZ	TX
Phone: 575-988-0055					x													
Email: agiovengo@ensolum.com					Remarks													
Report due by:																		
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number													
9:22	12/11/2023	Soil	1 Jar	SS01 - 0'	1													
9:26	12/11/2023	Soil	1 Jar	SS03 - 0'	2													
9:30	12/11/2023	Soil	1 Jar	SS04 - 0'	3													
9:27	12/11/2023	Soil	1 Jar	BH01 - 0'	4													
9:33	12/11/2023	Soil	1 Jar	BH02 - 0'	5													
<b>Additional Instructions:</b> Please CC: cburton@ensolum.com, agiovengo@ensolum.com, jim.raley@dv.com, chamilton@ensolum.com																		
I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.										Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.								
Sampled by: Cole																		
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time		Lab Use Only						
[Signature]		12-12-23		11:05		[Signature]		12-12-23		1105		Received on ice: Y N						
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time		T1 T2 T3						
[Signature]		12-12-23		1545		[Signature]		12-12-23		1300								
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time		AVG Temp °C 4						
[Signature]						[Signature]												
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other										Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA								
Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.																		



envirotech

## Envirotech Analytical Laboratory

Printed: 12/13/2023 4:47:16PM

## Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Devon Energy - Carlsbad	Date Received:	12/13/23 13:00	Work Order ID:	E312087
Phone:	(505) 382-1211	Date Logged In:	12/12/23 14:00	Logged In By:	Jordan Montano
Email:	ashley.giovengo@wescominc.com	Due Date:	12/20/23 17:00 (5 day TAT)		

**Chain of Custody (COC)**

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: Courier**Comments/Resolution****Sample Turn Around Time (TAT)**

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

**Sample Cooler**

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C? Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

**Sample Container**

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

**Field Label**

20. Were field sample labels filled out with the minimum information:
  - Sample ID? Yes
  - Date/Time Collected? Yes
  - Collectors name? Yes

**Sample Preservation**

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

**Multiphase Sample Matrix**

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

**Subcontract Laboratory**

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

**Client Instruction**

Signature of client authorizing changes to the COC or sample disposition.

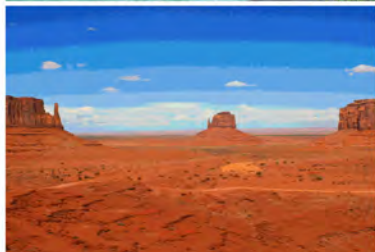
Date



envirotech Inc.

Report to:

Ashley Giovengo



# envirotech

*Practical Solutions for a Better Tomorrow*

## Analytical Report

Devon Energy - Carlsbad

Project Name: LVP SWD #001

Work Order: E312118

Job Number: 01058-0007

Received: 12/18/2023

Revision: 1

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
12/22/23

5796 U.S. Hwy 64  
Farmington, NM 87401

Phone: (505) 632-1881  
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.  
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.  
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.  
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.  
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.



Date Reported: 12/22/23

Ashley Giovengo  
6488 7 Rivers Hwy  
Artesia, NM 88210



Project Name: LVP SWD #001  
Workorder: E312118  
Date Received: 12/18/2023 7:30:00AM

Ashley Giovengo,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 12/18/2023 7:30:00AM, under the Project Name: LVP SWD #001.

The analytical test results summarized in this report with the Project Name: LVP SWD #001 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

**Walter Hinchman**  
Laboratory Director  
Office: 505-632-1881  
Cell: 775-287-1762  
[whinchman@envirotech-inc.com](mailto:whinchman@envirotech-inc.com)

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**Alexa Michaels**  
Sample Custody Officer  
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[labadmin@envirotech-inc.com](mailto:labadmin@envirotech-inc.com)

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**Southern New Mexico Area**

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Envirotech Web Address: [www.envirotech-inc.com](http://www.envirotech-inc.com)

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Sample Summary

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/22/23 14:00

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BH01-1'	E312118-01A	Soil	12/14/23	12/18/23	Glass Jar, 2 oz.
BH01-2'	E312118-02A	Soil	12/14/23	12/18/23	Glass Jar, 2 oz.
BH02-1'	E312118-03A	Soil	12/14/23	12/18/23	Glass Jar, 2 oz.
BH02-2'	E312118-04A	Soil	12/14/23	12/18/23	Glass Jar, 2 oz.
BH02-2.5'	E312118-05A	Soil	12/14/23	12/18/23	Glass Jar, 2 oz.



## Sample Data

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name: LVP SWD #001 Project Number: 01058-0007 Project Manager: Ashley Giovengo	<b>Reported:</b> 12/22/2023 2:00:13PM
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## BH01-1'

## E312118-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: RKS		Batch: 2351017	
Benzene	ND	0.0250	1	12/18/23	12/19/23	
Ethylbenzene	ND	0.0250	1	12/18/23	12/19/23	
Toluene	ND	0.0250	1	12/18/23	12/19/23	
o-Xylene	ND	0.0250	1	12/18/23	12/19/23	
p,m-Xylene	ND	0.0500	1	12/18/23	12/19/23	
Total Xylenes	ND	0.0250	1	12/18/23	12/19/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	94.1 %	70-130		12/18/23	12/19/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: RKS		Batch: 2351017	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/18/23	12/19/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	87.4 %	70-130		12/18/23	12/19/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: KM		Batch: 2351054	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/20/23	12/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	12/20/23	12/20/23	
<i>Surrogate: n-Nonane</i>	89.7 %	50-200		12/20/23	12/20/23	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: IY		Batch: 2351062	
Chloride	656	20.0	1	12/20/23	12/20/23	





Sample Data

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name: LVP SWD #001 Project Number: 01058-0007 Project Manager: Ashley Giovengo	Reported: 12/22/2023 2:00:13PM
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BH01-2'

E312118-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: RKS		Batch: 2351017	
Benzene	ND	0.0250	1	12/18/23	12/19/23	
Ethylbenzene	ND	0.0250	1	12/18/23	12/19/23	
Toluene	ND	0.0250	1	12/18/23	12/19/23	
o-Xylene	ND	0.0250	1	12/18/23	12/19/23	
p,m-Xylene	ND	0.0500	1	12/18/23	12/19/23	
Total Xylenes	ND	0.0250	1	12/18/23	12/19/23	
Surrogate: 4-Bromochlorobenzene-PID	94.9 %	70-130		12/18/23	12/19/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: RKS		Batch: 2351017	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/18/23	12/19/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID	86.0 %	70-130		12/18/23	12/19/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: KM		Batch: 2351054	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/20/23	12/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	12/20/23	12/20/23	
Surrogate: n-Nonane	87.4 %	50-200		12/20/23	12/20/23	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: IY		Batch: 2351062	
Chloride	435	20.0	1	12/20/23	12/20/23	



## Sample Data

Devon Energy - Carlsbad  
6488 7 Rivers Hwy  
Artesia NM, 88210

Project Name: LVP SWD #001  
Project Number: 01058-0007  
Project Manager: Ashley Giovengo

**Reported:**  
12/22/2023 2:00:13PM

BH02-1'

E312118-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2351017
Benzene	ND	0.0250	1	12/18/23	12/19/23	
Ethylbenzene	ND	0.0250	1	12/18/23	12/19/23	
Toluene	ND	0.0250	1	12/18/23	12/19/23	
o-Xylene	ND	0.0250	1	12/18/23	12/19/23	
p,m-Xylene	ND	0.0500	1	12/18/23	12/19/23	
Total Xylenes	ND	0.0250	1	12/18/23	12/19/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	94.9 %	70-130		12/18/23	12/19/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2351017
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/18/23	12/19/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	86.3 %	70-130		12/18/23	12/19/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: KM		Batch: 2351054
Diesel Range Organics (C10-C28)	ND	25.0	1	12/20/23	12/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	12/20/23	12/20/23	
<i>Surrogate: n-Nonane</i>						
	87.8 %	50-200		12/20/23	12/20/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2351062
Chloride	3120	40.0	2	12/20/23	12/20/23	



Sample Data

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name: LVP SWD #001 Project Number: 01058-0007 Project Manager: Ashley Giovengo	Reported: 12/22/2023 2:00:13PM
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BH02-2'

E312118-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: RKS		Batch: 2351017	
Benzene	ND	0.0250	1	12/18/23	12/20/23	
Ethylbenzene	ND	0.0250	1	12/18/23	12/20/23	
Toluene	0.0272	0.0250	1	12/18/23	12/20/23	
o-Xylene	ND	0.0250	1	12/18/23	12/20/23	
p,m-Xylene	0.0592	0.0500	1	12/18/23	12/20/23	
Total Xylenes	0.0592	0.0250	1	12/18/23	12/20/23	
Surrogate: 4-Bromochlorobenzene-PID	92.9 %	70-130		12/18/23	12/20/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: RKS		Batch: 2351017	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/18/23	12/20/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID	89.2 %	70-130		12/18/23	12/20/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: KM		Batch: 2351054	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/20/23	12/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	12/20/23	12/20/23	
Surrogate: n-Nonane	86.5 %	50-200		12/20/23	12/20/23	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: IY		Batch: 2351062	
Chloride	2270	40.0	2	12/20/23	12/20/23	



## Sample Data

Devon Energy - Carlsbad  
6488 7 Rivers Hwy  
Artesia NM, 88210

Project Name: LVP SWD #001  
Project Number: 01058-0007  
Project Manager: Ashley Giovengo

**Reported:**  
12/22/2023 2:00:13PM

BH02-2.5'

E312118-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2351017
Benzene	ND	0.0250	1	12/18/23	12/20/23	
Ethylbenzene	ND	0.0250	1	12/18/23	12/20/23	
Toluene	ND	0.0250	1	12/18/23	12/20/23	
o-Xylene	ND	0.0250	1	12/18/23	12/20/23	
p,m-Xylene	ND	0.0500	1	12/18/23	12/20/23	
Total Xylenes	ND	0.0250	1	12/18/23	12/20/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	92.8 %	70-130		12/18/23	12/20/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2351017
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/18/23	12/20/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	87.1 %	70-130		12/18/23	12/20/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: KM		Batch: 2351054
Diesel Range Organics (C10-C28)	ND	25.0	1	12/20/23	12/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	12/20/23	12/20/23	
<i>Surrogate: n-Nonane</i>						
	85.6 %	50-200		12/20/23	12/20/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2351062
Chloride	1800	40.0	2	12/20/23	12/20/23	



QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/22/2023 2:00:13PM

Volatile Organics by EPA 8021B

Analyst: RKS

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2351017-BLK1) Prepared: 12/18/23 Analyzed: 12/19/23

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.58		8.00		94.8	70-130			

LCS (2351017-BS1) Prepared: 12/18/23 Analyzed: 12/19/23

Benzene	5.04	0.0250	5.00		101	70-130			
Ethylbenzene	4.87	0.0250	5.00		97.5	70-130			
Toluene	5.06	0.0250	5.00		101	70-130			
o-Xylene	4.99	0.0250	5.00		99.9	70-130			
p,m-Xylene	10.1	0.0500	10.0		101	70-130			
Total Xylenes	15.1	0.0250	15.0		101	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.67		8.00		95.9	70-130			

Matrix Spike (2351017-MS1) Source: E312118-01 Prepared: 12/18/23 Analyzed: 12/19/23

Benzene	5.14	0.0250	5.00	ND	103	54-133			
Ethylbenzene	4.98	0.0250	5.00	ND	99.5	61-133			
Toluene	5.16	0.0250	5.00	ND	103	61-130			
o-Xylene	5.10	0.0250	5.00	ND	102	63-131			
p,m-Xylene	10.3	0.0500	10.0	ND	103	63-131			
Total Xylenes	15.4	0.0250	15.0	ND	103	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.60		8.00		95.0	70-130			

Matrix Spike Dup (2351017-MSD1) Source: E312118-01 Prepared: 12/18/23 Analyzed: 12/19/23

Benzene	4.98	0.0250	5.00	ND	99.7	54-133	3.15	20	
Ethylbenzene	4.83	0.0250	5.00	ND	96.6	61-133	3.00	20	
Toluene	5.01	0.0250	5.00	ND	100	61-130	3.04	20	
o-Xylene	4.95	0.0250	5.00	ND	98.9	63-131	3.04	20	
p,m-Xylene	9.98	0.0500	10.0	ND	99.8	63-131	3.01	20	
Total Xylenes	14.9	0.0250	15.0	ND	99.5	63-131	3.02	20	
Surrogate: 4-Bromochlorobenzene-PID	7.62		8.00		95.3	70-130			



QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/22/2023 2:00:13PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: RKS

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2351017-BLK1) Prepared: 12/18/23 Analyzed: 12/19/23

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.95		8.00		86.9	70-130			

LCS (2351017-BS2) Prepared: 12/18/23 Analyzed: 12/19/23

Gasoline Range Organics (C6-C10)	46.7	20.0	50.0		93.4	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.05		8.00		88.1	70-130			

Matrix Spike (2351017-MS2) Source: E312118-01 Prepared: 12/18/23 Analyzed: 12/19/23

Gasoline Range Organics (C6-C10)	46.9	20.0	50.0	ND	93.8	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.06		8.00		88.3	70-130			

Matrix Spike Dup (2351017-MSD2) Source: E312118-01 Prepared: 12/18/23 Analyzed: 12/19/23

Gasoline Range Organics (C6-C10)	45.3	20.0	50.0	ND	90.6	70-130	3.47	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.04		8.00		88.0	70-130			



QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/22/2023 2:00:13PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2351054-BLK1) Prepared: 12/20/23 Analyzed: 12/20/23

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	42.9		50.0		85.9	50-200			

LCS (2351054-BS1) Prepared: 12/20/23 Analyzed: 12/20/23

Diesel Range Organics (C10-C28)	255	25.0	250		102	38-132			
Surrogate: n-Nonane	43.4		50.0		86.8	50-200			

Matrix Spike (2351054-MS1) Source: E312118-03 Prepared: 12/20/23 Analyzed: 12/20/23

Diesel Range Organics (C10-C28)	249	25.0	250	ND	99.7	38-132			
Surrogate: n-Nonane	44.0		50.0		88.0	50-200			

Matrix Spike Dup (2351054-MSD1) Source: E312118-03 Prepared: 12/20/23 Analyzed: 12/20/23

Diesel Range Organics (C10-C28)	252	25.0	250	ND	101	38-132	1.02	20	
Surrogate: n-Nonane	43.8		50.0		87.6	50-200			



QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/22/2023 2:00:13PM

Anions by EPA 300.0/9056A

Analyst: IY

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2351062-BLK1)					Prepared: 12/20/23 Analyzed: 12/20/23				
Chloride	ND	20.0							
LCS (2351062-BS1)					Prepared: 12/20/23 Analyzed: 12/20/23				
Chloride	248	20.0	250		99.2	90-110			
Matrix Spike (2351062-MS1)					Source: E312118-01		Prepared: 12/20/23 Analyzed: 12/21/23		
Chloride	895	20.0	250	656	95.5	80-120			
Matrix Spike Dup (2351062-MSD1)					Source: E312118-01		Prepared: 12/20/23 Analyzed: 12/21/23		
Chloride	918	20.0	250	656	105	80-120	2.50	20	

QC Summary Report Comment:  
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.  
Therefore, hand calculated values may differ slightly.





Definitions and Notes

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	
6488 7 Rivers Hwy	Project Number:	01058-0007	Reported:
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/22/23 14:00

- ND      Analyte NOT DETECTED at or above the reporting limit
  - NR      Not Reported
  - RPD      Relative Percent Difference
  - DNI      Did Not Ignite
  - DNR      Did not react with the addition of acid or base.
- Note (1): Methods marked with \*\* are non-accredited methods.
- Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



Client: Devon				Bill To				Lab Use Only				TAT				EPA Program			
Project: LVP SWD #001				Attention: Dale Woodall				Lab WO#				1D	2D	3D	Standard	CWA	SDWA		
Project Manager: Ashley Giovengo				Address: 205 E Bender Road #150				E 312118							x				
Address: 3122 National Parks Hwy				City, State, Zip: Hobbs NM, 88240				Job Number				Analysis and Method					RCRA		
City, State, Zip: Carlsbad NM, 88220				Phone: (575)748-1838				00380007											
Phone: 575-988-0055				Email: dale.woodall@dvn.com															
Email: agiovengo@ensolum.com																			
Report due by:																			
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number	TPH GRO/DRO/ORO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	BDOC NM	GDOC TX	State						
													NM	CO	UT	AZ	TX		
													x						
9:48	12/14/2023	Soil	1 Jar	BH01 - 1'	1						x		Remarks						
10:02	12/14/2023	Soil	1 Jar	BH01 - 2'	2						x								
9:03	12/14/2023	Soil	1 Jar	BH02 - 1'	3						x								
9:18	12/14/2023	Soil	1 Jar	BH02 - 2'	4						x								
10:45	12/14/2023	Soil	1 Jar	BH02 - 2.5'	5						x								
Additional Instructions: Please CC: cburton@ensolum.com, agiovengo@ensolum.com, dale.woodall@dvn.com, chamilton@ensolum.com, ehaff@ensolum.com																			
I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.												Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.							
Relinquished by: (Signature)				Date	Time	Received by: (Signature)				Date	Time	Lab Use Only							
[Signature]				12-15-23	8:14	[Signature]				12-15-23	11:00	Received on ice: Y/ N							
Relinquished by: (Signature)				Date	Time	Received by: (Signature)				Date	Time	T1 T2 T3							
[Signature]				12-15-23	15:00	[Signature]				12-18-23	7:30								
Relinquished by: (Signature)				Date	Time	Received by: (Signature)				Date	Time	AVG Temp °C							
												4							
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other												Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA							
Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.																			

## Envirotech Analytical Laboratory

Printed: 12/18/2023 8:37:24AM

## Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Devon Energy - Carlsbad	Date Received:	12/18/23 07:30	Work Order ID:	E312118
Phone:	(505) 382-1211	Date Logged In:	12/18/23 08:35	Logged In By:	Alexa Michaels
Email:	ashley.giovengo@wescominc.com	Due Date:	12/27/23 17:00 (5 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierComments/ResolutionSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C? Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:  
Sample ID? Yes  
Date/Time Collected? Yes  
Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

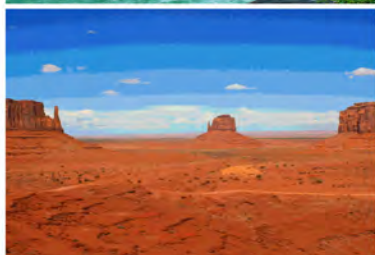
Date



envirotech Inc.

Report to:

Ashley Giovengo



# envirotech

*Practical Solutions for a Better Tomorrow*

## Analytical Report

Devon Energy - Carlsbad

Project Name: LVP SWD #001

Work Order: E312192

Job Number: 01058-0007

Received: 12/29/2023

Revision: 1

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
1/2/24

5796 U.S. Hwy 64  
Farmington, NM 87401

Phone: (505) 632-1881  
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.  
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.  
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.  
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.  
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.



Date Reported: 1/2/24

Ashley Giovengo  
6488 7 Rivers Hwy  
Artesia, NM 88210



Project Name: LVP SWD #001  
Workorder: E312192  
Date Received: 12/29/2023 7:30:00AM

Ashley Giovengo,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 12/29/2023 7:30:00AM, under the Project Name: LVP SWD #001.

The analytical test results summarized in this report with the Project Name: LVP SWD #001 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

**Walter Hinchman**  
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[whinchman@envirotech-inc.com](mailto:whinchman@envirotech-inc.com)

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**Alexa Michaels**  
Sample Custody Officer  
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Field Offices:

**Southern New Mexico Area**

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**Michelle Golzaes**  
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Envirotech Web Address: [www.envirotech-inc.com](http://www.envirotech-inc.com)

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Sample Summary

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	01/02/24 15:29

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SS01A-0'	E312192-01A	Soil	12/28/23	12/29/23	Glass Jar, 2 oz.



## Sample Data

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name: LVP SWD #001 Project Number: 01058-0007 Project Manager: Ashley Giovengo	Reported: 1/2/2024 3:29:55PM
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SS01A-0'

E312192-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: EG		Batch: 2352034
Benzene	ND	0.0250	1	12/29/23	12/29/23	
Ethylbenzene	ND	0.0250	1	12/29/23	12/29/23	
Toluene	ND	0.0250	1	12/29/23	12/29/23	
o-Xylene	ND	0.0250	1	12/29/23	12/29/23	
p,m-Xylene	ND	0.0500	1	12/29/23	12/29/23	
Total Xylenes	ND	0.0250	1	12/29/23	12/29/23	
Surrogate: 4-Bromochlorobenzene-PID	93.8 %	70-130		12/29/23	12/29/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: EG		Batch: 2352034
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/29/23	12/29/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID	94.6 %	70-130		12/29/23	12/29/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: KM		Batch: 2352035
Diesel Range Organics (C10-C28)	ND	25.0	1	12/29/23	12/30/23	
Oil Range Organics (C28-C36)	ND	50.0	1	12/29/23	12/30/23	
Surrogate: n-Nonane	82.0 %	50-200		12/29/23	12/30/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: DT		Batch: 2352028
Chloride	206	20.0	1	12/28/23	12/29/23	





QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	1/2/2024 3:29:55PM

Volatile Organics by EPA 8021B

Analyst: EG

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2352034-BLK1) Prepared: 12/29/23 Analyzed: 12/29/23

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.73		8.00		96.6	70-130			

LCS (2352034-BS1) Prepared: 12/29/23 Analyzed: 12/29/23

Benzene	5.06	0.0250	5.00		101	70-130			
Ethylbenzene	5.03	0.0250	5.00		101	70-130			
Toluene	5.08	0.0250	5.00		102	70-130			
o-Xylene	5.06	0.0250	5.00		101	70-130			
p,m-Xylene	10.2	0.0500	10.0		102	70-130			
Total Xylenes	15.3	0.0250	15.0		102	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.63		8.00		95.3	70-130			

Matrix Spike (2352034-MS1) Source: E312189-04 Prepared: 12/29/23 Analyzed: 12/29/23

Benzene	5.25	0.0250	5.00	ND	105	54-133			
Ethylbenzene	5.19	0.0250	5.00	ND	104	61-133			
Toluene	5.25	0.0250	5.00	ND	105	61-130			
o-Xylene	5.22	0.0250	5.00	ND	104	63-131			
p,m-Xylene	10.6	0.0500	10.0	ND	106	63-131			
Total Xylenes	15.8	0.0250	15.0	ND	105	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.76		8.00		97.0	70-130			

Matrix Spike Dup (2352034-MSD1) Source: E312189-04 Prepared: 12/29/23 Analyzed: 12/29/23

Benzene	5.10	0.0250	5.00	ND	102	54-133	2.90	20	
Ethylbenzene	5.06	0.0250	5.00	ND	101	61-133	2.49	20	
Toluene	5.12	0.0250	5.00	ND	102	61-130	2.60	20	
o-Xylene	5.09	0.0250	5.00	ND	102	63-131	2.48	20	
p,m-Xylene	10.3	0.0500	10.0	ND	103	63-131	2.22	20	
Total Xylenes	15.4	0.0250	15.0	ND	103	63-131	2.31	20	
Surrogate: 4-Bromochlorobenzene-PID	7.78		8.00		97.2	70-130			



QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	1/2/2024 3:29:55PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: EG

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2352034-BLK1) Prepared: 12/29/23 Analyzed: 12/29/23

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.44		8.00		93.0	70-130			

LCS (2352034-BS2) Prepared: 12/29/23 Analyzed: 12/29/23

Gasoline Range Organics (C6-C10)	51.2	20.0	50.0		102	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.62		8.00		95.2	70-130			

Matrix Spike (2352034-MS2) Source: E312189-04 Prepared: 12/29/23 Analyzed: 12/29/23

Gasoline Range Organics (C6-C10)	50.3	20.0	50.0	ND	101	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.51		8.00		93.8	70-130			

Matrix Spike Dup (2352034-MSD2) Source: E312189-04 Prepared: 12/29/23 Analyzed: 12/29/23

Gasoline Range Organics (C6-C10)	50.5	20.0	50.0	ND	101	70-130	0.393	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.58		8.00		94.7	70-130			



QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	1/2/2024 3:29:55PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2352035-BLK1) Prepared: 12/29/23 Analyzed: 12/29/23

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	45.0		50.0		90.0	50-200			

LCS (2352035-BS1) Prepared: 12/29/23 Analyzed: 12/29/23

Diesel Range Organics (C10-C28)	237	25.0	250		94.9	38-132			
Surrogate: n-Nonane	45.4		50.0		90.9	50-200			

Matrix Spike (2352035-MS1) Source: E312193-03 Prepared: 12/29/23 Analyzed: 12/29/23

Diesel Range Organics (C10-C28)	243	25.0	250	ND	97.0	38-132			
Surrogate: n-Nonane	43.6		50.0		87.3	50-200			

Matrix Spike Dup (2352035-MSD1) Source: E312193-03 Prepared: 12/29/23 Analyzed: 12/29/23

Diesel Range Organics (C10-C28)	245	25.0	250	ND	98.2	38-132	1.14	20	
Surrogate: n-Nonane	47.3		50.0		94.6	50-200			



QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	1/2/2024 3:29:55PM

Anions by EPA 300.0/9056A

Analyst: DT

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2352028-BLK1)					Prepared: 12/28/23 Analyzed: 12/29/23				
Chloride	ND	20.0							
LCS (2352028-BS1)					Prepared: 12/28/23 Analyzed: 12/29/23				
Chloride	254	20.0	250		102	90-110			
Matrix Spike (2352028-MS1)					Source: E312192-01		Prepared: 12/28/23 Analyzed: 12/29/23		
Chloride	465	20.0	250	206	104	80-120			
Matrix Spike Dup (2352028-MSD1)					Source: E312192-01		Prepared: 12/28/23 Analyzed: 12/29/23		
Chloride	448	20.0	250	206	96.9	80-120	3.68	20	

QC Summary Report Comment:  
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.  
Therefore, hand calculated values may differ slightly.



Definitions and Notes

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	
6488 7 Rivers Hwy	Project Number:	01058-0007	Reported:
Artesia NM, 88210	Project Manager:	Ashley Giovengo	01/02/24 15:29

- ND Analyte NOT DETECTED at or above the reporting limit
  - NR Not Reported
  - RPD Relative Percent Difference
  - DNI Did Not Ignite
  - DNR Did not react with the addition of acid or base.
- Note (1): Methods marked with \*\* are non-accredited methods.
- Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

## Envirotech Analytical Laboratory

Printed: 12/29/2023 11:00:13AM

## Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Devon Energy - Carlsbad	Date Received:	12/29/23 07:30	Work Order ID:	E312192
Phone:	(505) 382-1211	Date Logged In:	12/28/23 15:08	Logged In By:	Jordan Montano
Email:	ashley.giovengo@wescominc.com	Due Date:	01/05/24 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierComments/ResolutionSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
  - Sample ID? Yes
  - Date/Time Collected? Yes
  - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date

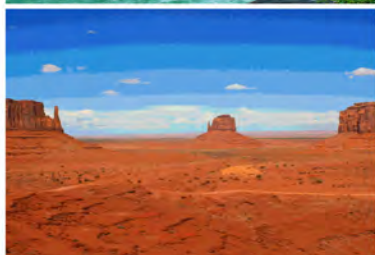


envirotech Inc.



Report to:

Ashley Giovengo



# envirotech

*Practical Solutions for a Better Tomorrow*

## Analytical Report

Devon Energy

Project Name: LVP. SWD #001

Work Order: E404221

Job Number: 01058-0007

Received: 4/20/2024

Revision: 1

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
4/23/24

5796 U.S. Hwy 64  
Farmington, NM 87401

Phone: (505) 632-1881  
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.  
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.  
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.  
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.  
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.



Date Reported: 4/23/24

Ashley Giovengo  
PO Box 6459  
Navajo Dam, NM 87419



Project Name: LVP. SWD #001  
Workorder: E404221  
Date Received: 4/20/2024 7:45:00AM

Ashley Giovengo,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 4/20/2024 7:45:00AM, under the Project Name: LVP. SWD #001.

The analytical test results summarized in this report with the Project Name: LVP. SWD #001 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

**Walter Hinchman**  
Laboratory Director  
Office: 505-632-1881  
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[whinchman@envirotech-inc.com](mailto:whinchman@envirotech-inc.com)

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**Alexa Michaels**  
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Envirotech Web Address: [www.envirotech-inc.com](http://www.envirotech-inc.com)

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Sample Summary

Devon Energy	Project Name:	LVP. SWD #001	Reported:
PO Box 6459	Project Number:	01058-0007	
Navajo Dam NM, 87419	Project Manager:	Ashley Giovengo	04/23/24 13:00

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
FS11-8'	E404221-01A	Solid	04/19/24	04/20/24	Glass Jar, 2 oz.
	E404221-01B	Solid	04/19/24	04/20/24	Glass Jar, 2 oz.
FS07-8'	E404221-02A	Solid	04/19/24	04/20/24	Glass Jar, 2 oz.
	E404221-02B	Solid	04/19/24	04/20/24	Glass Jar, 2 oz.
FS06-8'	E404221-03A	Solid	04/19/24	04/20/24	Glass Jar, 2 oz.
	E404221-03B	Solid	04/19/24	04/20/24	Glass Jar, 2 oz.



Sample Data

Devon Energy	Project Name:	LVP. SWD #001	Reported: 4/23/2024 1:00:29PM
PO Box 6459	Project Number:	01058-0007	
Navajo Dam NM, 87419	Project Manager:	Ashley Giovengo	

FS11-8'  
E404221-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: EG		Batch: 2417007	
Benzene	ND	0.0250	1	04/22/24	04/22/24	
Ethylbenzene	ND	0.0250	1	04/22/24	04/22/24	
Toluene	ND	0.0250	1	04/22/24	04/22/24	
o-Xylene	ND	0.0250	1	04/22/24	04/22/24	
p,m-Xylene	ND	0.0500	1	04/22/24	04/22/24	
Total Xylenes	ND	0.0250	1	04/22/24	04/22/24	
Surrogate: 4-Bromochlorobenzene-PID	90.1 %	70-130		04/22/24	04/22/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: EG		Batch: 2417007	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/24	04/22/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID	93.1 %	70-130		04/22/24	04/22/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: KM		Batch: 2417002	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/24	04/23/24	
Oil Range Organics (C28-C36)	ND	50.0	1	04/22/24	04/23/24	
Surrogate: n-Nonane	119 %	50-200		04/22/24	04/23/24	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: IY		Batch: 2416122	
Chloride	317	20.0	1	04/20/24	04/20/24	



Sample Data

Devon Energy	Project Name:	LVP. SWD #001	
PO Box 6459	Project Number:	01058-0007	Reported:
Navajo Dam NM, 87419	Project Manager:	Ashley Giovengo	4/23/2024 1:00:29PM

FS07-8'

E404221-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: IY			Batch: 2416122
Chloride	5400	40.0	2	04/20/24	04/20/24	



Sample Data

Devon Energy	Project Name:	LVP. SWD #001	Reported: 4/23/2024 1:00:29PM
PO Box 6459	Project Number:	01058-0007	
Navajo Dam NM, 87419	Project Manager:	Ashley Giovengo	

FS06-8'

E404221-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: EG		Batch: 2417007	
Benzene	ND	0.0250	1	04/22/24	04/22/24	
Ethylbenzene	ND	0.0250	1	04/22/24	04/22/24	
Toluene	ND	0.0250	1	04/22/24	04/22/24	
o-Xylene	ND	0.0250	1	04/22/24	04/22/24	
p,m-Xylene	ND	0.0500	1	04/22/24	04/22/24	
Total Xylenes	ND	0.0250	1	04/22/24	04/22/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	90.4 %	70-130		04/22/24	04/22/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: EG		Batch: 2417007	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/24	04/22/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	93.5 %	70-130		04/22/24	04/22/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: KM		Batch: 2417002	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/24	04/23/24	
Oil Range Organics (C28-C36)	ND	50.0	1	04/22/24	04/23/24	
<i>Surrogate: n-Nonane</i>						
	120 %	50-200		04/22/24	04/23/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: IY		Batch: 2416122	
Chloride	330	20.0	1	04/20/24	04/20/24	



QC Summary Data

Devon Energy	Project Name:	LVP. SWD #001	Reported:
PO Box 6459	Project Number:	01058-0007	
Navajo Dam NM, 87419	Project Manager:	Ashley Giovengo	4/23/2024 1:00:29PM

Volatile Organics by EPA 8021B

Analyst: EG

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2417007-BLK1) Prepared: 04/22/24 Analyzed: 04/22/24

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.22		8.00		90.3	70-130			

LCS (2417007-BS1) Prepared: 04/22/24 Analyzed: 04/22/24

Benzene	4.78	0.0250	5.00		95.6	70-130			
Ethylbenzene	4.99	0.0250	5.00		99.8	70-130			
Toluene	4.92	0.0250	5.00		98.4	70-130			
o-Xylene	4.94	0.0250	5.00		98.8	70-130			
p,m-Xylene	10.1	0.0500	10.0		101	70-130			
Total Xylenes	15.0	0.0250	15.0		100	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.21		8.00		90.2	70-130			

Matrix Spike (2417007-MS1) Source: E404221-03 Prepared: 04/22/24 Analyzed: 04/22/24

Benzene	4.87	0.0250	5.00	ND	97.5	54-133			
Ethylbenzene	5.10	0.0250	5.00	ND	102	61-133			
Toluene	5.03	0.0250	5.00	ND	101	61-130			
o-Xylene	5.04	0.0250	5.00	ND	101	63-131			
p,m-Xylene	10.3	0.0500	10.0	ND	103	63-131			
Total Xylenes	15.3	0.0250	15.0	ND	102	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.21		8.00		90.1	70-130			

Matrix Spike Dup (2417007-MSD1) Source: E404221-03 Prepared: 04/22/24 Analyzed: 04/22/24

Benzene	4.87	0.0250	5.00	ND	97.4	54-133	0.112	20	
Ethylbenzene	5.10	0.0250	5.00	ND	102	61-133	0.0157	20	
Toluene	5.02	0.0250	5.00	ND	100	61-130	0.126	20	
o-Xylene	5.06	0.0250	5.00	ND	101	63-131	0.268	20	
p,m-Xylene	10.3	0.0500	10.0	ND	103	63-131	0.0414	20	
Total Xylenes	15.3	0.0250	15.0	ND	102	63-131	0.116	20	
Surrogate: 4-Bromochlorobenzene-PID	7.21		8.00		90.2	70-130			



QC Summary Data

Devon Energy	Project Name:	LVP. SWD #001	Reported:
PO Box 6459	Project Number:	01058-0007	
Navajo Dam NM, 87419	Project Manager:	Ashley Giovengo	4/23/2024 1:00:29PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: EG

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2417007-BLK1) Prepared: 04/22/24 Analyzed: 04/22/24

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.37		8.00		92.1	70-130			

LCS (2417007-BS2) Prepared: 04/22/24 Analyzed: 04/22/24

Gasoline Range Organics (C6-C10)	48.3	20.0	50.0		96.5	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.39		8.00		92.4	70-130			

Matrix Spike (2417007-MS2) Source: E404221-03 Prepared: 04/22/24 Analyzed: 04/22/24

Gasoline Range Organics (C6-C10)	48.6	20.0	50.0	ND	97.3	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.45		8.00		93.2	70-130			

Matrix Spike Dup (2417007-MSD2) Source: E404221-03 Prepared: 04/22/24 Analyzed: 04/22/24

Gasoline Range Organics (C6-C10)	48.2	20.0	50.0	ND	96.3	70-130	0.953	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.36		8.00		92.0	70-130			





QC Summary Data

Devon Energy	Project Name:	LVP. SWD #001	Reported:
PO Box 6459	Project Number:	01058-0007	
Navajo Dam NM, 87419	Project Manager:	Ashley Giovengo	4/23/2024 1:00:29PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2417002-BLK1) Prepared: 04/22/24 Analyzed: 04/22/24

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	58.7		50.0		117	50-200			

LCS (2417002-BS1) Prepared: 04/22/24 Analyzed: 04/22/24

Diesel Range Organics (C10-C28)	284	25.0	250		114	38-132			
Surrogate: n-Nonane	59.6		50.0		119	50-200			

Matrix Spike (2417002-MS1) Source: E404158-23 Prepared: 04/22/24 Analyzed: 04/22/24

Diesel Range Organics (C10-C28)	1390	25.0	250	1130	104	38-132			
Surrogate: n-Nonane	59.8		50.0		120	50-200			

Matrix Spike Dup (2417002-MSD1) Source: E404158-23 Prepared: 04/22/24 Analyzed: 04/22/24

Diesel Range Organics (C10-C28)	1420	25.0	250	1130	115	38-132	1.85	20	
Surrogate: n-Nonane	60.0		50.0		120	50-200			



QC Summary Data

Devon Energy	Project Name:	LVP. SWD #001	Reported:
PO Box 6459	Project Number:	01058-0007	
Navajo Dam NM, 87419	Project Manager:	Ashley Giovengo	4/23/2024 1:00:29PM

Anions by EPA 300.0/9056A

Analyst: IY

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2416122-BLK1)					Prepared: 04/19/24 Analyzed: 04/20/24				
Chloride	ND	20.0							
LCS (2416122-BS1)					Prepared: 04/19/24 Analyzed: 04/20/24				
Chloride	252	20.0	250		101	90-110			
Matrix Spike (2416122-MS1)					Source: E404208-03		Prepared: 04/19/24 Analyzed: 04/20/24		
Chloride	330	100	250	ND	132	80-120			M6
Matrix Spike Dup (2416122-MSD1)					Source: E404208-03		Prepared: 04/19/24 Analyzed: 04/20/24		
Chloride	332	100	250	ND	133	80-120	0.629	20	M6

QC Summary Report Comment:  
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.  
Therefore, hand calculated values may differ slightly.



Definitions and Notes

Devon Energy	Project Name:	LVP. SWD #001	
PO Box 6459	Project Number:	01058-0007	Reported:
Navajo Dam NM, 87419	Project Manager:	Ashley Giovengo	04/23/24 13:00

- M6 Matrix spike recovery has a high bias. The native sample results were below the RL, but appears to have contributed to high MS recoveries.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite
- DNR Did not react with the addition of acid or base.

Note (1): Methods marked with \*\* are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



Chain of Custody *"See Irene for TAT"*Page 1 of 1

Client Information					Invoice Information			Lab Use Only		TAT				State			
Client: <u>Devon</u>					Company: <u>Jim Raley</u>			Lab WO#	Job Number	1D	2D	3D	Std	NM	CO	UT	TX
Project Name: <u>LVP SWD #001</u>					Address: <u>on file</u>			<u>E 404221</u>	<u>01058-0007</u>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
Project Manager: <u>Ashley Giovengo</u>					City, State, Zip:												
Address:					Phone:												
City, State, Zip: <u>Carlsbad NM 88220</u>					Email:												
Phone: <u>575 988 0055</u>					Miscellaneous:												
Email: <u>agiovengo@envirotech.com</u>																	
Sample Information					Analysis and Method										EPA Program		
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Field Filter	Lab Number	DRO/DRO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Chloride 300.0	BGDOC - NM	TCEQ 1005 - TX	RCRA 8 Metals	SDWA	CWA	RCRA
1316	4/19/24	Solid	2	FS 11 - 8'		1						X					
1322	4/19/24	Solid	2	FS 07 - 8'		2						X					
1319	4/19/24	Solid	2	FS 06 - 8'		3						X					
Additional Instructions: <u>Please CC - Cole Burton, Ashley Giovengo, Chad Hamilton, Israel Estrella, Jim Raley</u>																	
I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.																	
Sampled by: <u>Cole Burton</u>																	
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time	Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent day. Lab Use Only Received on ice: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N T1 _____ T2 _____ T3 _____ AVG Temp °C <u>4.0</u>									
<u>Cole Burton</u>		<u>4/19/24</u>	<u>1358</u>	<u>Michelle Gonzales</u>		<u>4-19-24</u>	<u>1358</u>										
<u>Michelle Gonzales</u>		<u>4-19-24</u>	<u>1700</u>	<u>C.L.</u>		<u>4-19-24</u>	<u>1800</u>										
<u>C.L.</u>		<u>4-19-24</u>	<u>2400</u>	<u>Irene Zozzi</u>		<u>04/20/24</u>	<u>745</u>										
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time										
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time										
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____																	
Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA _____																	
Note: Samples are discarded 14 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.																	

*If chloride is > 640 do not run any other tests.*

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## Envirotech Analytical Laboratory

Printed: 4/22/2024 9:10:36AM

## Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Devon Energy	Date Received:	04/20/24 07:45	Work Order ID:	E404221
Phone:	(505)324-5600	Date Logged In:	04/20/24 07:58	Logged In By:	Irene Yazzie
Email:		Due Date:	04/26/24 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Carrier: Carrier

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Sample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pca sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
  - Sample ID? Yes
  - Date/Time Collected? Yes
  - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client InstructionComments/Resolution

Rush Chloride Only. If Chloride is > 600 do not run other tests. Per client see COC -IY 04/20/2024.

Signature of client authorizing changes to the COC or sample disposition.

Date

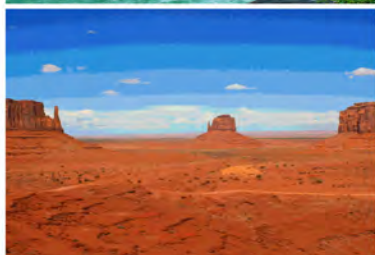


envirotech Inc.



Report to:

Ashley Giovengo



# envirotech

*Practical Solutions for a Better Tomorrow*

## Analytical Report

Devon Energy

Project Name: LVP. SWD #001

Work Order: E404231

Job Number: 01058-0007

Received: 4/23/2024

Revision: 1

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
4/29/24

5796 U.S. Hwy 64  
Farmington, NM 87401

Phone: (505) 632-1881  
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.  
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.  
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.  
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.  
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 4/29/24

Ashley Giovengo  
PO Box 6459  
Navajo Dam, NM 87419



Project Name: LVP. SWD #001  
Workorder: E404231  
Date Received: 4/23/2024 8:15:00AM

Ashley Giovengo,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 4/23/2024 8:15:00AM, under the Project Name: LVP. SWD #001.

The analytical test results summarized in this report with the Project Name: LVP. SWD #001 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

**Walter Hinchman**  
Laboratory Director  
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[whinchman@envirotech-inc.com](mailto:whinchman@envirotech-inc.com)

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Envirotech Web Address: [www.envirotech-inc.com](http://www.envirotech-inc.com)

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Sample Summary

Devon Energy	Project Name:	LVP. SWD #001	Reported:
PO Box 6459	Project Number:	01058-0007	
Navajo Dam NM, 87419	Project Manager:	Ashley Giovengo	04/29/24 10:00

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
FS05-9.5'	E404231-01A	Soil	04/22/24	04/23/24	Glass Jar, 2 oz.
FS07-10'	E404231-02A	Soil	04/22/24	04/23/24	Glass Jar, 2 oz.
FS08-7.5'	E404231-03A	Soil	04/22/24	04/23/24	Glass Jar, 2 oz.



Sample Data

Devon Energy	Project Name:	LVP. SWD #001	Reported: 4/29/2024 10:00:17AM
PO Box 6459	Project Number:	01058-0007	
Navajo Dam NM, 87419	Project Manager:	Ashley Giovengo	

FS05-9.5'

E404231-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organic Compounds by EPA 8260B</b>	mg/kg	mg/kg	Analyst: BA		Batch: 2417028	
Benzene	ND	0.0250	1	04/23/24	04/24/24	
Ethylbenzene	ND	0.0250	1	04/23/24	04/24/24	
Toluene	ND	0.0250	1	04/23/24	04/24/24	
o-Xylene	ND	0.0250	1	04/23/24	04/24/24	
p,m-Xylene	ND	0.0500	1	04/23/24	04/24/24	
Total Xylenes	ND	0.0250	1	04/23/24	04/24/24	
Surrogate: Bromofluorobenzene		101 %	70-130	04/23/24	04/24/24	
Surrogate: 1,2-Dichloroethane-d4		103 %	70-130	04/23/24	04/24/24	
Surrogate: Toluene-d8		98.2 %	70-130	04/23/24	04/24/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: BA		Batch: 2417028	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/23/24	04/24/24	
Surrogate: Bromofluorobenzene		101 %	70-130	04/23/24	04/24/24	
Surrogate: 1,2-Dichloroethane-d4		103 %	70-130	04/23/24	04/24/24	
Surrogate: Toluene-d8		98.2 %	70-130	04/23/24	04/24/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: KM		Batch: 2417038	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/23/24	04/24/24	
Oil Range Organics (C28-C36)	ND	50.0	1	04/23/24	04/24/24	
Surrogate: n-Nonane		108 %	50-200	04/23/24	04/24/24	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: IY		Batch: 2417029	
Chloride	553	20.0	1	04/23/24	04/23/24	



## Sample Data

Devon Energy  
PO Box 6459  
Navajo Dam NM, 87419

Project Name: LVP. SWD #001  
Project Number: 01058-0007  
Project Manager: Ashley Giovengo

**Reported:**  
4/29/2024 10:00:17AM

FS07-10'

E404231-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organic Compounds by EPA 8260B</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2417028
Benzene	ND	0.0250	1	04/23/24	04/24/24	
Ethylbenzene	ND	0.0250	1	04/23/24	04/24/24	
Toluene	ND	0.0250	1	04/23/24	04/24/24	
o-Xylene	ND	0.0250	1	04/23/24	04/24/24	
p,m-Xylene	ND	0.0500	1	04/23/24	04/24/24	
Total Xylenes	ND	0.0250	1	04/23/24	04/24/24	
Surrogate: Bromofluorobenzene	98.6 %	70-130		04/23/24	04/24/24	
Surrogate: 1,2-Dichloroethane-d4	102 %	70-130		04/23/24	04/24/24	
Surrogate: Toluene-d8	99.0 %	70-130		04/23/24	04/24/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2417028
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/23/24	04/24/24	
Surrogate: Bromofluorobenzene	98.6 %	70-130		04/23/24	04/24/24	
Surrogate: 1,2-Dichloroethane-d4	102 %	70-130		04/23/24	04/24/24	
Surrogate: Toluene-d8	99.0 %	70-130		04/23/24	04/24/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: KM		Batch: 2417038
Diesel Range Organics (C10-C28)	ND	25.0	1	04/23/24	04/24/24	
Oil Range Organics (C28-C36)	ND	50.0	1	04/23/24	04/24/24	
Surrogate: n-Nonane	108 %	50-200		04/23/24	04/24/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2417029
Chloride	488	20.0	1	04/23/24	04/23/24	



Sample Data

Devon Energy	Project Name:	LVP. SWD #001	
PO Box 6459	Project Number:	01058-0007	Reported:
Navajo Dam NM, 87419	Project Manager:	Ashley Giovengo	4/29/2024 10:00:17AM

FS08-7.5'

E404231-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: IY			Batch: 2417029
Chloride	1530	20.0	1	04/23/24	04/23/24	



QC Summary Data

Devon Energy	Project Name:	LVP. SWD #001	Reported:
PO Box 6459	Project Number:	01058-0007	
Navajo Dam NM, 87419	Project Manager:	Ashley Giovengo	4/29/2024 10:00:17AM

Volatile Organic Compounds by EPA 8260B

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2417028-BLK1) Prepared: 04/23/24 Analyzed: 04/23/24

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: Bromofluorobenzene	0.503		0.500		101	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.496		0.500		99.1	70-130			
Surrogate: Toluene-d8	0.493		0.500		98.6	70-130			

LCS (2417028-BS1) Prepared: 04/23/24 Analyzed: 04/23/24

Benzene	2.63	0.0250	2.50		105	70-130			
Ethylbenzene	2.53	0.0250	2.50		101	70-130			
Toluene	2.45	0.0250	2.50		97.9	70-130			
o-Xylene	2.51	0.0250	2.50		100	70-130			
p,m-Xylene	4.88	0.0500	5.00		97.7	70-130			
Total Xylenes	7.39	0.0250	7.50		98.6	70-130			
Surrogate: Bromofluorobenzene	0.495		0.500		99.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.494		0.500		98.7	70-130			
Surrogate: Toluene-d8	0.497		0.500		99.3	70-130			

Matrix Spike (2417028-MS1) Source: E404233-02 Prepared: 04/23/24 Analyzed: 04/23/24

Benzene	2.73	0.0250	2.50	ND	109	48-131			
Ethylbenzene	2.62	0.0250	2.50	ND	105	45-135			
Toluene	2.55	0.0250	2.50	ND	102	48-130			
o-Xylene	2.63	0.0250	2.50	ND	105	43-135			
p,m-Xylene	5.14	0.0500	5.00	ND	103	43-135			
Total Xylenes	7.77	0.0250	7.50	ND	104	43-135			
Surrogate: Bromofluorobenzene	0.499		0.500		99.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.495		0.500		99.0	70-130			
Surrogate: Toluene-d8	0.496		0.500		99.1	70-130			

Matrix Spike Dup (2417028-MSD1) Source: E404233-02 Prepared: 04/23/24 Analyzed: 04/23/24

Benzene	2.62	0.0250	2.50	ND	105	48-131	4.09	23	
Ethylbenzene	2.50	0.0250	2.50	ND	100	45-135	4.72	27	
Toluene	2.42	0.0250	2.50	ND	96.9	48-130	5.03	24	
o-Xylene	2.57	0.0250	2.50	ND	103	43-135	2.41	27	
p,m-Xylene	4.95	0.0500	5.00	ND	98.9	43-135	3.80	27	
Total Xylenes	7.51	0.0250	7.50	ND	100	43-135	3.33	27	
Surrogate: Bromofluorobenzene	0.506		0.500		101	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.488		0.500		97.6	70-130			
Surrogate: Toluene-d8	0.493		0.500		98.6	70-130			



QC Summary Data

Devon Energy	Project Name:	LVP. SWD #001	Reported:
PO Box 6459	Project Number:	01058-0007	
Navajo Dam NM, 87419	Project Manager:	Ashley Giovengo	4/29/2024 10:00:17AM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2417028-BLK1) Prepared: 04/23/24 Analyzed: 04/23/24

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: Bromofluorobenzene	0.503		0.500		101	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.496		0.500		99.1	70-130			
Surrogate: Toluene-d8	0.493		0.500		98.6	70-130			

LCS (2417028-BS2) Prepared: 04/23/24 Analyzed: 04/23/24

Gasoline Range Organics (C6-C10)	47.3	20.0	50.0		94.5	70-130			
Surrogate: Bromofluorobenzene	0.501		0.500		100	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.497		0.500		99.4	70-130			
Surrogate: Toluene-d8	0.496		0.500		99.2	70-130			

Matrix Spike (2417028-MS2) Source: E404233-02 Prepared: 04/23/24 Analyzed: 04/23/24

Gasoline Range Organics (C6-C10)	51.7	20.0	50.0	ND	103	70-130			
Surrogate: Bromofluorobenzene	0.505		0.500		101	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.507		0.500		101	70-130			
Surrogate: Toluene-d8	0.503		0.500		101	70-130			

Matrix Spike Dup (2417028-MSD2) Source: E404233-02 Prepared: 04/23/24 Analyzed: 04/23/24

Gasoline Range Organics (C6-C10)	48.9	20.0	50.0	ND	97.9	70-130	5.59	20	
Surrogate: Bromofluorobenzene	0.516		0.500		103	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.491		0.500		98.1	70-130			
Surrogate: Toluene-d8	0.500		0.500		100	70-130			



QC Summary Data

Devon Energy	Project Name:	LVP. SWD #001	Reported:
PO Box 6459	Project Number:	01058-0007	
Navajo Dam NM, 87419	Project Manager:	Ashley Giovengo	4/29/2024 10:00:17AM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2417038-BLK1) Prepared: 04/23/24 Analyzed: 04/24/24

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	52.6		50.0		105	50-200			

LCS (2417038-BS1) Prepared: 04/23/24 Analyzed: 04/24/24

Diesel Range Organics (C10-C28)	289	25.0	250		116	38-132			
Surrogate: n-Nonane	53.6		50.0		107	50-200			

Matrix Spike (2417038-MS1) Source: E404234-02 Prepared: 04/23/24 Analyzed: 04/24/24

Diesel Range Organics (C10-C28)	296	25.0	250	ND	118	38-132			
Surrogate: n-Nonane	54.6		50.0		109	50-200			

Matrix Spike Dup (2417038-MSD1) Source: E404234-02 Prepared: 04/23/24 Analyzed: 04/24/24

Diesel Range Organics (C10-C28)	299	25.0	250	ND	120	38-132	0.863	20	
Surrogate: n-Nonane	54.7		50.0		109	50-200			



QC Summary Data

Devon Energy	Project Name:	LVP. SWD #001	Reported:
PO Box 6459	Project Number:	01058-0007	
Navajo Dam NM, 87419	Project Manager:	Ashley Giovengo	4/29/2024 10:00:17AM

Anions by EPA 300.0/9056A

Analyst: IY

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2417029-BLK1)					Prepared: 04/23/24 Analyzed: 04/23/24				
Chloride	ND	20.0							
LCS (2417029-BS1)					Prepared: 04/23/24 Analyzed: 04/23/24				
Chloride	248	20.0	250		99.2	90-110			
Matrix Spike (2417029-MS1)					Source: E404230-01		Prepared: 04/23/24 Analyzed: 04/23/24		
Chloride	533	100	250	259	110	80-120			
Matrix Spike Dup (2417029-MSD1)					Source: E404230-01		Prepared: 04/23/24 Analyzed: 04/23/24		
Chloride	526	100	250	259	107	80-120	1.20	20	

QC Summary Report Comment:  
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.  
Therefore, hand calculated values may differ slightly.



Definitions and Notes

Devon Energy	Project Name:	LVP. SWD #001	
PO Box 6459	Project Number:	01058-0007	Reported:
Navajo Dam NM, 87419	Project Manager:	Ashley Giovengo	04/29/24 10:00

- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite
- DNR Did not react with the addition of acid or base.

Note (1): Methods marked with \*\* are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



[illegible]

Do not run TPH or BTEX if chloride is  $> 600$



**envirotech**

## Envirotech Analytical Laboratory

Printed: 4/23/2024 1:02:26PM

## Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Devon Energy	Date Received:	04/23/24 08:15	Work Order ID:	E404231
Phone:	(505)324-5600	Date Logged In:	04/22/24 15:50	Logged In By:	Alexa Michaels
Email:		Due Date:	04/29/24 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Carrier: Carrier

Note: Analysis, such as pH which should be conducted in the field, i.e. 15 minute hold time, are not included in this discussion.

Sample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
  - Sample ID? Yes
  - Date/Time Collected? Yes
  - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client InstructionComments/Resolution

Rush Chloride Only. If Chloride is > 600 do not run other tests. Per client see COC

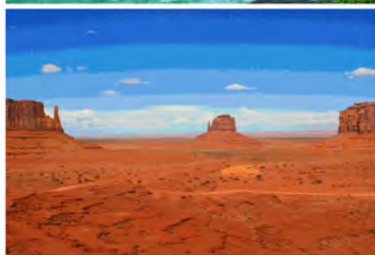
Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Report to:  
Ashley Giovengo



# envirotech

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## Analytical Report

Devon Energy - Carlsbad

Project Name: LVP SWD #001

Work Order: E404242

Job Number: 01058-0007

Received: 4/24/2024

Revision: 1

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
4/29/24

5796 U.S. Hwy 64  
Farmington, NM 87401

Phone: (505) 632-1881  
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.  
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.  
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.  
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.  
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.



Date Reported: 4/29/24



Ashley Giovengo  
6488 7 Rivers Hwy  
Artesia, NM 88210

Project Name: LVP SWD #001  
Workorder: E404242  
Date Received: 4/24/2024 5:00:00AM

Ashley Giovengo,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 4/24/2024 5:00:00AM, under the Project Name: LVP SWD #001.

The analytical test results summarized in this report with the Project Name: LVP SWD #001 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

**Walter Hinchman**  
Laboratory Director  
Office: 505-632-1881  
Cell: 775-287-1762  
[whinchman@envirotech-inc.com](mailto:whinchman@envirotech-inc.com)

**Raina Schwanz**  
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**Alexa Michaels**  
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Envirotech Web Address: [www.envirotech-inc.com](http://www.envirotech-inc.com)

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Sample Summary

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name:	LVP SWD #001	<b>Reported:</b>  04/29/24 13:07
	Project Number:	01058-0007	
	Project Manager:	Ashley Giovengo	

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BF01	E404242-01A	Soil	04/23/24	04/24/24	Glass Jar, 2 oz.



Sample Data

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name: LVP SWD #001 Project Number: 01058-0007 Project Manager: Ashley Giovengo	Reported: 4/29/2024 1:07:27PM
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BF01

E404242-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: RKS		Batch: 2417041	
Benzene	ND	0.0250	1	04/24/24	04/25/24	
Ethylbenzene	ND	0.0250	1	04/24/24	04/25/24	
Toluene	ND	0.0250	1	04/24/24	04/25/24	
o-Xylene	ND	0.0250	1	04/24/24	04/25/24	
p,m-Xylene	ND	0.0500	1	04/24/24	04/25/24	
Total Xylenes	ND	0.0250	1	04/24/24	04/25/24	
Surrogate: 4-Bromochlorobenzene-PID	93.1 %	70-130		04/24/24	04/25/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: RKS		Batch: 2417041	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/24/24	04/25/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID	88.0 %	70-130		04/24/24	04/25/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: KM		Batch: 2417043	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/24/24	04/25/24	
Oil Range Organics (C28-C36)	ND	50.0	1	04/24/24	04/25/24	
Surrogate: n-Nonane	85.7 %	50-200		04/24/24	04/25/24	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: JM		Batch: 2417044	
Chloride	80.7	20.0	1	04/24/24	04/24/24	





QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	4/29/2024 1:07:27PM

Volatile Organics by EPA 8021B

Analyst: RKS

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2417041-BLK1) Prepared: 04/24/24 Analyzed: 04/24/24

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.19		8.00		89.9	70-130			

LCS (2417041-BS1) Prepared: 04/24/24 Analyzed: 04/24/24

Benzene	4.98	0.0250	5.00		99.7	70-130			
Ethylbenzene	4.96	0.0250	5.00		99.2	70-130			
Toluene	4.96	0.0250	5.00		99.2	70-130			
o-Xylene	4.89	0.0250	5.00		97.9	70-130			
p,m-Xylene	9.99	0.0500	10.0		99.9	70-130			
Total Xylenes	14.9	0.0250	15.0		99.2	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.19		8.00		89.9	70-130			

Matrix Spike (2417041-MS1) Source: E404240-03 Prepared: 04/24/24 Analyzed: 04/24/24

Benzene	5.13	0.0250	5.00	ND	103	54-133			
Ethylbenzene	5.08	0.0250	5.00	ND	102	61-133			
Toluene	5.10	0.0250	5.00	ND	102	61-130			
o-Xylene	5.01	0.0250	5.00	ND	100	63-131			
p,m-Xylene	10.2	0.0500	10.0	ND	102	63-131			
Total Xylenes	15.3	0.0250	15.0	ND	102	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.18		8.00		89.7	70-130			

Matrix Spike Dup (2417041-MSD1) Source: E404240-03 Prepared: 04/24/24 Analyzed: 04/24/24

Benzene	5.30	0.0250	5.00	ND	106	54-133	3.32	20	
Ethylbenzene	5.27	0.0250	5.00	ND	105	61-133	3.64	20	
Toluene	5.28	0.0250	5.00	ND	106	61-130	3.31	20	
o-Xylene	5.23	0.0250	5.00	ND	105	63-131	4.13	20	
p,m-Xylene	10.6	0.0500	10.0	ND	106	63-131	3.51	20	
Total Xylenes	15.8	0.0250	15.0	ND	106	63-131	3.71	20	
Surrogate: 4-Bromochlorobenzene-PID	7.24		8.00		90.5	70-130			



QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	4/29/2024 1:07:27PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: RKS

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2417041-BLK1) Prepared: 04/24/24 Analyzed: 04/24/24

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.88		8.00		86.0	70-130			

LCS (2417041-BS2) Prepared: 04/24/24 Analyzed: 04/24/24

Gasoline Range Organics (C6-C10)	38.3	20.0	50.0		76.5	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.11		8.00		88.8	70-130			

Matrix Spike (2417041-MS2) Source: E404240-03 Prepared: 04/24/24 Analyzed: 04/24/24

Gasoline Range Organics (C6-C10)	39.1	20.0	50.0	ND	78.1	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.78		8.00		84.7	70-130			

Matrix Spike Dup (2417041-MSD2) Source: E404240-03 Prepared: 04/24/24 Analyzed: 04/24/24

Gasoline Range Organics (C6-C10)	38.5	20.0	50.0	ND	77.0	70-130	1.49	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.83		8.00		85.4	70-130			



QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	4/29/2024 1:07:27PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2417043-BLK1) Prepared: 04/24/24 Analyzed: 04/24/24

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	44.3		50.0		88.7	50-200			

LCS (2417043-BS1) Prepared: 04/24/24 Analyzed: 04/24/24

Diesel Range Organics (C10-C28)	258	25.0	250		103	38-132			
Surrogate: n-Nonane	46.6		50.0		93.2	50-200			

Matrix Spike (2417043-MS1) Source: E404240-03 Prepared: 04/24/24 Analyzed: 04/24/24

Diesel Range Organics (C10-C28)	265	25.0	250	ND	106	38-132			
Surrogate: n-Nonane	46.1		50.0		92.3	50-200			

Matrix Spike Dup (2417043-MSD1) Source: E404240-03 Prepared: 04/24/24 Analyzed: 04/24/24

Diesel Range Organics (C10-C28)	251	25.0	250	ND	100	38-132	5.19	20	
Surrogate: n-Nonane	45.1		50.0		90.3	50-200			



QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	4/29/2024 1:07:27PM

Anions by EPA 300.0/9056A

Analyst: JM

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2417044-BLK1)					Prepared: 04/24/24 Analyzed: 04/24/24				
Chloride	ND	20.0							
LCS (2417044-BS1)					Prepared: 04/24/24 Analyzed: 04/24/24				
Chloride	250	20.0	250		100	90-110			
Matrix Spike (2417044-MS1)					Source: E404237-07		Prepared: 04/24/24 Analyzed: 04/24/24		
Chloride	550	20.0	250	305	97.9	80-120			
Matrix Spike Dup (2417044-MSD1)					Source: E404237-07		Prepared: 04/24/24 Analyzed: 04/24/24		
Chloride	560	20.0	250	305	102	80-120	1.80	20	

QC Summary Report Comment:  
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.  
Therefore, hand calculated values may differ slightly.



Definitions and Notes

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	
6488 7 Rivers Hwy	Project Number:	01058-0007	Reported:
Artesia NM, 88210	Project Manager:	Ashley Giovengo	04/29/24 13:07

- ND Analyte NOT DETECTED at or above the reporting limit
  - NR Not Reported
  - RPD Relative Percent Difference
  - DNI Did Not Ignite
  - DNR Did not react with the addition of acid or base.
- Note (1): Methods marked with \*\* are non-accredited methods.
- Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



[illegible]

## Envirotech Analytical Laboratory

Printed: 4/24/2024 10:23:10AM

## Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client: Devon Energy - Carlsbad  
 Phone: (505) 382-1211  
 Email: ashley.giovengo@wescominc.com

Date Received: 04/24/24 05:00  
 Date Logged In: 04/23/24 16:19  
 Due Date: 04/30/24 17:00 (4 day TAT)

Work Order ID: E404242  
 Logged In By: Alexa Michaels

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C? Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:  
     Sample ID? Yes  
     Date/Time Collected? Yes  
     Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client InstructionComments/Resolution

Signature of client authorizing changes to the COC or sample disposition.

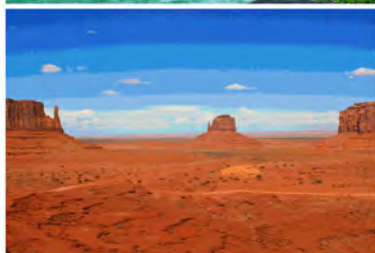
Date



envirotech Inc.



Report to:  
Ashley Giovengo



# envirotech

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## Analytical Report

Devon Energy

Project Name: LVP. SWD #001

Work Order: E404244

Job Number: 01058-0007

Received: 4/24/2024

Revision: 1

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
4/29/24

5796 U.S. Hwy 64  
Farmington, NM 87401

Phone: (505) 632-1881  
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.  
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.  
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.  
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.  
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.



Date Reported: 4/29/24

Ashley Giovengo  
PO Box 6459  
Navajo Dam, NM 87419



Project Name: LVP. SWD #001  
Workorder: E404244  
Date Received: 4/24/2024 5:00:00AM

Ashley Giovengo,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 4/24/2024 5:00:00AM, under the Project Name: LVP. SWD #001.

The analytical test results summarized in this report with the Project Name: LVP. SWD #001 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

**Walter Hinchman**  
Laboratory Director  
Office: 505-632-1881  
Cell: 775-287-1762  
[whinchman@envirotech-inc.com](mailto:whinchman@envirotech-inc.com)

**Raina Schwanz**  
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**Alexa Michaels**  
Sample Custody Officer  
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Field Offices:

**Southern New Mexico Area**

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**Michelle Golzales**  
Client Representative  
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Cell: 505-947-8222  
[mgonzales@envirotech-inc.com](mailto:mgonzales@envirotech-inc.com)

Envirotech Web Address: [www.envirotech-inc.com](http://www.envirotech-inc.com)

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QC - Anions by EPA 300.0/9056A	9
Definitions and Notes	10
Chain of Custody etc.	11

Sample Summary

Devon Energy	Project Name:	LVP. SWD #001	Reported:
PO Box 6459	Project Number:	01058-0007	
Navajo Dam NM, 87419	Project Manager:	Ashley Giovengo	04/29/24 13:13

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
FS10-5.5'	E404244-01A	Soil	04/23/24	04/24/24	Glass Jar, 2 oz.



Sample Data

Devon Energy	Project Name:	LVP. SWD #001	
PO Box 6459	Project Number:	01058-0007	Reported:
Navajo Dam NM, 87419	Project Manager:	Ashley Giovengo	4/29/2024 1:13:04PM

FS10-5.5'

E404244-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: BA		Batch: 2417048	
Benzene	ND	0.0250	1	04/24/24	04/25/24	
Ethylbenzene	ND	0.0250	1	04/24/24	04/25/24	
Toluene	ND	0.0250	1	04/24/24	04/25/24	
o-Xylene	ND	0.0250	1	04/24/24	04/25/24	
p,m-Xylene	ND	0.0500	1	04/24/24	04/25/24	
Total Xylenes	ND	0.0250	1	04/24/24	04/25/24	
Surrogate: 4-Bromochlorobenzene-PID	92.9 %	70-130		04/24/24	04/25/24	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: BA		Batch: 2417048	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/24/24	04/25/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID	81.8 %	70-130		04/24/24	04/25/24	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM		Batch: 2417049	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/24/24	04/24/24	
Oil Range Organics (C28-C36)	ND	50.0	1	04/24/24	04/24/24	
Surrogate: n-Nonane	113 %	50-200		04/24/24	04/24/24	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: IY		Batch: 2417029	
Chloride	331	20.0	1	04/24/24	04/24/24	



QC Summary Data

Devon Energy	Project Name:	LVP. SWD #001	Reported:
PO Box 6459	Project Number:	01058-0007	
Navajo Dam NM, 87419	Project Manager:	Ashley Giovengo	4/29/2024 1:13:04PM

Volatile Organics by EPA 8021B

Analyst: BA

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2417048-BLK1) Prepared: 04/24/24 Analyzed: 04/25/24

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.49		8.00		93.6	70-130			

LCS (2417048-BS1) Prepared: 04/24/24 Analyzed: 04/25/24

Benzene	5.40	0.0250	5.00		108	70-130			
Ethylbenzene	5.22	0.0250	5.00		104	70-130			
Toluene	5.38	0.0250	5.00		108	70-130			
o-Xylene	5.32	0.0250	5.00		106	70-130			
p,m-Xylene	10.7	0.0500	10.0		107	70-130			
Total Xylenes	16.0	0.0250	15.0		107	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.57		8.00		94.6	70-130			

Matrix Spike (2417048-MS1) Source: E404246-03 Prepared: 04/24/24 Analyzed: 04/25/24

Benzene	5.28	0.0250	5.00	ND	106	54-133			
Ethylbenzene	5.10	0.0250	5.00	ND	102	61-133			
Toluene	5.25	0.0250	5.00	ND	105	61-130			
o-Xylene	5.18	0.0250	5.00	ND	104	63-131			
p,m-Xylene	10.4	0.0500	10.0	ND	104	63-131			
Total Xylenes	15.6	0.0250	15.0	ND	104	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.51		8.00		93.8	70-130			

Matrix Spike Dup (2417048-MSD1) Source: E404246-03 Prepared: 04/24/24 Analyzed: 04/25/24

Benzene	5.11	0.0250	5.00	ND	102	54-133	3.23	20	
Ethylbenzene	4.95	0.0250	5.00	ND	99.0	61-133	2.87	20	
Toluene	5.09	0.0250	5.00	ND	102	61-130	3.15	20	
o-Xylene	5.03	0.0250	5.00	ND	101	63-131	2.98	20	
p,m-Xylene	10.1	0.0500	10.0	ND	101	63-131	2.79	20	
Total Xylenes	15.1	0.0250	15.0	ND	101	63-131	2.85	20	
Surrogate: 4-Bromochlorobenzene-PID	7.53		8.00		94.1	70-130			



QC Summary Data

Devon Energy	Project Name:	LVP. SWD #001	Reported:
PO Box 6459	Project Number:	01058-0007	
Navajo Dam NM, 87419	Project Manager:	Ashley Giovengo	4/29/2024 1:13:04PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: BA

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2417048-BLK1) Prepared: 04/24/24 Analyzed: 04/25/24

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.60		8.00		82.5	70-130			

LCS (2417048-BS2) Prepared: 04/24/24 Analyzed: 04/25/24

Gasoline Range Organics (C6-C10)	37.5	20.0	50.0		75.0	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.64		8.00		83.0	70-130			

Matrix Spike (2417048-MS2) Source: E404246-03 Prepared: 04/24/24 Analyzed: 04/25/24

Gasoline Range Organics (C6-C10)	42.6	20.0	50.0	ND	85.1	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.47		8.00		80.9	70-130			

Matrix Spike Dup (2417048-MSD2) Source: E404246-03 Prepared: 04/24/24 Analyzed: 04/25/24

Gasoline Range Organics (C6-C10)	43.6	20.0	50.0	ND	87.3	70-130	2.48	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.64		8.00		82.9	70-130			



QC Summary Data

Devon Energy	Project Name:	LVP. SWD #001	Reported:
PO Box 6459	Project Number:	01058-0007	
Navajo Dam NM, 87419	Project Manager:	Ashley Giovengo	4/29/2024 1:13:04PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2417049-BLK1)					Prepared: 04/24/24 Analyzed: 04/24/24				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	57.7		50.0		115	50-200			

LCS (2417049-BS1)					Prepared: 04/24/24 Analyzed: 04/24/24				
Diesel Range Organics (C10-C28)	296	25.0	250		119	38-132			
Surrogate: n-Nonane	58.2		50.0		116	50-200			

Matrix Spike (2417049-MS1)					Source: E404246-02		Prepared: 04/24/24 Analyzed: 04/24/24		
Diesel Range Organics (C10-C28)	382	25.0	250	72.7	124	38-132			
Surrogate: n-Nonane	58.7		50.0		117	50-200			

Matrix Spike Dup (2417049-MSD1)					Source: E404246-02		Prepared: 04/24/24 Analyzed: 04/24/24		
Diesel Range Organics (C10-C28)	390	25.0	250	72.7	127	38-132	2.18	20	
Surrogate: n-Nonane	58.9		50.0		118	50-200			



QC Summary Data

Devon Energy	Project Name:	LVP. SWD #001	Reported:
PO Box 6459	Project Number:	01058-0007	
Navajo Dam NM, 87419	Project Manager:	Ashley Giovengo	4/29/2024 1:13:04PM

Anions by EPA 300.0/9056A

Analyst: IY

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2417029-BLK1)					Prepared: 04/23/24 Analyzed: 04/23/24				
Chloride	ND	20.0							
LCS (2417029-BS1)					Prepared: 04/23/24 Analyzed: 04/23/24				
Chloride	248	20.0	250		99.2	90-110			
Matrix Spike (2417029-MS1)					Source: E404230-01		Prepared: 04/23/24 Analyzed: 04/23/24		
Chloride	533	100	250	259	110	80-120			
Matrix Spike Dup (2417029-MSD1)					Source: E404230-01		Prepared: 04/23/24 Analyzed: 04/23/24		
Chloride	526	100	250	259	107	80-120	1.20	20	

QC Summary Report Comment:  
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.  
Therefore, hand calculated values may differ slightly.





Definitions and Notes

Devon Energy	Project Name:	LVP. SWD #001	
PO Box 6459	Project Number:	01058-0007	Reported:
Navajo Dam NM, 87419	Project Manager:	Ashley Giovengo	04/29/24 13:13

- ND            Analyte NOT DETECTED at or above the reporting limit
- NR            Not Reported
- RPD          Relative Percent Difference
- DNI          Did Not Ignite
- DNR          Did not react with the addition of acid or base.
- Note (1): Methods marked with \*\* are non-accredited methods.
- Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



Chain of Custody "See Irene for TAT"

Page 1 of 1

Client Information				Invoice Information		Lab Use Only		TAT				State											
Client: Devon				Company: J.M. Raley		Lab WO# E 404244		Job Number 01058-0007				<table border="1"> <tr> <td>1D</td> <td>2D</td> <td>3D</td> <td>Std</td> </tr> <tr> <td>X</td> <td></td> <td></td> <td>X</td> </tr> </table>				1D	2D	3D	Std	X			X
1D	2D	3D	Std																				
X			X																				
Project Name: LVP SWD #001				Address: on file								<table border="1"> <tr> <td>NM</td> <td>CO</td> <td>UT</td> <td>TX</td> </tr> <tr> <td>X</td> <td></td> <td></td> <td></td> </tr> </table>				NM	CO	UT	TX	X			
NM	CO	UT	TX																				
X																							
Project Manager: Ashley Givengo				City, State, Zip:																			
Address:				Phone:																			
City, State, Zip: Carlisle NM 88220				Email:																			
Phone: 575 988 0055				Miscellaneous:																			
Email: agivengo@ensolam.com																							
Sample Information						Analysis and Method								EPA Program									
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Field Filter	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Chloride 300.0	BGDOC - NM	TCEQ 1005 - TX	RCRA 8 Metals	SDWA	CWA	RCRA						
1350	4/23/24	solid	1	FS 10 - 5.5'		1						X											
Additional Instructions:																							
I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.																							
Sampled by: Cole Burton																							
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time	Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days. Lab Use Only Received on ice: <input checked="" type="radio"/> Y <input type="radio"/> N T1 _____ T2 _____ T3 _____ AVG Temp °C 4															
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time																
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time																
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time																
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____ Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA _____																							
Note: Samples are discarded 14 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.																							

If chloride is &gt; 600 do not run TPH or BTEX



envirotech

## Envirotech Analytical Laboratory

Printed: 4/24/2024 9:52:58AM

## Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Devon Energy	Date Received:	04/24/24 05:00	Work Order ID:	E404244
Phone:	(505)324-5600	Date Logged In:	04/24/24 07:18	Logged In By:	Raina Schwanz
Email:		Due Date:	04/30/24 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
  2. Does the number of samples per sampling site location match the COC? Yes
  3. Were samples dropped off by client or carrier? Yes
  4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
  5. Were all samples received within holding time? Yes
- Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CarrierSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
  8. If yes, was cooler received in good condition? Yes
  9. Was the sample(s) received intact, i.e., not broken? Yes
  10. Were custody/security seals present? No
  11. If yes, were custody/security seals intact? NA
  12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Yes
- Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling
13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
  - Sample ID? Yes
  - Date/Time Collected? Yes
  - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client InstructionComments/Resolution

Rush Chloride Only. If Chloride is > 600  
do not run other tests Per COC

Signature of client authorizing changes to the COC or sample disposition.

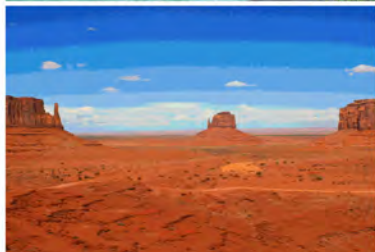
Date



envirotech Inc.

Report to:

Ashley Giovengo



# envirotech

*Practical Solutions for a Better Tomorrow*

## Analytical Report

Devon Energy - Carlsbad

Project Name: LVP SWD #001

Work Order: E404251

Job Number: 01058-0007

Received: 4/25/2024

Revision: 1

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
5/1/24

5796 U.S. Hwy 64  
Farmington, NM 87401

Phone: (505) 632-1881  
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.  
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.  
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.  
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.  
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.



Date Reported: 5/1/24

Ashley Giovengo  
6488 7 Rivers Hwy  
Artesia, NM 88210



Project Name: LVP SWD #001  
Workorder: E404251  
Date Received: 4/25/2024 7:00:00AM

Ashley Giovengo,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 4/25/2024 7:00:00AM, under the Project Name: LVP SWD #001.

The analytical test results summarized in this report with the Project Name: LVP SWD #001 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

**Walter Hinchman**  
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[whinchman@envirotech-inc.com](mailto:whinchman@envirotech-inc.com)

**Raina Schwanz**  
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**Alexa Michaels**  
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[mgonzales@envirotech-inc.com](mailto:mgonzales@envirotech-inc.com)

Envirotech Web Address: [www.envirotech-inc.com](http://www.envirotech-inc.com)

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Sample Summary

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	05/01/24 13:58

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
FS08 -11'	E404251-01A	Soil	04/24/24	04/25/24	Glass Jar, 2 oz.
FS09 -12.5'	E404251-02A	Soil	04/24/24	04/25/24	Glass Jar, 2 oz.



Sample Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported: 5/1/2024 1:58:13PM
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	

FS08 -11'

E404251-01

Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B		mg/kg	mg/kg	Analyst: BA		Batch: 2417078
Benzene	ND	0.0250	1	04/26/24	04/26/24	
Ethylbenzene	ND	0.0250	1	04/26/24	04/26/24	
Toluene	ND	0.0250	1	04/26/24	04/26/24	
o-Xylene	ND	0.0250	1	04/26/24	04/26/24	
p,m-Xylene	ND	0.0500	1	04/26/24	04/26/24	
Total Xylenes	ND	0.0250	1	04/26/24	04/26/24	
Surrogate: Bromofluorobenzene		103 %	70-130	04/26/24	04/26/24	
Surrogate: 1,2-Dichloroethane-d4		102 %	70-130	04/26/24	04/26/24	
Surrogate: Toluene-d8		97.7 %	70-130	04/26/24	04/26/24	
Nonhalogenated Organics by EPA 8015D - GRO		mg/kg	mg/kg	Analyst: BA		Batch: 2417078
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/24	04/26/24	
Surrogate: Bromofluorobenzene		103 %	70-130	04/26/24	04/26/24	
Surrogate: 1,2-Dichloroethane-d4		102 %	70-130	04/26/24	04/26/24	
Surrogate: Toluene-d8		97.7 %	70-130	04/26/24	04/26/24	
Nonhalogenated Organics by EPA 8015D - DRO/ORO		mg/kg	mg/kg	Analyst: KM		Batch: 2417071
Diesel Range Organics (C10-C28)	ND	25.0	1	04/26/24	04/27/24	
Oil Range Organics (C28-C36)	ND	50.0	1	04/26/24	04/27/24	
Surrogate: n-Nonane		111 %	50-200	04/26/24	04/27/24	
Anions by EPA 300.0/9056A		mg/kg	mg/kg	Analyst: IY		Batch: 2417050
Chloride	539	20.0	1	04/25/24	04/25/24	





## Sample Data

Devon Energy - Carlsbad  
6488 7 Rivers Hwy  
Artesia NM, 88210

Project Name: LVP SWD #001  
Project Number: 01058-0007  
Project Manager: Ashley Giovengo

**Reported:**  
5/1/2024 1:58:13PM

FS09 -12.5'

E404251-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organic Compounds by EPA 8260B</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2417078
Benzene	ND	0.0250	1	04/26/24	04/27/24	
Ethylbenzene	ND	0.0250	1	04/26/24	04/27/24	
Toluene	ND	0.0250	1	04/26/24	04/27/24	
o-Xylene	ND	0.0250	1	04/26/24	04/27/24	
p,m-Xylene	ND	0.0500	1	04/26/24	04/27/24	
Total Xylenes	ND	0.0250	1	04/26/24	04/27/24	
Surrogate: Bromofluorobenzene		102 %	70-130	04/26/24	04/27/24	
Surrogate: 1,2-Dichloroethane-d4		100 %	70-130	04/26/24	04/27/24	
Surrogate: Toluene-d8		96.6 %	70-130	04/26/24	04/27/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2417078
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/24	04/27/24	
Surrogate: Bromofluorobenzene		102 %	70-130	04/26/24	04/27/24	
Surrogate: 1,2-Dichloroethane-d4		100 %	70-130	04/26/24	04/27/24	
Surrogate: Toluene-d8		96.6 %	70-130	04/26/24	04/27/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: KM		Batch: 2417071
Diesel Range Organics (C10-C28)	ND	25.0	1	04/26/24	04/27/24	
Oil Range Organics (C28-C36)	ND	50.0	1	04/26/24	04/27/24	
Surrogate: n-Nonane		106 %	50-200	04/26/24	04/27/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2417050
Chloride	ND	20.0	1	04/25/24	04/25/24	



QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	5/1/2024 1:58:13PM

Volatile Organic Compounds by EPA 8260B

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2417078-BLK1) Prepared: 04/26/24 Analyzed: 04/26/24

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: Bromofluorobenzene	0.505		0.500		101	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.503		0.500		101	70-130			
Surrogate: Toluene-d8	0.480		0.500		95.9	70-130			

LCS (2417078-BS1) Prepared: 04/26/24 Analyzed: 04/26/24

Benzene	2.52	0.0250	2.50		101	70-130			
Ethylbenzene	2.48	0.0250	2.50		99.3	70-130			
Toluene	2.37	0.0250	2.50		94.9	70-130			
o-Xylene	2.40	0.0250	2.50		95.9	70-130			
p,m-Xylene	4.71	0.0500	5.00		94.3	70-130			
Total Xylenes	7.11	0.0250	7.50		94.8	70-130			
Surrogate: Bromofluorobenzene	0.501		0.500		100	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.513		0.500		103	70-130			
Surrogate: Toluene-d8	0.486		0.500		97.1	70-130			

Matrix Spike (2417078-MS1) Source: E404266-03 Prepared: 04/26/24 Analyzed: 04/26/24

Benzene	2.63	0.0250	2.50	ND	105	48-131			
Ethylbenzene	2.56	0.0250	2.50	ND	102	45-135			
Toluene	2.43	0.0250	2.50	ND	97.3	48-130			
o-Xylene	2.48	0.0250	2.50	ND	99.4	43-135			
p,m-Xylene	4.92	0.0500	5.00	ND	98.4	43-135			
Total Xylenes	7.40	0.0250	7.50	ND	98.7	43-135			
Surrogate: Bromofluorobenzene	0.498		0.500		99.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.516		0.500		103	70-130			
Surrogate: Toluene-d8	0.477		0.500		95.3	70-130			

Matrix Spike Dup (2417078-MSD1) Source: E404266-03 Prepared: 04/26/24 Analyzed: 04/26/24

Benzene	2.65	0.0250	2.50	ND	106	48-131	0.681	23	
Ethylbenzene	2.59	0.0250	2.50	ND	103	45-135	1.01	27	
Toluene	2.47	0.0250	2.50	ND	98.9	48-130	1.59	24	
o-Xylene	2.59	0.0250	2.50	ND	103	43-135	3.99	27	
p,m-Xylene	5.07	0.0500	5.00	ND	101	43-135	3.05	27	
Total Xylenes	7.66	0.0250	7.50	ND	102	43-135	3.37	27	
Surrogate: Bromofluorobenzene	0.509		0.500		102	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.515		0.500		103	70-130			
Surrogate: Toluene-d8	0.481		0.500		96.2	70-130			



QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	5/1/2024 1:58:13PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: BA

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2417078-BLK1) Prepared: 04/26/24 Analyzed: 04/26/24

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: Bromofluorobenzene	0.505		0.500		101	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.503		0.500		101	70-130			
Surrogate: Toluene-d8	0.480		0.500		95.9	70-130			

LCS (2417078-BS2) Prepared: 04/26/24 Analyzed: 04/26/24

Gasoline Range Organics (C6-C10)	54.0	20.0	50.0		108	70-130			
Surrogate: Bromofluorobenzene	0.515		0.500		103	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.511		0.500		102	70-130			
Surrogate: Toluene-d8	0.487		0.500		97.4	70-130			

Matrix Spike (2417078-MS2) Source: E404266-03 Prepared: 04/26/24 Analyzed: 04/26/24

Gasoline Range Organics (C6-C10)	54.2	20.0	50.0	ND	108	70-130			
Surrogate: Bromofluorobenzene	0.518		0.500		104	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.508		0.500		102	70-130			
Surrogate: Toluene-d8	0.492		0.500		98.3	70-130			

Matrix Spike Dup (2417078-MSD2) Source: E404266-03 Prepared: 04/26/24 Analyzed: 04/26/24

Gasoline Range Organics (C6-C10)	52.8	20.0	50.0	ND	106	70-130	2.47	20	
Surrogate: Bromofluorobenzene	0.518		0.500		104	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.502		0.500		100	70-130			
Surrogate: Toluene-d8	0.484		0.500		96.7	70-130			



QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	5/1/2024 1:58:13PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2417071-BLK1) Prepared: 04/26/24 Analyzed: 04/27/24

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	56.7		50.0		113	50-200			

LCS (2417071-BS1) Prepared: 04/26/24 Analyzed: 04/27/24

Diesel Range Organics (C10-C28)	293	25.0	250		117	38-132			
Surrogate: n-Nonane	57.2		50.0		114	50-200			

Matrix Spike (2417071-MS1) Source: E404259-02 Prepared: 04/26/24 Analyzed: 04/27/24

Diesel Range Organics (C10-C28)	299	25.0	250	ND	119	38-132			
Surrogate: n-Nonane	56.9		50.0		114	50-200			

Matrix Spike Dup (2417071-MSD1) Source: E404259-02 Prepared: 04/26/24 Analyzed: 04/27/24

Diesel Range Organics (C10-C28)	304	25.0	250	ND	122	38-132	1.88	20	
Surrogate: n-Nonane	58.0		50.0		116	50-200			



QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	5/1/2024 1:58:13PM

Anions by EPA 300.0/9056A

Analyst: IY

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2417050-BLK1)					Prepared: 04/25/24 Analyzed: 04/25/24				
Chloride	ND	20.0							
LCS (2417050-BS1)					Prepared: 04/25/24 Analyzed: 04/25/24				
Chloride	248	20.0	250		99.2	90-110			
Matrix Spike (2417050-MS1)					Source: E404255-22		Prepared: 04/25/24 Analyzed: 04/25/24		
Chloride	455	20.0	250	216	95.6	80-120			
Matrix Spike Dup (2417050-MSD1)					Source: E404255-22		Prepared: 04/25/24 Analyzed: 04/25/24		
Chloride	447	20.0	250	216	92.2	80-120	1.91	20	

QC Summary Report Comment:  
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.  
Therefore, hand calculated values may differ slightly.



Definitions and Notes

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	
6488 7 Rivers Hwy	Project Number:	01058-0007	Reported:
Artesia NM, 88210	Project Manager:	Ashley Giovengo	05/01/24 13:58

- ND Analyte NOT DETECTED at or above the reporting limit
  - NR Not Reported
  - RPD Relative Percent Difference
  - DNI Did Not Ignite
  - DNR Did not react with the addition of acid or base.
- Note (1): Methods marked with \*\* are non-accredited methods.
- Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



## Chain of Custody

See Irene for TAT

Page 1 of 1

Client Information				Invoice Information		Lab Use Only		TAT				State						
Client: <u>Dewon</u>				Company: <u>Jim Raley</u>		Lab WO# <u>E 404251</u>		Job Number <u>01058-0007</u>				1D <input checked="" type="checkbox"/> 2D <input type="checkbox"/> 3D <input type="checkbox"/> Std <input checked="" type="checkbox"/>						
Project Name: <u>LVP SWD #001</u>				Address: <u>on file</u>								NM <input checked="" type="checkbox"/> CO <input type="checkbox"/> UT <input type="checkbox"/> TX <input type="checkbox"/>						
Project Manager: <u>Ashley Giovenco</u>				City, State, Zip:														
Address:				Phone:														
City, State, Zip: <u>Carlsbad NM 88220</u>				Email:														
Phone: <u>575 988 0055</u>				Miscellaneous:														
Email: <u>agiovenco@ehsolum.com</u>																		
Sample Information						Analysis and Method								EPA Program				
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Field Filter	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Chloride 300.0	BGDOC - NM	TCQ 1005 - TX	RCRA 8 Metals	SDWA	CWA	RCRA	
1015	4/24/24	Solid	1	FS08-11'		1						X						
1312	4/24/24	Solid	1	FS09-12.5'		2						X						
Additional Instructions: Please CC: Jim Raley, Cole Burton, Chad Hamilton, Ashley Giovenco, Israel Estrella																		
I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.																		
Sampled by:																		
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time	Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent day. Lab Use Only Received on ice: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N T1 _____ T2 _____ T3 _____ AVG Temp °C <u>4</u>										
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time											
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time											
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time											
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____ Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA _____																		
Note: Samples are discarded 14 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.																		

IF chloride is > 600 do not run  
BTEX or TPH



envirotech



## Envirotech Analytical Laboratory

Printed: 4/25/2024 9:08:10AM

## Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Devon Energy - Carlsbad	Date Received:	04/25/24 07:00	Work Order ID:	E404251
Phone:	(505) 382-1211	Date Logged In:	04/24/24 15:51	Logged In By:	Angelina Pineda
Email:	ashley.giovento@wescominc.com	Due Date:	04/25/24 17:00 (0 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Carrier: Courier

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Sample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6±2°C Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
  - Sample ID? Yes
  - Date/Time Collected? Yes
  - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client InstructionComments/Resolution

Rush Chlorides Only. If Chloride is > 600 do not run other tests Per COC

Signature of client authorizing changes to the COC or sample disposition.

Date

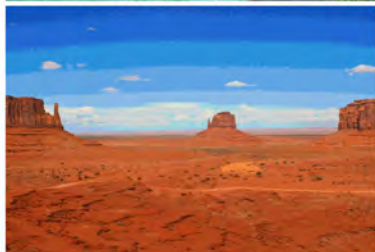


envirotech Inc.



Report to:

Ashley Giovengo



# envirotech

*Practical Solutions for a Better Tomorrow*

## Analytical Report

Devon Energy - Carlsbad

Project Name: LVP SWD #001

Work Order: E405133

Job Number: 01058-0007

Received: 5/9/2024

Revision: 0

Report Reviewed By:

**Draft**

Walter Hinchman  
Laboratory Director  
5/9/24

5796 U.S. Hwy 64  
Farmington, NM 87401

Phone: (505) 632-1881  
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.  
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.  
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.  
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.  
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 5/9/24

Ashley Giovengo  
6488 7 Rivers Hwy  
Artesia, NM 88210



Project Name: LVP SWD #001  
Workorder: E405133  
Date Received: 5/9/2024 7:45:00AM

Ashley Giovengo,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 5/9/2024 7:45:00AM, under the Project Name: LVP SWD #001.

The analytical test results summarized in this report with the Project Name: LVP SWD #001 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

**Walter Hinchman**  
Laboratory Director  
Office: 505-632-1881  
Cell: 775-287-1762  
[whinchman@envirotech-inc.com](mailto:whinchman@envirotech-inc.com)

**Raina Schwanz**  
Laboratory Administrator  
Office: 505-632-1881  
[rainaschwanz@envirotech-inc.com](mailto:rainaschwanz@envirotech-inc.com)

**Alexa Michaels**  
Sample Custody Officer  
Office: 505-632-1881  
[labadmin@envirotech-inc.com](mailto:labadmin@envirotech-inc.com)

Field Offices:

**Southern New Mexico Area**

**Lynn Jarboe**  
Laboratory Technical Representative  
Office: 505-421-LABS(5227)  
Cell: 505-320-4759  
[ljjarboe@envirotech-inc.com](mailto:ljjarboe@envirotech-inc.com)

**Michelle Golzaes**  
Client Representative  
Office: 505-421-LABS(5227)  
Cell: 505-947-8222  
[mgonzales@envirotech-inc.com](mailto:mgonzales@envirotech-inc.com)

Envirotech Web Address: [www.envirotech-inc.com](http://www.envirotech-inc.com)

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Sample Summary

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	05/09/24 17:12

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SS03 - 0'	E405133-01A	Soil	05/07/24	05/09/24	Glass Jar, 2 oz.



Sample Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported: 5/9/2024 5:12:28PM
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	

SS03 - 0'

E405133-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: EG		Batch: 2419147	
Benzene	ND	0.0250	1	05/09/24	05/09/24	
Ethylbenzene	ND	0.0250	1	05/09/24	05/09/24	
Toluene	ND	0.0250	1	05/09/24	05/09/24	
o-Xylene	ND	0.0250	1	05/09/24	05/09/24	
p,m-Xylene	ND	0.0500	1	05/09/24	05/09/24	
Total Xylenes	ND	0.0250	1	05/09/24	05/09/24	
Surrogate: 4-Bromochlorobenzene-PID	91.6 %	70-130		05/09/24	05/09/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: EG		Batch: 2419147	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/09/24	05/09/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID	90.8 %	70-130		05/09/24	05/09/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: NV		Batch: 2419145	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/09/24	05/09/24	
Oil Range Organics (C28-C36)	ND	50.0	1	05/09/24	05/09/24	
Surrogate: n-Nonane	110 %	50-200		05/09/24	05/09/24	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: IY		Batch: 2419143	
Chloride	152	20.0	1	05/09/24	05/09/24	



QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	5/9/2024 5:12:28PM

Anions by EPA 300.0/9056A

Analyst: IY

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2419143-BLK1)					Prepared: 05/08/24 Analyzed: 05/08/24				
Chloride	ND	20.0							
LCS (2419143-BS1)					Prepared: 05/08/24 Analyzed: 05/08/24				
Chloride	254	20.0	250		102	90-110			
LCS Dup (2419143-BSD1)					Prepared: 05/08/24 Analyzed: 05/08/24				
Chloride	254	20.0	250		101	90-110	0.0607	20	

QC Summary Report Comment:  
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.  
Therefore, hand calculated values may differ slightly.



Definitions and Notes

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	
6488 7 Rivers Hwy	Project Number:	01058-0007	Reported:
Artesia NM, 88210	Project Manager:	Ashley Giovengo	05/09/24 17:12

- ND            Analyte NOT DETECTED at or above the reporting limit
- NR            Not Reported
- RPD          Relative Percent Difference
- DNI          Did Not Ignite
- DNR          Did not react with the addition of acid or base.
- Note (1): Methods marked with \*\* are non-accredited methods.
- Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



Client Information					
Client: Devon					
Project: LVP SWD #001					
Project Manager: Ashley Giovengo					
Address: 3122 National Parks Hwy					
City, State, Zip: Carlsbad NM, 88220					
Phone: 575-988-0055					
Email: agiovengo@ensolum.com					

Invoice Information					
Company: Devon					
Address: 5315 Buena Vista Dr					
City, State, Zip: Carlsbad NM, 88220					
Phone: (575)689-7597					
Email: jim.raley@dvn.com					
Miscellaneous: Jim Raley					

Lab Use Only				TAT			
Lab WO# E405133	Job Number 01058-0007			1D	2D	3D	Std
x				x			

Analysis and Method														EPA Program		
DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Chloride 300.0	BGDOC - NM	TCEQ 1005 - TX	RCRA 8 Metals							SDWA	CWA	RCRA
					X									Compliance	Y or N	NM CO UT TX
														PWSID #		x
														Remarks		

Sample Information							
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Field Filter	Lab Number	
16:10	5/7/2024	Soil	1	SS03 - O'		I	

Additional Instructions:

Please CC: cburton@ensolum.com, agiovengo@ensolum.com, jim.raley@dvn.com, chamilton@ensolum.com, iestrella@ensolum.com

I, (field sampler), attest to the validity and authenticity of this sample.

I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: Cole Burton

Relinquished by: (Signature) <i>[Signature]</i>	Date 5/8/24	Time 7:30	Received by: (Signature) <i>Michelle Gonzalez</i>	Date 5-8-24	Time 0730
Relinquished by: (Signature) <i>Michelle Gonzalez</i>	Date 5-8-24	Time 1800	Received by: (Signature) <i>Jordan Hobb</i>	Date 5-8-24	Time 1800
Relinquished by: (Signature) <i>Jordan Hobb</i>	Date 5-8-24	Time 2345	Received by: (Signature)	Date 5/9/24	Time 0745
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Note: Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

Lab Use Only		
Received on Ice: Y / N		
T1	T2	T3
AVG Temp °C 4		

Sample Matrix: S - Soil, sd - Solid, sg - Sludge, A - Aqueous, O - Other \_\_\_\_\_

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA \_\_\_\_\_

Note: Samples are discarded 14 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.



## Envirotech Analytical Laboratory

Printed: 5/9/2024 9:34:34AM

## Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client: Devon Energy - Carlsbad  
 Phone: (505) 382-1211  
 Email: ashley.giovenco@wescominc.com

Date Received: 05/09/24 07:45  
 Date Logged In: 05/09/24 08:31  
 Due Date: 05/09/24 17:00 (0 day TAT)

Work Order ID: E405133  
 Logged In By: Angelina Pineda

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pca sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
  - Sample ID? Yes
  - Date/Time Collected? Yes
  - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client InstructionComments/Resolution

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

**From:** [Cole Burton](#)  
**To:** [Wells, Shelly, EMNRD](#)  
**Cc:** [Ashley Giovengo](#); [Dan Moir](#)  
**Subject:** [EXTERNAL] RE: NAPP2135033453 LVP SWD #001  
**Date:** Tuesday, May 21, 2024 11:56:02 AM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[LVP SWD #001 - Soil Sample Results 100-600 - wrong data removed.pdf](#)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Shelly,

I apologize the table that was included on this report had SS01 - SS04, BH01 and BH02. These sample points must have been added by accident but were from another spill for incident # nAPP2333127536 on the same location. I have removed the samples from the table. Please review the original Wescom report for those other delineation samples and locations.

Thanks,



**Cole Burton**  
Project Manager  
575-706-5056  
**Ensolum, LLC**  
in f X

---

**From:** Ashley Giovengo <[agiovengo@ensolum.com](mailto:agiovengo@ensolum.com)>  
**Sent:** Tuesday, May 21, 2024 10:50 AM  
**To:** Cole Burton <[cburton@ensolum.com](mailto:cburton@ensolum.com)>; Dan Moir <[dmoir@ensolum.com](mailto:dmoir@ensolum.com)>  
**Subject:** Fwd: NAPP2135033453 LVP SWD #001

**Ashley Giovengo**  
Senior Scientist  
575-988-0055  
**Ensolum, LLC**



“Your authenticity is your superpower.” – Unknown

---

**From:** Wells, Shelly, EMNRD <[Shelly.Wells@emnrd.nm.gov](mailto:Shelly.Wells@emnrd.nm.gov)>  
**Sent:** Tuesday, May 21, 2024 6:49:31 PM  
**To:** Ashley Giovengo <[agiovengo@ensolum.com](mailto:agiovengo@ensolum.com)>  
**Subject:** RE: NAPP2135033453 LVP SWD #001

[ \*\*EXTERNAL EMAIL\*\* ]

Hi again Ashley,

For some reason I was looking at the end of the photos but I see you added April ones in a different part of the report so never mind! However, I do not see a figure showing all the delineation sample locations (Figure 3 only shows SS07, SS08, and PHO1). Can you provide location of the others?

Thank you,

Shelly

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**From:** Wells, Shelly, EMNRD  
**Sent:** Tuesday, May 21, 2024 10:20 AM  
**To:** Ashley Giovengo <[agiovengo@ensolum.com](mailto:agiovengo@ensolum.com)>  
**Subject:** NAPP2135033453 LVP SWD #001

Hi Ashley,

There are no photos submitted for the further excavation carried out in April 2024 from the above incident. If you can, please provide some to the OCD.

Thank you,

Shelly

[Shelly Wells](#) \* Environmental Specialist-Advanced  
Environmental Bureau  
EMNRD-Oil Conservation Division  
1220 S. St. Francis Drive|Santa Fe, NM 87505  
(505)469-7520|[Shelly.Wells@emnrd.nm.gov](mailto:Shelly.Wells@emnrd.nm.gov)  
<http://www.emnrd.state.nm.us/OCD/>



**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
 LVP SWD #001  
 WPX Energy Permian, LLC  
 Eddy County, New Mexico  
 Ensolum Project No. 03A1978044

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	100	600
Delineation Soil Sample Analytical Results									
SS07	3/17/2022	8.5	<0.250	<0.250	<200	<25.0	<50.0	<200	328
SS08	3/17/2022	9	<0.250	<0.250	<200	<25.0	<50.0	<200	866
BF01**	4/23/2024	--	<0.250	<0.250	<200	<25.0	<50.0	<20.0	80.7
PH01	11/22/2022	11	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	48.8
Confirmation Floor Soil Sample Analytical Results									
FS01	11/15/2022	5	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	105
FS02	11/15/2022	4	<0.00198	<0.00397	<50.0	<50.0	<50.0	<50.0	178
FS03	11/16/2022	4	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	164
FS04	11/16/2022	5	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	6,920
FS04A	10/11/2023	5	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	385
FS05	11/16/2022	5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	9,270
FS05A	10/11/2023	5	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	1,640
FS05	4/22/2024	9.5	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	553
FS06	11/17/2022	4	<0.00200	0.123	<50.0	<50.0	<50.0	<50.0	14,600
FS06A	10/11/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	3,010
FS06	4/19/2024	8	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	330
FS07	11/17/2022	4	<0.00202	<0.00403	57.1	<49.9	<49.9	57.1	12,800
FS07A	10/11/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	2,160
FS07	4/19/2024	7	NA	NA	NA	NA	NA	NA	5,400
FS07	4/22/2024	10	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	488
FS08	11/17/2022	4	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	9,190
FS08A	10/11/2023	5	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	3,680
FS08	4/23/2024	7.5	NA	NA	NA	NA	NA	NA	1,530
FS08	4/23/2024	10	NA	NA	NA	NA	NA	NA	1,710
FS08	4/24/2024	11	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	539
FS09	11/17/2022	4	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	6,790
FS09A	10/11/2023	4.5	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	1,760
FS09	4/24/2024	12.5	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	<20.0
FS10	11/18/2022	4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	893
FS10A	10/11/2023	4.5	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	1,970
FS10	4/24/2024	5.5	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	331
FS11	11/18/2022	4	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	2,370
FS11A	10/11/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	763
FS11	4/19/2024	8	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	317
FS12	11/18/2022	4	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	14,900
FS12A	10/11/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<20.0	361



TABLE 1  
SOIL SAMPLE ANALYTICAL RESULTS  
LVP SWD #001  
WPX Energy Permian, LLC  
Eddy County, New Mexico  
Ensolum Project No. 03A1978044

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	100	600
Confirmation Sidewall Soil Sample Analytical Results									
SW01	11/15/2022	0-5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	261
SW02	11/18/2022	0-5	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	140
SW03	11/18/2022	0-4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	94.2

**Notes:**

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Code

Grey text represents samples that have been excavated

&lt;": Laboratory Analytical result is less than reporting limit

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

\* Indicates sample was collected in area to be reclaimed after remediation is complete; reclamation for chloride in the top 4 feet is 600 mg/kg and total TPH is 100 mg/kg.

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

\*\*Backfill material sample

**District I**  
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**District II**  
811 S. First St., Artesia, NM 88210  
Phone:(575) 748-1283 Fax:(575) 748-9720  
**District III**  
1000 Rio Brazos Rd., Aztec, NM 87410  
Phone:(505) 334-6178 Fax:(505) 334-6170  
**District IV**  
1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS  
  
Action 346038

QUESTIONS

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID:	246289
	Action Number:	346038
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2135033453
Incident Name	NAPP2135033453 LVP SWD #001 @ 30-015-42234
Incident Type	Produced Water Release
Incident Status	Remediation Closure Report Received
Incident Well	[30-015-42234] LVP SWD #001

Location of Release Source	
Please answer all the questions in this group.	
Site Name	LVP SWD #001
Date Release Discovered	12/03/2021
Surface Owner	Private

Incident Details	
Please answer all the questions in this group.	
Incident Type	Produced Water 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	
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.	
Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Equipment Failure   Flow Line - Production   Produced Water   Released: 200 BBL   Recovered: 0 BBL   Lost: 200 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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**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

QUESTIONS, Page 2

Action 346038

**QUESTIONS (continued)**

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID:	246289
	Action Number:	346038
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Nature and Volume of Release (continued)</b>	
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: James Raley Title: EHS Professional Email: jim.raley@dmn.com Date: 05/20/2024
--	--

**District I**

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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 346038

**QUESTIONS (continued)**

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 346038
	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 26 and 50 (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
<b>What is the minimum distance, between the closest lateral extents of the release and the following surface areas:</b>	
A continuously flowing watercourse or any other significant watercourse	Between 500 and 1000 (ft.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 5 (mi.)
Any other fresh water well or spring	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Between 1 and 5 (mi.)
A wetland	Between ½ and 1 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Between 1 and 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Medium
A 100-year floodplain	Between 500 and 1000 (ft.)
Did the release impact areas not on an exploration, development, production, or storage site	No

**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
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.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No

**Soil Contamination Sampling:** (Provide the highest observable value for each, in milligrams per kilograms.)

Chloride	(EPA 300.0 or SM4500 Cl B)	501
TPH (GRO+DRO+MRO)	(EPA SW-846 Method 8015M)	0
GRO+DRO	(EPA SW-846 Method 8015M)	0
BTEX	(EPA SW-846 Method 8021B or 8260B)	0
Benzene	(EPA SW-846 Method 8021B or 8260B)	0

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.

On what estimated date will the remediation commence	04/01/2024
On what date will (or did) the final sampling or liner inspection occur	04/24/2024
On what date will (or was) the remediation complete(d)	04/24/2024
What is the estimated surface area (in square feet) that will be reclaimed	5668
What is the estimated volume (in cubic yards) that will be reclaimed	560
What is the estimated surface area (in square feet) that will be remediated	5668
What is the estimated volume (in cubic yards) that will be remediated	560

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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**Oil Conservation Division**  
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**Santa Fe, NM 87505**

QUESTIONS, Page 4

Action 346038

**QUESTIONS (continued)**

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID:	246289
	Action Number:	346038
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS****Remediation Plan (continued)**

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.

**This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:**

(Select all answers below that apply.)

(Ex Situ) Excavation and <b>off-site</b> disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for <b>off-site</b> disposal	Not answered.
<b>OR</b> which OCD approved well (API) will be used for <b>off-site</b> disposal	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, out-of-state	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, an NMED facility	Yes
What is the name of the NMED facility	R360 Halfway
(Ex Situ) Excavation and <b>on-site</b> remediation (i.e. On-Site Land Farms)	Not answered.
(In Situ) Soil Vapor Extraction	Not answered.
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	Not answered.
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	Not answered.
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	Not answered.
Ground Water Abatement pursuant to 19.15.30 NMAC	Not answered.
OTHER (Non-listed remedial process)	Not answered.

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 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: James Raley Title: EHS Professional Email: jim.raley@dmn.com Date: 05/20/2024
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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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Action 346038

QUESTIONS (continued)

Operator:  WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID:
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[C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

QUESTIONS

Deferral Requests Only	
Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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QUESTIONS, Page 6

Action 346038

**QUESTIONS (continued)**

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID:
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Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

**QUESTIONS**

Sampling Event Information	
Last sampling notification (C-141N) recorded	335896
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	04/29/2024
What was the (estimated) number of samples that were to be gathered	7
What was the sampling surface area in square feet	5668

**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	No
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	5668
What was the total volume (cubic yards) remediated	560
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	5668
What was the total volume (in cubic yards) reclaimed	560
Summarize any additional remediation activities not included by answers (above)	Rock hammer was used to remove soil from excavation

*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: James Raley Title: EHS Professional Email: jim.raley@dvn.com Date: 05/20/2024
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QUESTIONS, Page 7  
  
Action 346038

QUESTIONS (continued)

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QUESTIONS

Reclamation Report	
Only answer the questions in this group if all reclamation steps have been completed.	
Requesting a reclamation approval with this submission	No

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CONDITIONS  
  
Action 346038

CONDITIONS

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 346038
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
scwells	None	5/21/2024