REMEDIATION PLAN

DEVON ENERGY COMPANY

Created for submission to New Mexico Oil Conservation Division on 04/11/2022

ASHLEY GIOVENGO
Environmental Manager - Permian

ENERGIZING AMERICA

April 11, 2022

Bradford Billings, Robert Hamlet, Jennifer Nobui, Nelson Velez and/or Chad Hensley
State of New Mexico
Energy, Minerals, and Natural Resources
New Mexico Oil Conservation Division
811 South First Street
Artesia, New Mexico 88210

RE: REMEDIATION PLAN

COMPANY	Devon Energy
LOCATION	LVP SWD #001
API	30-015-42234
PLSS	Unit I Sec 04 T23S R28E
GPS	32.3330917, -104.0850372
INCIDENT ID	nAPP2135033453

BACKGROUND

Wescom, Inc., hereafter referred to as Wescom, has prepared this Remediation Plan on behalf of Devon Energy Company, hereafter referred to as Devon, regarding the release at the LVP SWD #001 (Site) located in Unit I, Section 04, Township 23 South and Range 28 East in Eddy County, New Mexico. The GPS coordinates are North 32.3330917 and West -104.0850372. Surface owner of the Site is Private Land. The Site falls within New Mexico Oil Conservation Division (NMOCD), District 2 Artesia.

On December 03, 2021, a leak was discovered at a connection point on an underground water transfer line. The failure resulted in the release of approximately 200 barrels (bbls) of produced water onto a pipeline right-of-way (ROW). The volume of the release was determined using the following calculation:

$$BBL\ Estimate = ((Saturated\ Soil\ Volume\ (ft^3) \div 4.21\ \left(\frac{ft^3}{bbl} equivalent\right)) \times Estimated\ Soil\ Porosity\ (\%) + Recovered\ Fluids\ (bbl)$$

Notification of a possible major release was sent to NMOCD on December 03, 2021, via email (see Attachment F). Approximately 960 cubic yards of soil was impacted by the release. A mini excavator was used to remove contaminated soil surrounding the water transfer line and to complete spill delineation.

SURFACE & GROUND WATER

The New Mexico Office of the State Engineer (OSE) records indicates the nearest depth to groundwater measurement is 20 feet below ground surface (bgs) and is 0.30 miles Southwest of the Site. Additional wells in the area support the data in the nearest water measurement. No playas or lakes are located within a one-mile radius of this Site. (Attachment C).

KARST POTENTIAL

According to data from the Bureau of Land Management, this Site is located within medium karst potential as shown in Attachment D. There are no indicators of karst around the Site surface.

TARGET REMEDIAL LEVELS

The target cleanup levels are determined using the NMOCD Closure Criteria (19.15.29.12.B(4) and Table 1 NMAC, inserted below) including karst guidelines from the Bureau of Land Management. The applicable Recommended Remediation Action Levels (RRALs) are 10 parts per million (ppm) Benzene, 50 ppm combined benzene, toluene, ethyl benzene, and xylene (BTEX) and 100 ppm Total Petroleum Hydrocarbons (TPH). Characterization of the vertical and horizontal extent of chloride concentration in the soil to a level of 600 mg/kg (ppm) is also required.

Closure Criteria (19.15.29.12.B(4) and Table 1 NMAC)						
LVP SWD #001 — 32.3330917, -104.0850372						
Depth to Groundwater		**Closure Criteria (unites in mg/kg)**				
		Chloride * numberical limit or background, whichever is greater	TPH	GRO+DRO	BTEX	Benzene
Based on high karst potential		600	100		50	10
less than 50 ft bgs	**20**	**600**	**100**		**50**	**10**
51 ft to 100 ft bgs		10000	2500	1000	50	10
greater than 100 ft bgs		20000	2500	1000	50	10
Surface Water	**Yes or No**	**If yes, then**				
< 300 feet from continuously flowing watercourse or other significant watercourse?	No					
< 200 feet from lakebed, sinkhole or playa lake	No					
Water Well or Water Source						
< 500 feet from spring or a private, domestic fresh water well used by less than 5 households for domestic or stock watering purposes?	No					
< 1000 feet from fresh water well or spring?	No					
Human and Other Areas						
< 300 feet from an occupied permanent residence, school, hospital, institution or church?	No					
Within incorporated municipal boundaries or within a defined municipal fresh water well field?	No					
< 100 feet from wetland?	No					
Within area overlying a subsurface mine?	No					
Within an unstable area?	No					
Within a 100-year floodplan?	No					

Table: Closure Criteria Findings

SITE ASSESSMENT AND DELINEATION

Devon contracted Wescom to conduct onsite delineation activities beginning December 03, 2021, and again on December 8 and December 09, 2021. A mini excavator was used to remove contaminated soil from the impacted area and to aide in delineation sampling. Figures 1 through 3 show locations and depths of sample points. Soil samples Spill01A, Spill02A and Spill03A were field screened for chlorides on December 03, 2021 (see Table 1 and Figure 1). Field screening results from the initial Site assessment indicated that soils beneath the water transfer line had been impacted by the release. Wescom personnel returned to the Site on December 8, 2021, to complete delineation sampling.

Soil samples SS01C, SS03A, SS04A, SS05A, and SS06D were collected at zero feet (ft) to determine the horizontal extent of the spill area. The location of SS02A is due to the presence of a facility building onsite. SS02A was collected at a depth of one-foot bgs to ensure the contamination plume did not extend beneath the building. Soil samples SS01C-4', SS02A-4', SS03A-5', SS04A-4', SS05A-4' SS06D-4.5' were collected to verify that the extents of the subsurface contamination did not extend beyond the horizontal extents on surface.

Soil samples SS04 and SS06 were collected at four and a half feet and five feet bgs to determine the vertical extent of soil contamination closest to the underground water transfer line. Further vertical delineation sampling and excavation was halted due to the presence of a cemented rock layer. Vertical delineation and excavation beyond the existing formation barrier would be impractical due to the possibility of fracturing the cemented rock layer thereby creating a conduit for further subsurface impacts. The cemented barrier varies in depth from one-foot bgs to six feet bgs and is consistently well indurated throughout the spill area, as found in previous remediation activities completed at the Site.

A background sample BG01, was collected 100 feet to the Northeast of the spill area. All soil samples were properly packaged, preserved, and transported to Envirotech Inc. by chain of custody, and analyzed for Total Petroleum Hydrocarbons, or TPH—Method 8015M/D, BTEX—Method 8021B, and Chlorides—Method 300.0. All delineation samples were below the applicable RRAL for the Site as shown in Table 1 except for SS04 and SS06.

A Remediation plan for the Site was submitted to NMOCD on March 02, 2022. On March 09, 2022, Devon personnel received notification that the remediation plan had been denied due a lack of vertical delineation data in the source area and lack of proof that the existing rock layer is impenetrable.

On March 17, 2022, Devon contracted WSP USA, hereafter referred to as WSP, to perform additional vertical delineation activities and to assess the integrity of the cemented rock layer. An LTD portable core drill was utilized to drill two boreholes, BH01 and BH02 in the excavated area beneath the produced water header (see Attachment G). Due to the limitations of the drilling equipment and the presence of more than four feet of cemented gravel, vertical delineation beyond nine feet bgs was not possible. Wescom personnel were onsite to collect two core samples, SS07 from BH01 and SS08 from BH02. The results are presented in Table 2, laboratory analytical reports are included in Attachment E. A supplemental lithology summary detailing the sampling efforts and the characteristics of the cemented rock layer is included in Attachment G.

REMEDIATION PLAN SUBMISSION EXTENSION REQUEST

NMOCD denied the initial remediation plan that Devon submitted for the Site on March 02, 2022, for the following reasons:

> Remediation Plan Denied. Need delineation data in source area (Laboratory samples). Not vertically delineated. Variance denied; must prove rock layer is impenetrable. Please resubmit revised Remediation Plan by April 11,
> 2022.

Devon Energy attempted to complete vertical delineation inside the spill area on March 17, 2022. Devon utilized the best equipment available given the small compliance window of 30 days. WSP's portable core drill hit refusal at nine-feet bgs in two separate boreholes. Two samples were collected and evaluated for lithology characteristics by Professional Geologist, Daniel Moir of WSP. Mr. Moir concluded that the probability for vertical migration of chlorides through the cemented rock layer was low.

Devon Energy requests than an additional 120 days be provided to secure a rig capable of drilling through the rock layer to achieve full vertical delineation. Based on the laboratory results from the samples collected with the rig, an appropriate Remediation Plan for the Site will be resubmitted to NMOCD for approval.

If you have any questions or comments, please do not hesitate to call Mrs. Ashley Giovengo at (505) 382-1211.

Sincerely,

Wescom, Inc.

Ashley Giovengo
Environmental Manager-Permian

cc: Jim Raley, Devon Energy

Bradford Billings, NMOCD

Robert Hamlet, NMOCD

Jennifer Nobui, NMOCD

Nelson Velez, NMOCD

Chad Hensley, NMOCD

REFERENCE MATERIALS

FIGURES

TABLES

ATTACHMENTS

TABLE 1

Field Screening Results: Delineation Samples

LVP SWD #001 | nAPP2135033453

Devon Energy | 02.25.2022

Table 1. Field Screening Results

Sample Description			Petroleum Hydrocarbons			Inorganic
			Volatile		Extractable	
Sample ID	Depth (ft.)	Date	Benzene (mk/kg)	Total BTEX (mk/kg)	TPH (mk/kg)	Chloride (mk/kg)
Closure Criteria			**10**	**50**	**100**	**600**
Spill01A	0	12/3/2021	-	-	-	6400
Spill02A	0	12/3/2021	-	-	-	6000
Spill03A	6	12/3/2021	-	-	-	10500

ABBREVIATIONS

BTEX — Benzene, Toluene, Ethylene, Xylene

DRO — Diesel Range Organics

ft. — Feet

GRO — Gasoline Range Organics

ND — Non-detect

mg/kg — Milligrams per Kilogram

TPH — Total Petroleum Hydrocarbons

Notes

Bold Red - Results are above closure criteria

Gray Highlight - Background Samples

TABLE 2

Laboratory Analysis Results: Delineation Samples

LVP SWD #001 | nAPP2135033453

Devon Energy | 04.04.2022

Table 2. Delineation Laboratory Analysis Results

Sample Description			Petroleum Hydrocarbons			Inorganic
			Volatile		Extractable	
Sample ID	Depth (ft.)	Date	Benzene (mk/kg)	Total BTEX (mk/kg)	TPH (mk/kg)	Chloride (mk/kg)
Closure Criteria			**10**	**50**	**100**	**600**
BG01	1	12/21/2021	ND	ND	ND	ND
BG01	2	12/21/2021	ND	ND	ND	ND
SS01C	0	12/21/2021	ND	ND	ND	125
SS01C	4	12/21/2021	ND	ND	ND	66
SS02A	1	12/21/2021	ND	ND	ND	248
SS02A	4	12/21/2021	ND	ND	ND	291
SS03A	0	12/21/2021	ND	ND	ND	ND
SS03A	5	12/21/2021	ND	ND	ND	26.4
SS04	5	12/21/2021	ND	ND	ND	**4800**
SS04A	0	12/21/2021	ND	ND	ND	20.7
SS04A	4	12/21/2021	ND	ND	ND	ND
SS05A	0	12/21/2021	ND	ND	ND	68.2
SS05A	4	12/21/2021	ND	ND	ND	ND
SS06	4.5	12/21/2021	ND	ND	ND	**1620**
SS06D	0	12/21/2021	ND	ND	ND	121
SS06D	4.5	12/21/2021	ND	ND	ND	237
SS07	8.5	3/17/2022	ND	ND	ND	328
SS08	9	3/17/2022	ND	ND	ND	**956**

ABBREVIATIONS

BTEX — Benzene, Toluene, Ethylene, Xylene

DRO — Diesel Range Organics

ft. — Feet

TPH — Total Petroleum Hydrocarbons

GRO — Gasoline Range Organics

ND — Non-detect

mg/kg — Milligrams per Kilogram

Notes

Bold Red - Results are above closure criteria

Gray Highlight - Background Samples

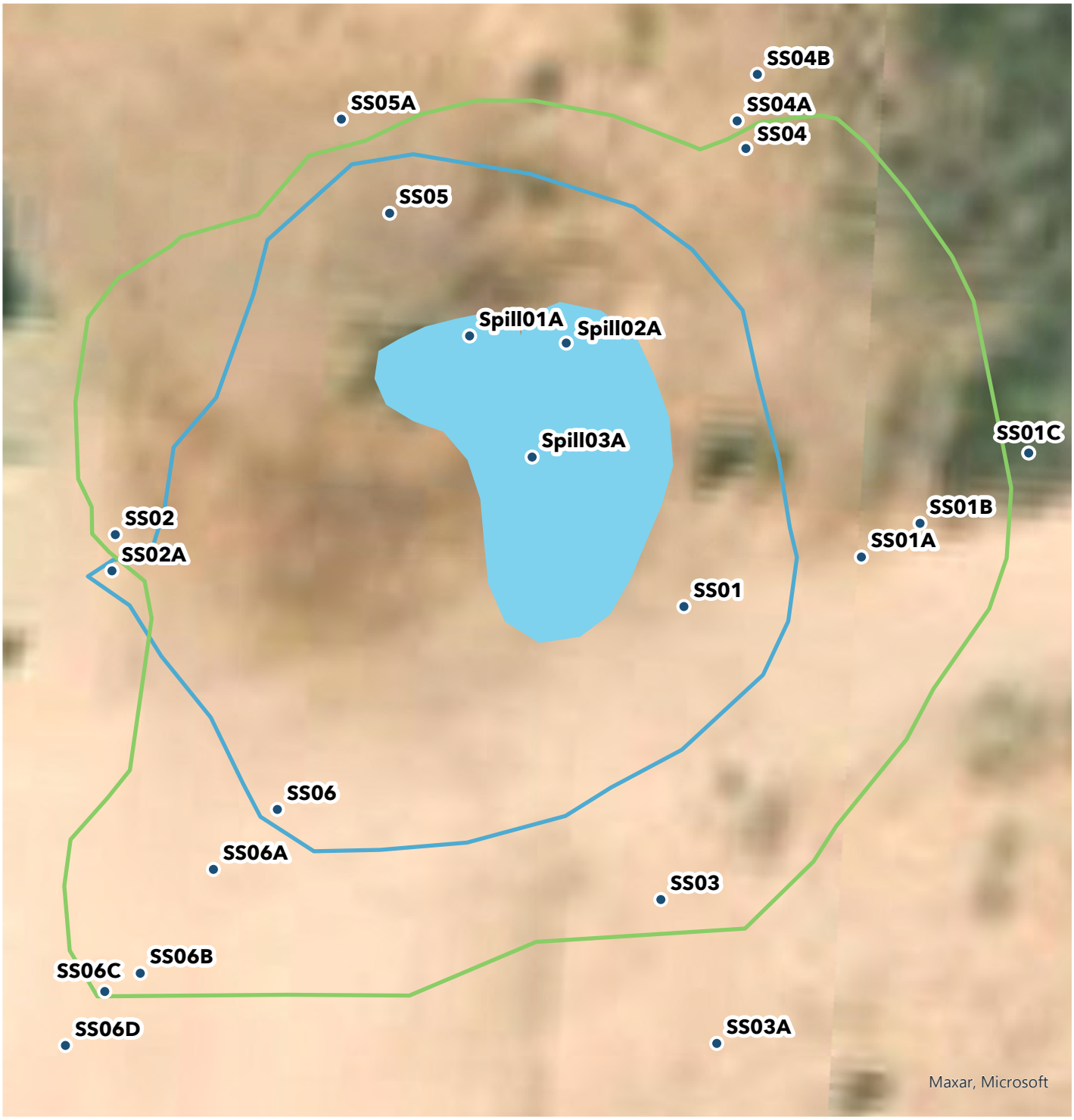

FIGURE 1. SPILL LOCATION

0 5 10 20 30 40 50 Feet

N

LVP SWD #001
Incident ID: nAPP2135033453
API: 30-015-42234
GPS Coordinates: 32.3330917, -104.0850372
Eddy County, New Mexico
Devon Energy

LEGEND

- Sample Points

SPILL AREAS

- Visible Spill Area
- Impacted Surface Area
- Impacted Area at Depth

WESCOM

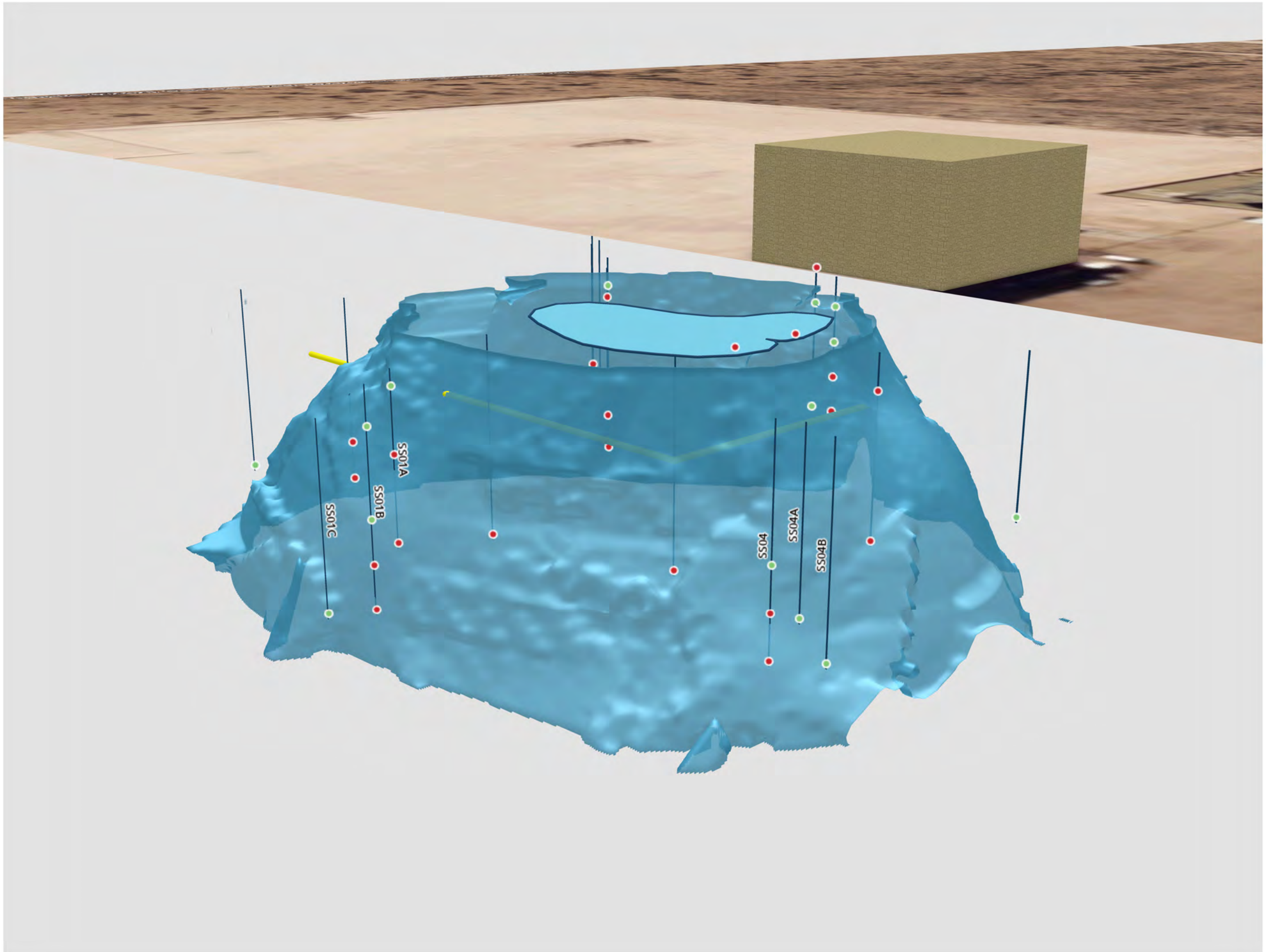

FIGURE 2.
SPILL - ISOPLUME

LVP SWD #001
Incident ID: nAPP2135033453
API: 30-015-42234
GPS Coordinates: 32.333898, -104.084604
Eddy County, New Mexico
Devon Energy

LEGEND

Product Pipe

Spill Extent

Sample Points

Chlorides < 600 ppm

Chlorides > 600 ppm

NOT TO SCALE

WESCOM

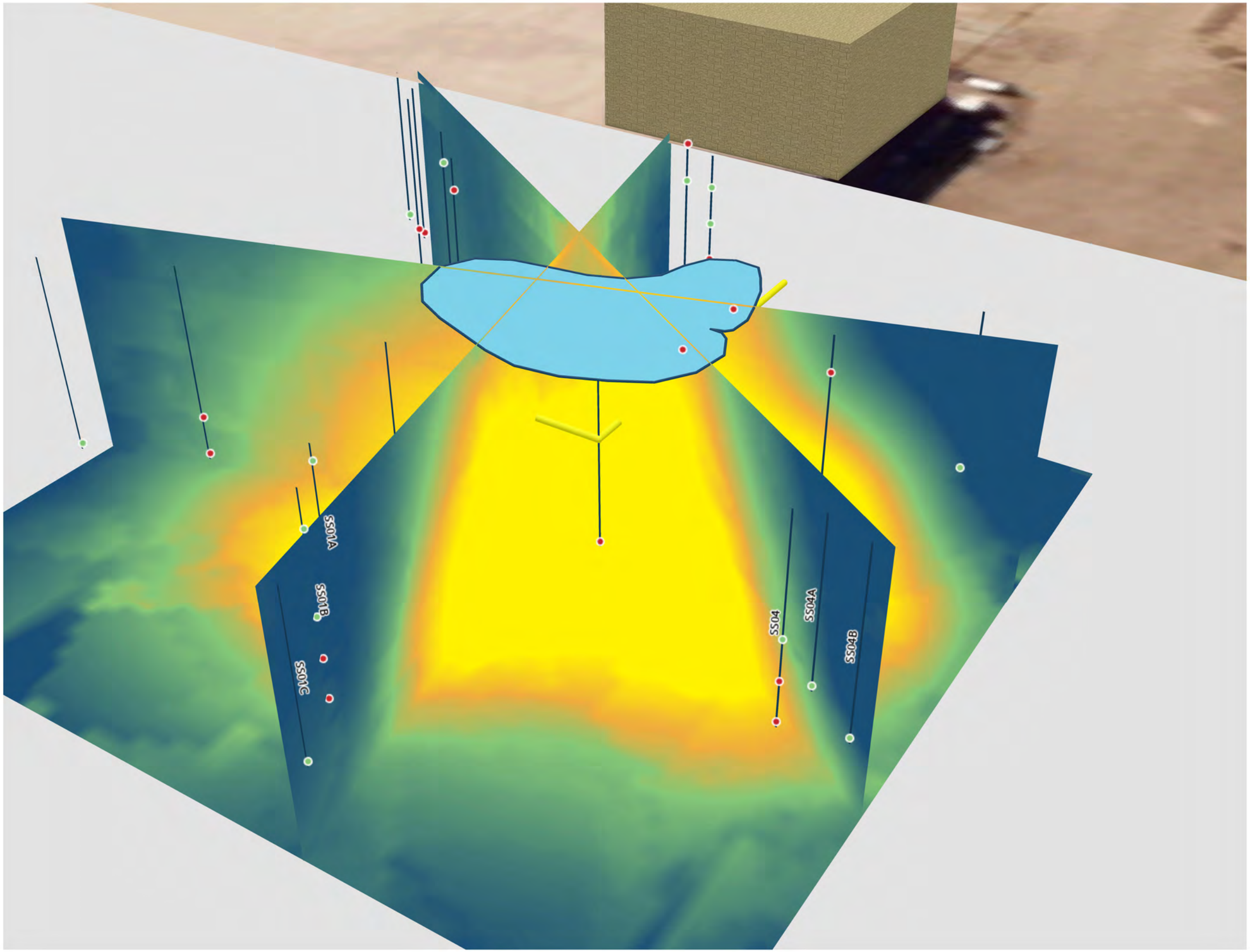

FIGURE 3.
SPILL - SLICE AREA

LVP SWD #001
Incident ID: nAPP2135033453
API: 30-015-42234
GPS Coordinates: 32.333898, -104.084604
Eddy County, New Mexico
Devon Energy

LEGEND

Product Pipe

Spill Extent

Sample Points

Chlorides < 600 ppm

Chlorides > 600 ppm

Chloride Concentration

High

Low

NOT TO SCALE

N

WESCOM

ATTACHMENT A

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.raley@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 3rd, 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)

☐ Crude Oil	Volume Released (bbls) 0	Volume Recovered (bbls) 0
☒ Produced Water	Volume Released (bbls) 200	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ 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 (%)+recoverd fluids (bbls)*

State of New Mexico
Oil Conservation Division

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Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ 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

☒ The source of the release has been stopped.

☒ The impacted area has been secured to protect human health and the environment.

☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.

☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not 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_____

OCD Only

Received by: _____ Date: _____

Incident ID	nAPP2135033453
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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?	20 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ 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)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ 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?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	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: Jim Raley

Date: 4/11/2022

email: jim.raley@dvn.com

Telephone: 575-689-7597

OCD Only

Received by: _____

Date: _____

State of New Mexico
Oil Conservation Division

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: Jim Raley
Date: 4/11/2022

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

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

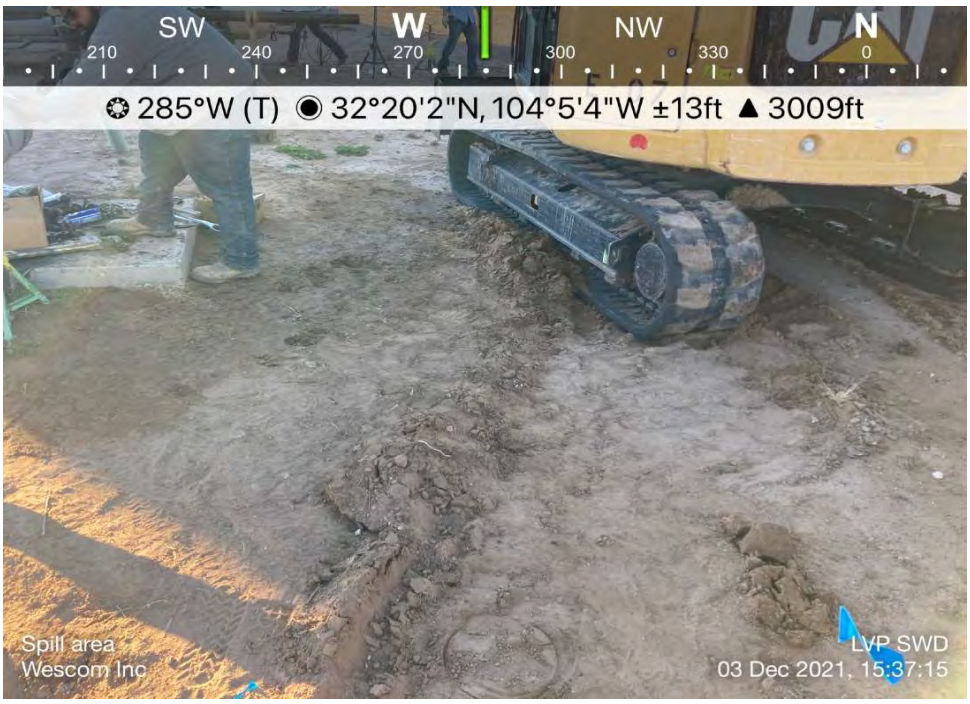
ATTACHMENT B

Site Photos

LVP SWD #001
Incident ID: nAPP2135033453

Initial Spill Area (Leak Repair)

Initial Spill Area (Leak Repair)



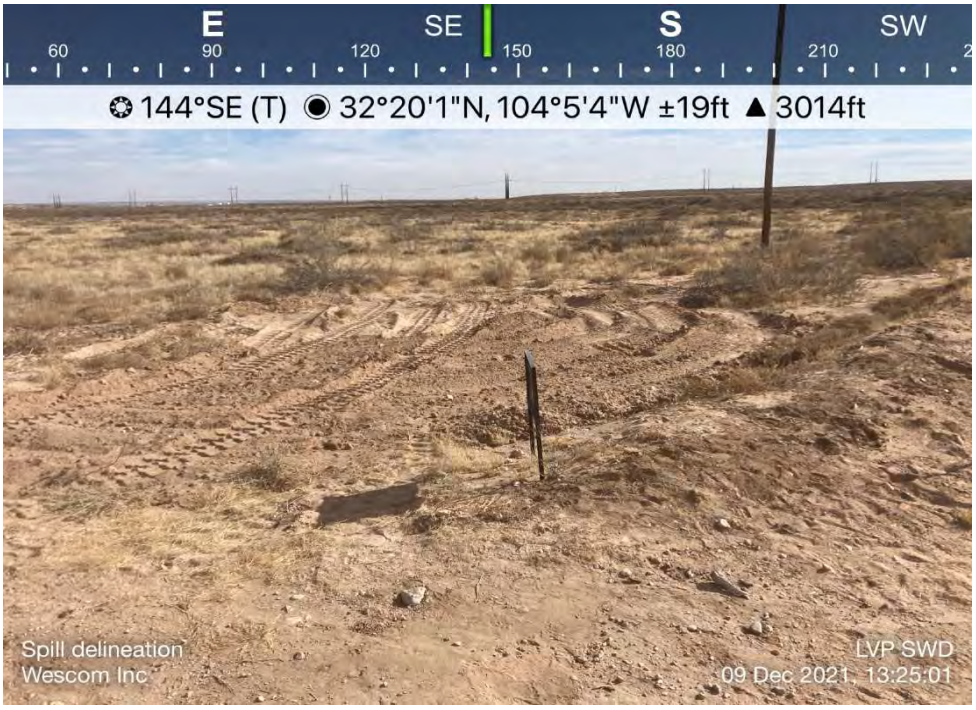
Initial Spill Area (Above Ground)

Initial Spill Area (Leak Repair)

Delineation East of Spill

Delineation Southwest of Spill

Delineation Northwest of Spill



Delineation South of Spill

LVP SWD #001
Incident ID: nAPP2135033453

Delineation Northeast of Spill

ATTACHMENT C

Closure Criteria Supporting Documents

New Mexico Office of the State Engineer
Wells with Well Log Information

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

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

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

(NAD83 UTM in meters)

(in feet)

POD Number	Code	POD Subbasin	County	Source	q 64	q 16	q 4	Sec	Twn	Rng	X	Y	Distance	Start Date	Finish Date	Log File Date	Depth Well	Depth Water	Driller	License Number
C 04415 POD1		CUB	ED	Shallow	4	1	4	04	23S	28E	585657	3577591	488	04/01/2020	04/01/2020	05/26/2020	25	20	MARK MUMBY	1789
C 04415 POD5		CUB	ED		4	1	4	04	23S	28E	585652	3577605	488	04/01/2020	04/01/2020	05/26/2020	10		MARK MUMBY	1789
C 04415 POD6		CUB	ED		4	1	4	04	23S	28E	585652	3577605	488	04/01/2020	04/01/2020	05/26/2020	10		MARK MUMBY	1789
C 04415 POD8		CUB	ED	Shallow	4	1	4	04	23S	28E	585656	3577583	492	07/15/2021	07/16/2021	10/05/2021	27	23	HAMMER, RODNEY S.WARDENER	1186
C 04415 POD2		CUB	ED		4	1	4	04	23S	28E	585653	3577570	500	04/01/2020	04/01/2020	05/26/2020	12		MARK MUMBY	1789
C 04415 POD3		CUB	ED		4	1	4	04	23S	28E	585645	3577552	515	04/01/2020	04/01/2020	05/26/2020	11		MARK MUMBY	1789
C 04415 POD4		CUB	ED		3	1	4	04	23S	28E	585628	3577575	521	04/01/2020	04/01/2020	05/26/2020	11		MARK MUMBY	1789
C 04415 POD7		CUB	ED	Shallow	3	1	4	04	23S	28E	585628	3577518	545	07/15/2021	07/16/2021	10/05/2021	55	38	HAMMER, RODNEY S.WARDENER	1186
C 00800		C	ED	Shallow		4	2	09	23S	28E	586050	3576479*	1296	11/05/1957	11/10/1957	12/09/1957	200	30	WILLARD BEATY	62
C 03056		C	ED	Shallow	3	3	3	04	23S	28E	584772	3577226	1446	07/01/2004	07/02/2004	07/12/2004	60	31		1348
C 03800 POD1		C	ED	Shallow	3	3	2	05	23S	28E	583927	3577958	2191	12/01/2014	12/08/2014	10/15/2019	97	36	MALEY, JASONASTR.L.NER	1690
C 00326		CUB	ED	Shallow	3	3	3	10	23S	28E	586358	3575572*	2216	10/01/1991	10/19/1991	11/01/1991	130	19	MIKE CAMPBELL	1259
C 00326 CLW196238	O	CUB	ED	Shallow	3	3	3	10	23S	28E	586358	3575572*	2216	07/23/1952	08/06/1952	09/03/1952	196	25	J.F. KIMMELL	
C 00512		CUB	ED	Shallow	4	1	1	11	23S	28E	588188	3576775	2305	05/04/1975	05/20/1975	05/11/1976	175	15	BRININSTOOL, M.D.	24
C 00512 EXPL	O	CUB	ED	Shallow			1	11	23S	28E	588272	3576703*	2412	07/12/1971	07/17/1971	10/15/1971	200	16	BRININSTOOL, M.D.	24
C 03762 POD2		CUB	ED	Shallow	4	4	2	17	23S	28E	584893	3575598	2493	08/11/2014	08/11/2014	08/22/2014	40	30	BLANCO, TIMOTHY	1070
C 00315		CUB	ED	Shallow	3	1	3	11	23S	28E	587973	3575995*	2576	06/16/1952	06/20/1952	01/06/1953	100	45	J.F. KIMMELL	
C 04216 POD2		CUB	ED	Shallow	1	4	1	11	23S	28E	588465	3576555	2651	04/04/2018	04/04/2018	04/18/2018	20	10	ATKINS, JACKIE D.	1249
C 04216 POD1		CUB	ED	Shallow	2	4	1	11	23S	28E	588488	3576534	2682	04/04/2018	04/04/2018	04/18/2018	20	10	ATKINS, JACKIE D.	1249
C 04216 POD3		CUB	ED	Shallow	1	4	1	11	23S	28E	588501	3576556	2683	04/04/2018	04/04/2018	04/18/2018	23	13	ATKINS, JACKIE D.	1249
C 04216 POD4		CUB	ED	Shallow	2	4	1	11	23S	28E	588499	3576513	2701	04/04/2018	04/04/2018	04/18/2018	20	10	ATKINS, JACKIE D.	1249
C 00311		C	ED	Shallow	4	2	1	16	23S	28E	585353	3575152*	2729	06/23/1952	07/05/1952	07/17/1952	163	55	HOWARD HEMLER	24
C 04451 POD1		C	ED	Shallow	4	4	4	10	23S	28E	587833	3575521	2836	09/28/2020	10/01/2020	10/14/2020	120	57	HAMMOND, MARKDALENAIGENER	1400
C 00504		CUB	ED	Shallow	3	1	4	08	23S	28E	583939	3575949*	2836	02/27/1954	03/15/1954	05/12/1954	230	40	SMITH, SAM S.	108
C 00036		CUB	ED	Shallow	3	3	2	32	22S	28E	583916	3579583*	2843	08/02/1948	10/13/1948	11/29/1948	106			
C 00236		C	ED	Shallow	2	2	3	32	22S	28E	583723	3579372*	2872		08/07/1950	01/19/1953	80	39	KIMMEL, J.F.	153
C 00235		C	ED	Shallow		2	2	15	23S	28E	587676	3575280*	2945	07/21/1950	07/23/1950	01/05/1953	160		KIMMEL, J.F.	153
C 03184		C	ED	Shallow	2	3	3	32	22S	28E	583327	3578962*	3025	09/29/2006	10/02/2006	12/13/2006	157	30		1348
C 03455 POD1		C	ED	Shallow	3	3	1	05	23S	28E	583040	3577899	3072	08/13/2011	08/13/2011	08/30/2011	57	22	HOPPER, HERSHEL ALAN (LD)	1632
C 03762 POD3		CUB	ED	Shallow	4	2	2	16	23S	28E	586203	3574642	3133	08/11/2014	08/11/2014	08/22/2014	40	30	BLANCO, TIMOTHY	1070
C 00035		CUB	ED	Shallow	3	3	3	32	22S	28E	583127	3578762*	3142	06/01/1948	06/10/1948	07/15/1948	146		J.F. KIMMELL	
C 00212		CUB	ED	Shallow	3	3	3	32	22S	28E	583127	3578762*	3142	06/04/1957	03/31/1947	06/28/1957	146	30	EXISTING WELL	28
C 01779		C	ED	Shallow	3	1	1	08	23S	28E	583128	3576749*	3153	08/29/1980	08/30/1980	09/05/1980	178	50	TAYLOR, BILL	655
C 03469 POD1		CUB	ED	Shallow	3	4	3	11	23S	28E	588374	3575538	3181	01/24/2011	01/25/2011	05/20/2011	68	38	SCARBOROUGH, LANE (LD)	1188
C 02141 CLW468812	O	C	ED	Shallow	2	4	4	06	23S	28E	582925	3577348*	3213	05/01/1988	05/09/1988	05/16/1988	65	36	EDGAR W. MAGBY	969
C 00309		CUB	ED	Shallow	1	3	1	08	23S	28E	583129	3576544*	3225	12/01/1952	12/11/1952	03/17/1953	165	16	SAM S. SMITH	108
C 02243		C	ED	Shallow	4	4	4	06	23S	28E	582925	3577148*	3246	11/25/1990	11/29/1992	12/01/1992	60	40	EDGAR MAGBY	969
C 00213		CUB	ED	Shallow	1	4	1	32	22S	28E	583517	3579775*	3274	02/04/1965	02/20/1965	03/18/1965	200	35	A. F. SMITH	28
C 01634		C	ED	Shallow		2	4	06	23S	28E	582825	3577653*	3287	12/12/1975	02/03/1976	02/05/1976	185	85	TAYLOR, W.H. SR.	604
C 01699		C	ED	Shallow		2	4	06	23S	28E	582825	3577653*	3287	06/20/1977	07/15/1977	08/22/1977	90	65		30
C 02503		C	ED	Shallow		4	2	15	23S	28E	587679	3574874*	3297	08/27/1996	08/29/1996	09/03/1996	70	12	OSBOURN, FLOYD MILTON	353
C 03094		C	ED	Shallow	4	3	1	32	22S	28E	583317	3579567*	3318	11/24/2004	11/28/2004	12/06/2004	138	53		1348
C 02141		C	ED	Shallow		4	4	06	23S	28E	582826	3577249*	3325	05/01/1988	05/09/1988	12/01/1992	65	36	EDGAR W. MAGBY	969
C 02243 CLW469222	O	C	ED	Shallow		4	4	06	23S	28E	582826	3577249*	3325	11/25/1990	11/29/1992	12/01/1992	60	40	EDGAR MAGBY	969
C 00616		CUB	ED	Shallow	1	3	1	14	23S	28E	587982	3574978*	3365	10/22/1980	12/05/1980	12/09/1980	120	30	BRININSTOOL, M.D.	842
C 00269		C	ED	Shallow	4	4	2	15	23S	28E	587778	3574773*	3433	03/01/1958	03/30/1958	04/08/1958	240	35	FREEK, R.H.	212
C 00269 CLW199753	O	C	ED	Shallow	4	4	2	15	23S	28E	587778	3574773*	3433	03/01/1958	03/30/1958	04/08/1958	240	35	R.H. FREEK	212
C 00520		C	ED	Shallow	1	1	3	16	23S	28E	584754	3574538*	3509	01/12/1954	01/19/1954	03/22/1954	115	33	HOWARD HEMLER	24
C 00521		C	ED	Shallow	1	1	3	16	23S	28E	584754	3574538*	3509	01/03/1954	01/12/1954	03/22/1954	218	33	HOWARD HEMLER	24

C 00958		C	ED	Shallow	2	1	2	06	23S	28E	582517	3578554*	3676	08/01/1961	08/09/1961	09/12/1961	150		HOWARD HEMLER	24
C 02189		C	ED	Shallow	1	1	3	14	23S	28E	587985	3574572*	3711	03/12/1990	03/12/1990	04/20/1990	48	29	NORMAN SPRUILL	803
C 04417 POD1		CUB	ED		4	3	3	36	22S	28E	589736	3578874	3788	03/31/2020	03/31/2020	05/26/2020	55		MARK MUMBY	1789
C 03762 POD1		CUB	ED	Shallow	4	4	2	17	23S	28E	585314	3574066	3793	08/11/2014	08/11/2014	08/22/2014	40	31	BLANCO, TIMOTHY	1070
C 00211		C	ED	Shallow	4	3	3	15	23S	28E	586570	3573949*	3853	06/19/1979	06/20/1979	09/26/1979	89	48	J. W. TOMBLIN	592
C 02846 S		CUB	ED	Shallow	4	4	4	07	23S	28E	582926	3575527*	3897	04/05/2003	04/18/2003	10/08/2003	150	40	BEHUNIN,KEITH	1227
C 03460 POD1		CUB	ED	Shallow	3	1	2	14	23S	28E	588857	3575004	3901	10/08/2010	10/08/2010	10/13/2010	100	38	NORRIS, JOHN D. (LD)	1682
C 04560 POD2		CUB	ED	Shallow	1	3	3	16	23S	28E	584857	3574036	3942	10/26/2021	10/28/2021	11/29/2021	36	25	JAROD MICHALSKY	1800
C 03472 POD1		CUB	ED	Shallow	4	4	4	07	23S	28E	582894	3575479	3950	10/03/2011	10/05/2011	05/01/2012	140	40	JASON MALEY (LD)	1690
C 00128		C	ED	Shallow	2	4	4	15	23S	28E	587783	3574162*	3981	12/24/1952	01/10/1953	04/30/1953	149		SMITH, SAM S.	108
C 01336		C	ED	Shallow	2	1	1	22	23S	28E	586572	3573744*	4056	09/03/1966	09/20/1966	01/26/1967	190	30	HOWARD HEMLER	24
C 01993		C	ED	Shallow		2	3	06	23S	28E	582020	3577643*	4092	11/25/1981	11/27/1981	12/28/1981	164	45	GLENN, CLARK A."CORKY" (LD)	421
C 04418 POD1		CUB	ED		4	2	1	12	23S	28E	590104	3576851	4098	03/31/2020	03/31/2020	05/26/2020	55		MARK MUMBY	1789
C 03040		C	ED	Shallow	4	3	1	31	22S	28E	582254	3579191	4108	03/15/2004	03/17/2004	03/22/2004	72	42		1348
C 02064		C	ED	Shallow		4	3	06	23S	28E	582021	3577238*	4124	09/18/1983	09/25/1983	10/04/1983	90	50	EDGAR W. MAGBY	969
C 01885		C	ED	Shallow		2	2	21	23S	28E	586070	3573640*	4134	12/10/1979	12/17/1979	01/14/1980	104	35	JIM TOMBLIN	592
C 01872		C	ED	Shallow		2	1	22	23S	28E	586878	3573649*	4196	04/07/1980	06/12/1980	07/02/1980	68	48	MORELAND, A.J.	113
C 00058		CUB	ED	Shallow	3	4	3	06	23S	28E	581920	3577137*	4238	08/26/1976	05/06/1948	09/07/1976	185	20	BRININSTOOL, M.D.	24
C 02511		C	ED	Shallow	1	2	1	06	23S	28E	581916	3578550*	4265	03/02/1997	03/03/1997	03/19/1997	60	35		1348
C 00052	O	CUB	ED	Shallow	3	4	4	30	22S	28E	582707	3580371*	4280	03/10/1952	03/26/1952	04/28/1952	208	12	HOWARD HEMLER	24
C 04524 POD1		CUB	ED		1	1	2	01	23S	28E	590452	3578629	4425	04/13/2021	04/14/2021	05/10/2021	55		NOVO OIL & GAS NORTHERN DELAWARE LLC	1456
C 04203 POD1		C	ED	Shallow	2	4	3	07	23S	28E	582148	3575792	4430	02/21/2018	02/22/2018	03/20/2018	200	160	MANN, TRAVIS	1778
C 01253		CUB	ED	Shallow	1	3	1	22	23S	28E	586375	3573338*	4444	05/15/1965	06/04/1965	07/09/1965	179	50	BRININSTOOL, A.M.	410
C 00851		C	ED	Shallow			3	17	23S	28E	583438	3574217*	4449	09/01/1958	09/01/1958	09/30/1958	200	50	W D BRININSTOOL	24
C 02943		C	ED	Shallow	2	1	1	06	23S	28E	581725	3578546*	4452	01/24/2003	01/25/2003	02/10/2003	69	43	TAYLOR, CLINTON E.	1348
C 04389 POD1		C	ED	Shallow	4	2	3	07	23S	28E	582038	3575885	4489	01/22/2020	01/22/2020	02/21/2020	99	70	TAYLOR, CLINTON E.E.ENER	1348
C 01216		CUB	ED	Shallow	4	1	1	13	23S	28E	589801	3575205*	4497	08/05/1964	08/06/1964	09/15/1964	60	45	W.H. BRADY	359
C 04367 POD1		C	ED	Shallow	1	2	3	07	23S	28E	581935	3575983	4543	11/21/2019	11/21/2019	12/02/2019	89	72	TAYLOR, CLINTON E.E.ENER	1348
C 00094 AS	C	CUB	ED	Shallow	1	3	2	22	23S	28E	587183	3573346*	4556	04/23/1976	04/30/1976	05/11/1976	165	40	MURRELL ABBOTT	46
C 04250 POD1		C	ED	Shallow	1	1	1	07	23S	28E	581613	3576868	4587	07/15/2018	07/18/2018	08/14/2018	140	120	TRAVIS MANN	1778
C 02883		CUB	ED	Shallow	1	3	3	06	23S	28E	581526	3577331*	4605	02/20/2002	03/13/2002	03/25/2002	202		HAMMOND, JOHN B.	1227
C 00058 S		CUB	ED	Shallow	3	3	3	06	23S	28E	581526	3577131*	4628	02/20/2002	03/13/2002	05/24/2004	202		HAMMOND, JOHN B.	1227
C 04307 POD1		C	ED	Shallow	2	1	3	07	23S	28E	581737	3576138	4668	02/26/2019	02/27/2019	03/11/2019	92	78	TAYLOR, CLINTON E.	1348
C 01487 CLW201796	O	CUB	ED	Shallow		3	2	22	23S	28E	587284	3573247*	4677	10/26/1974	10/28/1974	12/02/1974	90	30	BARRON, EMMETT	30
C 01487		CUB	ED	Shallow	3	4	1	22	23S	28E	586779	3573142*	4680	12/07/1977	12/22/1977	01/13/1978	150	38	BILL G. TAYLOR, JR.	655
C 01108		C	ED	Shallow	3	2	1	23	23S	28E	588395	3573566*	4788	06/20/1967	12/31/1930	07/06/1967	60	35	BARRON, EMMETT	30
C 01816		C	ED	Shallow	1	3	1	23	23S	28E	587992	3573355*	4803	07/12/1979	07/27/1979	08/01/1979	200	40	BRISTOW, JIM D.	743
C 00716		C	ED	Shallow				21	23S	28E	585471	3573012*	4805	07/25/1956	08/01/1956	08/14/1956	140	69	W.C. MOORE	195
C 04187 POD1		C	ED	Shallow	3	3	1	07	23S	28E	581519	3576251	4836	03/05/2018	03/06/2018	03/26/2018	88	48	CLINTON E TAYLOR	1348
C 00544		C	ED	Shallow	3	3	1	21	23S	28E	584762	3573120*	4845	11/27/1954	11/28/1954	12/13/1954	27		JOLLY, J.R.	171
C 00094		CUB	ED	Shallow	3	4	2	22	23S	28E	587588	3573151*	4854	02/03/1965	02/10/1965	03/21/1967	100	60	EMMETT BARRON	30
C 00094	C	CUB	ED	Shallow	3	4	2	22	23S	28E	587588	3573151*	4854	02/03/1965	02/10/1965	03/21/1967	100	60	EMMETT BARRON	30
C 00094 A	C	CUB	ED	Shallow	3	4	2	22	23S	28E	587588	3573151*	4854	07/18/2002		11/04/2002	166	40	BEHUNIN, KEITH	1227
C 00313		CUB	ED	Shallow	3	3	3	17	23S	28E	583136	3573915*	4872	06/01/1952	06/01/1952	07/07/1952	250	75	HOWARD HEMLER	24
C 04366 POD1		C	ED	Shallow	3	1	3	07	23S	28E	581569	3575977	4884	11/13/2019	11/14/2019	12/02/2019	94	85	TAYLOR, CLINTON E.E.ENER	1348
C 00154		CUB	ED	Shallow	4	2	1	23	23S	28E	588595	3573566*	4887	08/15/1974	08/20/1974	02/11/1975	196	38	HOWARD P. HEMLER	24
C 04539 POD1		CUB	ED		2	4	2	01	23S	28E	591034	3578223	4944	07/14/2021	07/14/2021	10/05/2021	55		HAMMER, RODNEY S.WARDENER	1186
C 01102		C	ED	Shallow		1	2	23	23S	28E	588901	3573672*	4961	12/10/1962	12/21/1962	01/30/1963	100	12	MORELAND, A.J.	113
C 04313 POD1		C	ED	Shallow	4	3	3	07	23S	28E	581677	3575500	4982	04/01/2019	04/02/2019	05/13/2019	99	86	CLINTON E TAYLOR	1348
C 00048		CUB	ED	Shallow	3	3	1	23	23S	28E	587997	3573160	4985	09/01/1976	09/27/1976	09/28/1976	182	75	H. HEMLER	24
C 00048	C	CUB	ED	Shallow	3	3	1	23	23S	28E	587997	3573160	4985	09/01/1976	09/27/1976	09/28/1976	182	75	H. HEMLER	24

Record Count: 100

UTMNAD83 Radius Search (in meters):

Easting (X): 586110 **Northing (Y):** 3577774.59 **Radius:** 5000

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
NA	C 04415 POD1	4	1	4	04	23S	28E	585657	3577591

Driller License: 1789 **Driller Company:** HRL COMPLIANCE SOLUTIONS, INC
Driller Name: MARK MUMBY

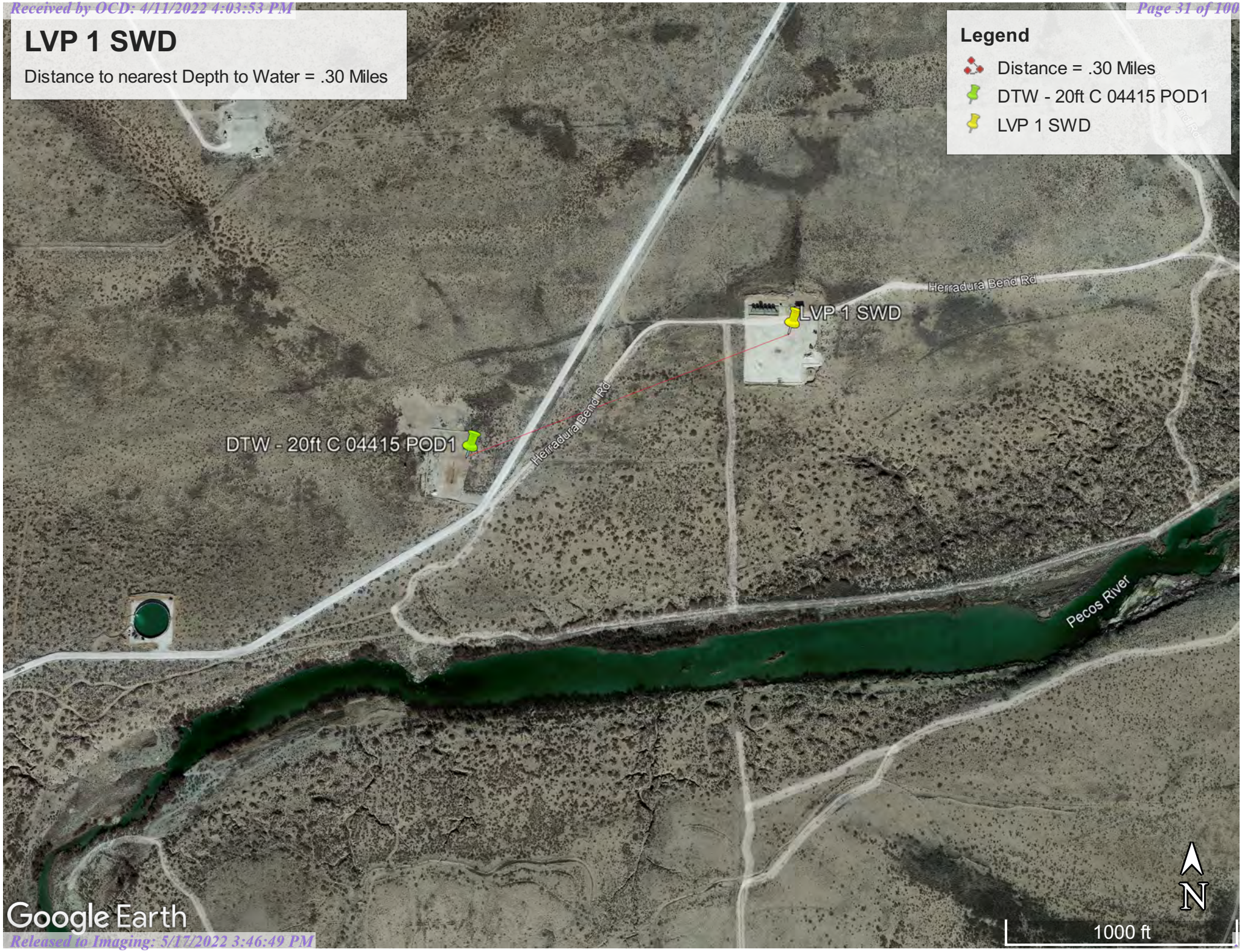
Drill Start Date: 04/01/2020 **Drill Finish Date:** 04/01/2020 **Plug Date:**
Log File Date: 05/26/2020 **PCW Rcv Date:** **Source:** Shallow
Pump Type: **Pipe Discharge Size:** **Estimated Yield:**
Casing Size: 2.00 **Depth Well:** 25 feet **Depth Water:** 20 feet

Water Bearing Stratifications:	Top	Bottom	Description
	20	21	Sandstone/Gravel/Conglomerate
	21	25	Other/Unknown

Casing Perforations:	Top	Bottom
	15	25

LVP 1 SWD

Distance to nearest Depth to Water = .30 Miles



U.S. Fish and Wildlife Service
National Wetlands Inventory

LVP 1 SWD - Riverine 725ft

December 7, 2021

Wetlands

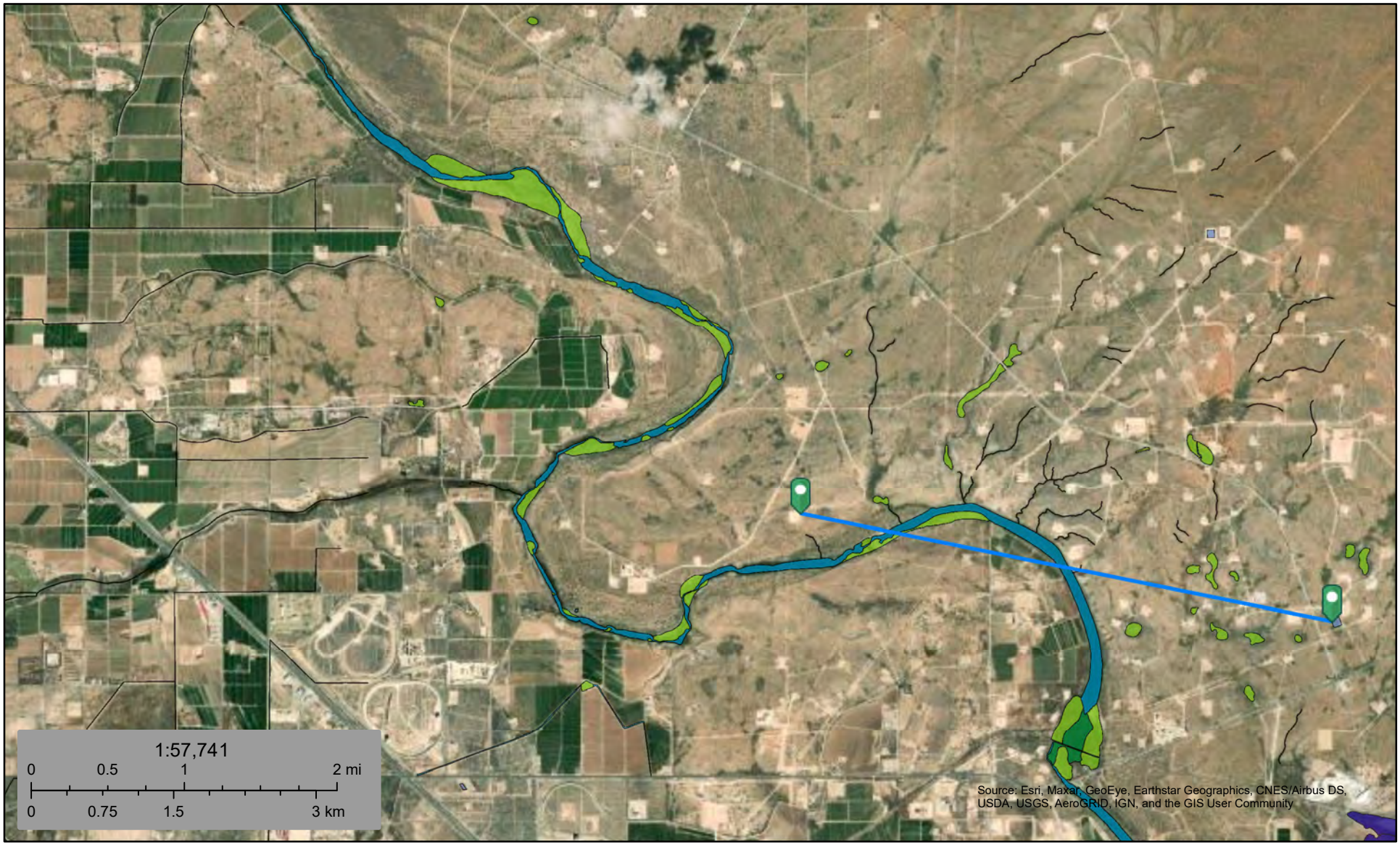
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

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

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

U.S. Fish and Wildlife Service
National Wetlands Inventory

LVP 1 SWD - Freshwater Pond 15,845ft



December 7, 2021

Wetlands

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

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National Wetlands Inventory (NWI)
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U.S. Fish and Wildlife Service
National Wetlands Inventory

LVP 1 SWD - Wetlands 1,906ft

December 7, 2021

Wetlands

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

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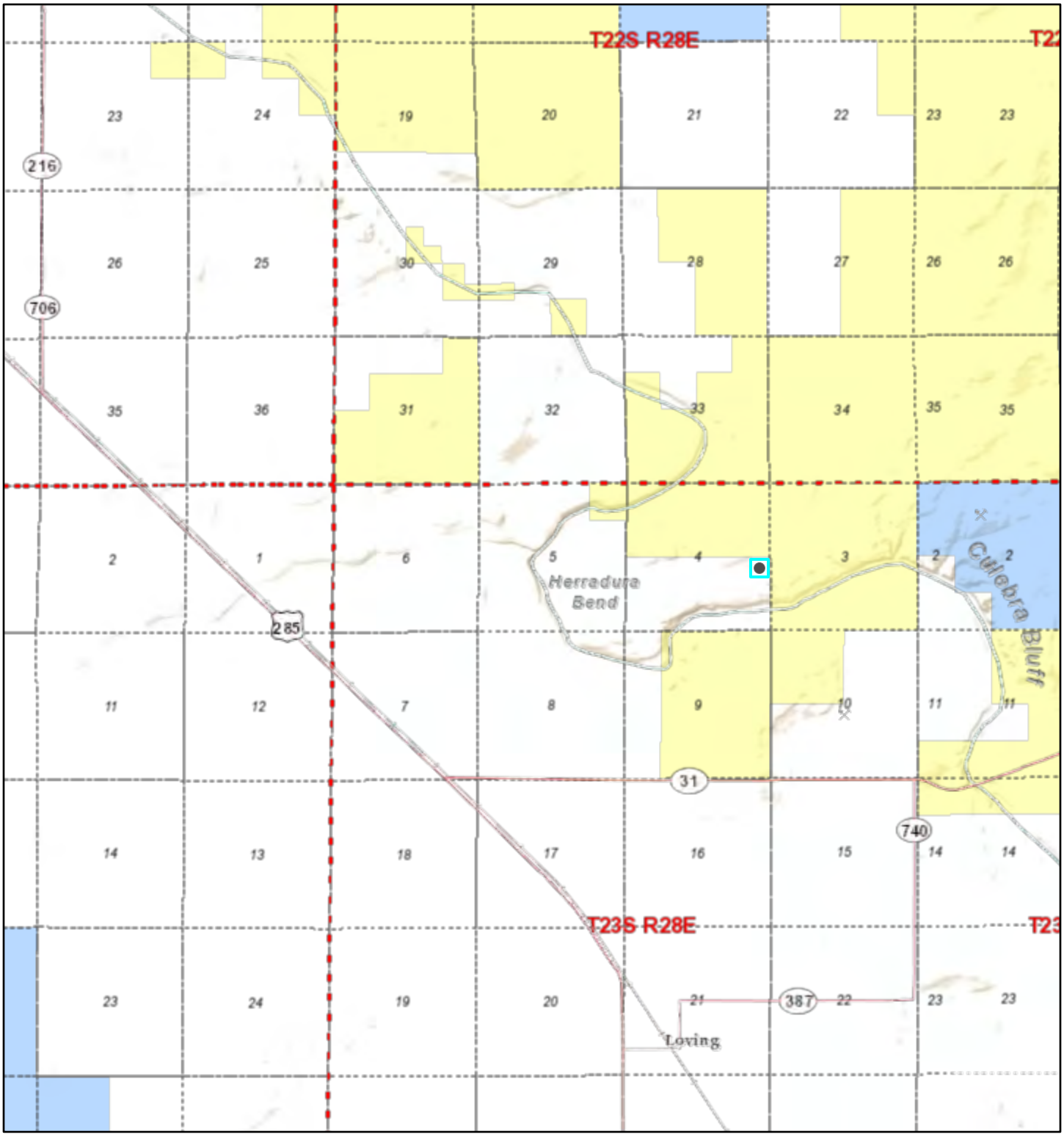
National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

LVP 1 SWD

Distance to nearest Residence =7,340ft

Active Mines Near LVP 1 SWD



12/7/2021, 7:28:55 AM

1:72,224

0 0.5 1 2 mi

0 0.75 1.5 3 km

- Township / Range
- Sections

Land Ownership

- Bureau of Land Management
- Bureau of Reclamation
- Department of Agriculture
- Department of Defense
- Department of Energy
- National Park Service
- Private Land
- State Game and Fish
- State Land
- State Parks
- Tribal

U.S. Bureau of Land Management - New Mexico State Office, Sources: Esri, USGS, NOAA, Sources: Esri, Garmin, USGS, NPS

EMNRD MMD GIS Coordinator

NM Energy, Minerals and Natural Resources Department (http://nm-emnrd.maps.arcgis.com/apps/webappviewer/index.html?id=1b5e577974664d689b47790897ca2795)

National Flood Hazard Layer FIRMette

FEMA

104°5'25"W 32°20'16"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

104°4'47"W 32°19'46"N

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

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

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 12/7/2021 at 9:26 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

ATTACHMENT D

Karst Map

LVP SWD #001

Karst Potential = Medium

ATTACHMENT E

Envirotech Inc. Laboratory Analysis Reports

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 1 SWD

Work Order: E112066

Job Number: 01058-0007

Received: 12/14/2021

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
12/21/21

Date Reported: 12/21/21

Ashley Giovengo
6488 7 Rivers Hwy
Artesia, NM 88210

Project Name: LVP 1 SWD
Workorder: E112066
Date Received: 12/14/2021 12:00:00PM

Ashley Giovengo,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 12/14/2021 12:00:00PM, under the Project Name: LVP 1 SWD.

The analytical test results summarized in this report with the Project Name: LVP 1 SWD 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 reguarding 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

Raina Schwanz
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ljarboe@envirotech-inc.com

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Technical Representative
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Envirotech Web Address: www.envirotech-inc.com

Table of Contents

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Sample Summary

Devon Energy - Carlsbad	Project Name:	LVP 1 SWD	**Reported:**
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/21/21 15:22

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BG 01-1'	E112066-01A	Soil	12/08/21	12/14/21	Glass Jar, 4 oz.
BG 01-2'	E112066-02A	Soil	12/08/21	12/14/21	Glass Jar, 4 oz.
SS01C-0'	E112066-03A	Soil	12/08/21	12/14/21	Glass Jar, 4 oz.
SS01C-4'	E112066-04A	Soil	12/08/21	12/14/21	Glass Jar, 4 oz.
SS02A-1'	E112066-05A	Soil	12/08/21	12/14/21	Glass Jar, 4 oz.
SS02A-4'	E112066-06A	Soil	12/08/21	12/14/21	Glass Jar, 4 oz.
SS03A-0'	E112066-07A	Soil	12/08/21	12/14/21	Glass Jar, 4 oz.
SS03A-5'	E112066-08A	Soil	12/08/21	12/14/21	Glass Jar, 4 oz.
SS04A-0'	E112066-09A	Soil	12/09/21	12/14/21	Glass Jar, 4 oz.
SS04A-4'	E112066-10A	Soil	12/09/21	12/14/21	Glass Jar, 4 oz.
SS0SA-0'	E112066-11A	Soil	12/09/21	12/14/21	Glass Jar, 4 oz.
SS05A-4'	E112066-12A	Soil	12/09/21	12/14/21	Glass Jar, 4 oz.
SS06D-0'	E112066-13A	Soil	12/09/21	12/14/21	Glass Jar, 4 oz.
SS06D-4.5'	E112066-14A	Soil	12/09/21	12/14/21	Glass Jar, 4 oz.
SS06-4.5'	E112066-15A	Soil	12/09/21	12/14/21	Glass Jar, 4 oz.
SS04-5'	E112066-16A	Soil	12/09/21	12/14/21	Glass Jar, 4 oz.

Sample Data

Devon Energy - Carlsbad	Project Name:	LVP 1 SWD	
6488 7 Rivers Hwy	Project Number:	01058-0007	**Reported:**
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/21/2021 3:22:30PM

BG 01-1'

E112066-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Benzene	ND	0.0250	1	12/14/21	12/20/21	
Ethylbenzene	ND	0.0250	1	12/14/21	12/20/21	
Toluene	ND	0.0250	1	12/14/21	12/20/21	
o-Xylene	ND	0.0250	1	12/14/21	12/20/21	
p,m-Xylene	ND	0.0500	1	12/14/21	12/20/21	
Total Xylenes	ND	0.0250	1	12/14/21	12/20/21	
Surrogate: 4-Bromochlorobenzene-PID		*97.4 %*	*70-130*	*12/14/21*	*12/20/21*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/14/21	12/20/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*104 %*	*70-130*	*12/14/21*	*12/20/21*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2151021
Diesel Range Organics (C10-C28)	ND	25.0	1	12/15/21	12/17/21	
Oil Range Organics (C28-C36)	ND	50.0	1	12/15/21	12/17/21	
Surrogate: n-Nonane		*110 %*	*50-200*	*12/15/21*	*12/17/21*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: GB			Batch: 2151009
Chloride	ND	20.0	1	12/14/21	12/14/21	

envirotech Inc.

Sample Data

Devon Energy - Carlsbad	Project Name:	LVP 1 SWD	
6488 7 Rivers Hwy	Project Number:	01058-0007	**Reported:**
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/21/2021 3:22:30PM

BG 01-2'

E112066-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Benzene	ND	0.0250	1	12/14/21	12/20/21	
Ethylbenzene	ND	0.0250	1	12/14/21	12/20/21	
Toluene	ND	0.0250	1	12/14/21	12/20/21	
o-Xylene	ND	0.0250	1	12/14/21	12/20/21	
p,m-Xylene	ND	0.0500	1	12/14/21	12/20/21	
Total Xylenes	ND	0.0250	1	12/14/21	12/20/21	
Surrogate: 4-Bromochlorobenzene-PID		*98.0 %*	*70-130*	*12/14/21*	*12/20/21*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/14/21	12/20/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*105 %*	*70-130*	*12/14/21*	*12/20/21*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2151021
Diesel Range Organics (C10-C28)	ND	25.0	1	12/15/21	12/17/21	
Oil Range Organics (C28-C36)	ND	50.0	1	12/15/21	12/17/21	
Surrogate: n-Nonane		*113 %*	*50-200*	*12/15/21*	*12/17/21*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: GB			Batch: 2151009
Chloride	ND	20.0	1	12/14/21	12/14/21	

Sample Data

Devon Energy - Carlsbad	Project Name:	LVP 1 SWD	
6488 7 Rivers Hwy	Project Number:	01058-0007	**Reported:**
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/21/2021 3:22:30PM

SS01C-0'

E112066-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Benzene	ND	0.0250	1	12/14/21	12/21/21	
Ethylbenzene	ND	0.0250	1	12/14/21	12/21/21	
Toluene	ND	0.0250	1	12/14/21	12/21/21	
o-Xylene	ND	0.0250	1	12/14/21	12/21/21	
p,m-Xylene	ND	0.0500	1	12/14/21	12/21/21	
Total Xylenes	ND	0.0250	1	12/14/21	12/21/21	
Surrogate: 4-Bromochlorobenzene-PID		*96.9 %*	*70-130*	*12/14/21*	*12/21/21*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/14/21	12/21/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*106 %*	*70-130*	*12/14/21*	*12/21/21*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2151021
Diesel Range Organics (C10-C28)	ND	25.0	1	12/15/21	12/17/21	
Oil Range Organics (C28-C36)	ND	50.0	1	12/15/21	12/17/21	
Surrogate: n-Nonane		*113 %*	*50-200*	*12/15/21*	*12/17/21*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: GB			Batch: 2151009
Chloride	**125**	20.0	1	12/14/21	12/14/21	

Sample Data

Devon Energy - Carlsbad	Project Name:	LVP 1 SWD	
6488 7 Rivers Hwy	Project Number:	01058-0007	**Reported:**
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/21/2021 3:22:30PM

SS01C-4'

E112066-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Benzene	ND	0.0250	1	12/14/21	12/21/21	
Ethylbenzene	ND	0.0250	1	12/14/21	12/21/21	
Toluene	ND	0.0250	1	12/14/21	12/21/21	
o-Xylene	ND	0.0250	1	12/14/21	12/21/21	
p,m-Xylene	ND	0.0500	1	12/14/21	12/21/21	
Total Xylenes	ND	0.0250	1	12/14/21	12/21/21	
Surrogate: 4-Bromochlorobenzene-PID		*96.0 %*	*70-130*	*12/14/21*	*12/21/21*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/14/21	12/21/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*104 %*	*70-130*	*12/14/21*	*12/21/21*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2151021
Diesel Range Organics (C10-C28)	ND	25.0	1	12/15/21	12/17/21	
Oil Range Organics (C28-C36)	ND	50.0	1	12/15/21	12/17/21	
Surrogate: n-Nonane		*112 %*	*50-200*	*12/15/21*	*12/17/21*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: GB			Batch: 2151009
Chloride	**66.0**	20.0	1	12/14/21	12/14/21	

Sample Data

Devon Energy - Carlsbad	Project Name:	LVP 1 SWD	
6488 7 Rivers Hwy	Project Number:	01058-0007	**Reported:**
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/21/2021 3:22:30PM

SS02A-1'

E112066-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Benzene	ND	0.0250	1	12/14/21	12/21/21	
Ethylbenzene	ND	0.0250	1	12/14/21	12/21/21	
Toluene	ND	0.0250	1	12/14/21	12/21/21	
o-Xylene	ND	0.0250	1	12/14/21	12/21/21	
p,m-Xylene	ND	0.0500	1	12/14/21	12/21/21	
Total Xylenes	ND	0.0250	1	12/14/21	12/21/21	
Surrogate: 4-Bromochlorobenzene-PID		*96.0 %*	*70-130*	*12/14/21*	*12/21/21*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/14/21	12/21/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*104 %*	*70-130*	*12/14/21*	*12/21/21*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2151021
Diesel Range Organics (C10-C28)	ND	25.0	1	12/15/21	12/17/21	
Oil Range Organics (C28-C36)	ND	50.0	1	12/15/21	12/17/21	
Surrogate: n-Nonane		*115 %*	*50-200*	*12/15/21*	*12/17/21*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: GB			Batch: 2151009
Chloride	**248**	20.0	1	12/14/21	12/14/21	

Sample Data

Devon Energy - Carlsbad	Project Name:	LVP 1 SWD	
6488 7 Rivers Hwy	Project Number:	01058-0007	**Reported:**
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/21/2021 3:22:30PM

SS02A-4'

E112066-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Benzene	ND	0.0250	1	12/14/21	12/21/21	
Ethylbenzene	ND	0.0250	1	12/14/21	12/21/21	
Toluene	ND	0.0250	1	12/14/21	12/21/21	
o-Xylene	ND	0.0250	1	12/14/21	12/21/21	
p,m-Xylene	ND	0.0500	1	12/14/21	12/21/21	
Total Xylenes	ND	0.0250	1	12/14/21	12/21/21	
Surrogate: 4-Bromochlorobenzene-PID		*97.6 %*	*70-130*	*12/14/21*	*12/21/21*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/14/21	12/21/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*106 %*	*70-130*	*12/14/21*	*12/21/21*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2151021
Diesel Range Organics (C10-C28)	ND	25.0	1	12/15/21	12/17/21	
Oil Range Organics (C28-C36)	ND	50.0	1	12/15/21	12/17/21	
Surrogate: n-Nonane		*109 %*	*50-200*	*12/15/21*	*12/17/21*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: GB			Batch: 2151009
Chloride	**291**	20.0	1	12/14/21	12/14/21	

Sample Data

Devon Energy - Carlsbad	Project Name:	LVP 1 SWD	
6488 7 Rivers Hwy	Project Number:	01058-0007	**Reported:**
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/21/2021 3:22:30PM

SS03A-0'

E112066-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Benzene	ND	0.0250	1	12/14/21	12/21/21	
Ethylbenzene	ND	0.0250	1	12/14/21	12/21/21	
Toluene	ND	0.0250	1	12/14/21	12/21/21	
o-Xylene	ND	0.0250	1	12/14/21	12/21/21	
p,m-Xylene	ND	0.0500	1	12/14/21	12/21/21	
Total Xylenes	ND	0.0250	1	12/14/21	12/21/21	
Surrogate: 4-Bromochlorobenzene-PID		*96.3 %*	*70-130*	*12/14/21*	*12/21/21*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/14/21	12/21/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*105 %*	*70-130*	*12/14/21*	*12/21/21*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2151021
Diesel Range Organics (C10-C28)	ND	25.0	1	12/15/21	12/17/21	
Oil Range Organics (C28-C36)	ND	50.0	1	12/15/21	12/17/21	
Surrogate: n-Nonane		*107 %*	*50-200*	*12/15/21*	*12/17/21*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: GB			Batch: 2151009
Chloride	ND	20.0	1	12/14/21	12/14/21	

Sample Data

Devon Energy - Carlsbad	Project Name:	LVP 1 SWD	
6488 7 Rivers Hwy	Project Number:	01058-0007	**Reported:**
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/21/2021 3:22:30PM

SS03A-5'

E112066-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Benzene	ND	0.0250	1	12/14/21	12/21/21	
Ethylbenzene	ND	0.0250	1	12/14/21	12/21/21	
Toluene	ND	0.0250	1	12/14/21	12/21/21	
o-Xylene	ND	0.0250	1	12/14/21	12/21/21	
p,m-Xylene	ND	0.0500	1	12/14/21	12/21/21	
Total Xylenes	ND	0.0250	1	12/14/21	12/21/21	
Surrogate: 4-Bromochlorobenzene-PID		*97.0 %*	*70-130*	*12/14/21*	*12/21/21*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/14/21	12/21/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*105 %*	*70-130*	*12/14/21*	*12/21/21*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2151021
Diesel Range Organics (C10-C28)	ND	25.0	1	12/15/21	12/17/21	
Oil Range Organics (C28-C36)	ND	50.0	1	12/15/21	12/17/21	
Surrogate: n-Nonane		*116 %*	*50-200*	*12/15/21*	*12/17/21*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: GB			Batch: 2151009
Chloride	**26.4**	20.0	1	12/14/21	12/14/21	

Sample Data

Devon Energy - Carlsbad	Project Name:	LVP 1 SWD	
6488 7 Rivers Hwy	Project Number:	01058-0007	**Reported:**
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/21/2021 3:22:30PM

SS04A-0'

E112066-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Benzene	ND	0.0250	1	12/14/21	12/21/21	
Ethylbenzene	ND	0.0250	1	12/14/21	12/21/21	
Toluene	ND	0.0250	1	12/14/21	12/21/21	
o-Xylene	ND	0.0250	1	12/14/21	12/21/21	
p,m-Xylene	ND	0.0500	1	12/14/21	12/21/21	
Total Xylenes	ND	0.0250	1	12/14/21	12/21/21	
Surrogate: 4-Bromochlorobenzene-PID		*96.3 %*	*70-130*	*12/14/21*	*12/21/21*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/14/21	12/21/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*105 %*	*70-130*	*12/14/21*	*12/21/21*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2151021
Diesel Range Organics (C10-C28)	ND	25.0	1	12/15/21	12/17/21	
Oil Range Organics (C28-C36)	ND	50.0	1	12/15/21	12/17/21	
Surrogate: n-Nonane		*114 %*	*50-200*	*12/15/21*	*12/17/21*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: GB			Batch: 2151009
Chloride	**20.7**	20.0	1	12/14/21	12/15/21	

Sample Data

Devon Energy - Carlsbad	Project Name:	LVP 1 SWD	
6488 7 Rivers Hwy	Project Number:	01058-0007	**Reported:**
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/21/2021 3:22:30PM

SS04A-4'

E112066-10

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Benzene	ND	0.0250	1	12/14/21	12/21/21	
Ethylbenzene	ND	0.0250	1	12/14/21	12/21/21	
Toluene	ND	0.0250	1	12/14/21	12/21/21	
o-Xylene	ND	0.0250	1	12/14/21	12/21/21	
p,m-Xylene	ND	0.0500	1	12/14/21	12/21/21	
Total Xylenes	ND	0.0250	1	12/14/21	12/21/21	
Surrogate: 4-Bromochlorobenzene-PID		*96.9 %*	*70-130*	*12/14/21*	*12/21/21*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/14/21	12/21/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*103 %*	*70-130*	*12/14/21*	*12/21/21*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2151021
Diesel Range Organics (C10-C28)	ND	25.0	1	12/15/21	12/17/21	
Oil Range Organics (C28-C36)	ND	50.0	1	12/15/21	12/17/21	
Surrogate: n-Nonane		*116 %*	*50-200*	*12/15/21*	*12/17/21*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: GB			Batch: 2151009
Chloride	ND	20.0	1	12/14/21	12/15/21	

Sample Data

Devon Energy - Carlsbad	Project Name:	LVP 1 SWD	
6488 7 Rivers Hwy	Project Number:	01058-0007	**Reported:**
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/21/2021 3:22:30PM

SS0SA-0'

E112066-11

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Benzene	ND	0.0250	1	12/14/21	12/21/21	
Ethylbenzene	ND	0.0250	1	12/14/21	12/21/21	
Toluene	ND	0.0250	1	12/14/21	12/21/21	
o-Xylene	ND	0.0250	1	12/14/21	12/21/21	
p,m-Xylene	ND	0.0500	1	12/14/21	12/21/21	
Total Xylenes	ND	0.0250	1	12/14/21	12/21/21	
Surrogate: 4-Bromochlorobenzene-PID		*97.9 %*	*70-130*	*12/14/21*	*12/21/21*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/14/21	12/21/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*105 %*	*70-130*	*12/14/21*	*12/21/21*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2151021
Diesel Range Organics (C10-C28)	ND	25.0	1	12/15/21	12/17/21	
Oil Range Organics (C28-C36)	ND	50.0	1	12/15/21	12/17/21	
Surrogate: n-Nonane		*114 %*	*50-200*	*12/15/21*	*12/17/21*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: GB			Batch: 2151009
Chloride	**68.2**	20.0	1	12/14/21	12/15/21	

Sample Data

Devon Energy - Carlsbad	Project Name:	LVP 1 SWD	
6488 7 Rivers Hwy	Project Number:	01058-0007	**Reported:**
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/21/2021 3:22:30PM

SS05A-4'

E112066-12

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Benzene	ND	0.0250	1	12/14/21	12/21/21	
Ethylbenzene	ND	0.0250	1	12/14/21	12/21/21	
Toluene	ND	0.0250	1	12/14/21	12/21/21	
o-Xylene	ND	0.0250	1	12/14/21	12/21/21	
p,m-Xylene	ND	0.0500	1	12/14/21	12/21/21	
Total Xylenes	ND	0.0250	1	12/14/21	12/21/21	
Surrogate: 4-Bromochlorobenzene-PID		*97.4 %*	*70-130*	*12/14/21*	*12/21/21*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/14/21	12/21/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*103 %*	*70-130*	*12/14/21*	*12/21/21*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2151021
Diesel Range Organics (C10-C28)	ND	25.0	1	12/15/21	12/17/21	
Oil Range Organics (C28-C36)	ND	50.0	1	12/15/21	12/17/21	
Surrogate: n-Nonane		*114 %*	*50-200*	*12/15/21*	*12/17/21*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: GB			Batch: 2151009
Chloride	ND	20.0	1	12/14/21	12/15/21	

Sample Data

Devon Energy - Carlsbad	Project Name:	LVP 1 SWD	
6488 7 Rivers Hwy	Project Number:	01058-0007	**Reported:**
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/21/2021 3:22:30PM

SS06D-0'

E112066-13

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Benzene	ND	0.0250	1	12/14/21	12/21/21	
Ethylbenzene	ND	0.0250	1	12/14/21	12/21/21	
Toluene	ND	0.0250	1	12/14/21	12/21/21	
o-Xylene	ND	0.0250	1	12/14/21	12/21/21	
p,m-Xylene	ND	0.0500	1	12/14/21	12/21/21	
Total Xylenes	ND	0.0250	1	12/14/21	12/21/21	
Surrogate: 4-Bromochlorobenzene-PID		*96.0 %*	*70-130*	*12/14/21*	*12/21/21*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/14/21	12/21/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*104 %*	*70-130*	*12/14/21*	*12/21/21*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2151021
Diesel Range Organics (C10-C28)	ND	25.0	1	12/15/21	12/17/21	
Oil Range Organics (C28-C36)	ND	50.0	1	12/15/21	12/17/21	
Surrogate: n-Nonane		*116 %*	*50-200*	*12/15/21*	*12/17/21*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: GB			Batch: 2151009
Chloride	**121**	20.0	1	12/14/21	12/15/21	

Sample Data

Devon Energy - Carlsbad	Project Name:	LVP 1 SWD	
6488 7 Rivers Hwy	Project Number:	01058-0007	**Reported:**
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/21/2021 3:22:30PM

SS06D-4.5'

E112066-14

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Benzene	ND	0.0250	1	12/14/21	12/21/21	
Ethylbenzene	ND	0.0250	1	12/14/21	12/21/21	
Toluene	ND	0.0250	1	12/14/21	12/21/21	
o-Xylene	ND	0.0250	1	12/14/21	12/21/21	
p,m-Xylene	ND	0.0500	1	12/14/21	12/21/21	
Total Xylenes	ND	0.0250	1	12/14/21	12/21/21	
Surrogate: 4-Bromochlorobenzene-PID		*94.3 %*	*70-130*	*12/14/21*	*12/21/21*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/14/21	12/21/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*105 %*	*70-130*	*12/14/21*	*12/21/21*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2151021
Diesel Range Organics (C10-C28)	ND	25.0	1	12/15/21	12/17/21	
Oil Range Organics (C28-C36)	ND	50.0	1	12/15/21	12/17/21	
Surrogate: n-Nonane		*113 %*	*50-200*	*12/15/21*	*12/17/21*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: GB			Batch: 2151009
Chloride	**237**	20.0	1	12/14/21	12/15/21	

Sample Data

Devon Energy - Carlsbad	Project Name:	LVP 1 SWD	
6488 7 Rivers Hwy	Project Number:	01058-0007	**Reported:**
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/21/2021 3:22:30PM

SS06-4.5'

E112066-15

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Benzene	ND	0.0250	1	12/14/21	12/21/21	
Ethylbenzene	ND	0.0250	1	12/14/21	12/21/21	
Toluene	ND	0.0250	1	12/14/21	12/21/21	
o-Xylene	ND	0.0250	1	12/14/21	12/21/21	
p,m-Xylene	ND	0.0500	1	12/14/21	12/21/21	
Total Xylenes	ND	0.0250	1	12/14/21	12/21/21	
Surrogate: 4-Bromochlorobenzene-PID		*96.1 %*	*70-130*	*12/14/21*	*12/21/21*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/14/21	12/21/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*103 %*	*70-130*	*12/14/21*	*12/21/21*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2151021
Diesel Range Organics (C10-C28)	ND	25.0	1	12/15/21	12/17/21	
Oil Range Organics (C28-C36)	ND	50.0	1	12/15/21	12/17/21	
Surrogate: n-Nonane		*115 %*	*50-200*	*12/15/21*	*12/17/21*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: GB			Batch: 2151009
Chloride	**1620**	20.0	1	12/14/21	12/15/21	

Sample Data

Devon Energy - Carlsbad	Project Name:	LVP 1 SWD	
6488 7 Rivers Hwy	Project Number:	01058-0007	**Reported:**
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/21/2021 3:22:30PM

SS04-5'

E112066-16

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Benzene	ND	0.0250	1	12/14/21	12/21/21	
Ethylbenzene	ND	0.0250	1	12/14/21	12/21/21	
Toluene	ND	0.0250	1	12/14/21	12/21/21	
o-Xylene	ND	0.0250	1	12/14/21	12/21/21	
p,m-Xylene	ND	0.0500	1	12/14/21	12/21/21	
Total Xylenes	ND	0.0250	1	12/14/21	12/21/21	
Surrogate: 4-Bromochlorobenzene-PID		*95.7 %*	*70-130*	*12/14/21*	*12/21/21*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2151008
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/14/21	12/21/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*104 %*	*70-130*	*12/14/21*	*12/21/21*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2151021
Diesel Range Organics (C10-C28)	ND	25.0	1	12/15/21	12/17/21	
Oil Range Organics (C28-C36)	ND	50.0	1	12/15/21	12/17/21	
Surrogate: n-Nonane		*109 %*	*50-200*	*12/15/21*	*12/17/21*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: GB			Batch: 2151009
Chloride	**4800**	40.0	2	12/14/21	12/15/21	

QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP 1 SWD	**Reported:**
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/21/2021 3:22:30PM

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 (2151008-BLK1)									Prepared: 12/14/21 Analyzed: 12/20/21
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	*7.76*		*8.00*		*97.0*	*70-130*			
LCS (2151008-BS1)									Prepared: 12/14/21 Analyzed: 12/20/21
Benzene	4.89	0.0250	5.00		97.7	70-130			
Ethylbenzene	5.02	0.0250	5.00		100	70-130			
Toluene	5.21	0.0250	5.00		104	70-130			
o-Xylene	4.95	0.0250	5.00		99.0	70-130			
p,m-Xylene	10.2	0.0500	10.0		102	70-130			
Total Xylenes	15.1	0.0250	15.0		101	70-130			
Surrogate: 4-Bromochlorobenzene-PID	*7.81*		*8.00*		*97.6*	*70-130*			
Matrix Spike (2151008-MS1)				**Source: E112066-02**					Prepared: 12/14/21 Analyzed: 12/20/21
Benzene	4.89	0.0250	5.00	ND	97.9	54-133			
Ethylbenzene	5.04	0.0250	5.00	ND	101	61-133			
Toluene	5.22	0.0250	5.00	ND	104	61-130			
o-Xylene	4.98	0.0250	5.00	ND	99.7	63-131			
p,m-Xylene	10.2	0.0500	10.0	ND	102	63-131			
Total Xylenes	15.2	0.0250	15.0	ND	101	63-131			
Surrogate: 4-Bromochlorobenzene-PID	*7.80*		*8.00*		*97.5*	*70-130*			
Matrix Spike Dup (2151008-MSD1)				**Source: E112066-02**					Prepared: 12/14/21 Analyzed: 12/20/21
Benzene	4.88	0.0250	5.00	ND	97.5	54-133	0.347	20	
Ethylbenzene	5.01	0.0250	5.00	ND	100	61-133	0.699	20	
Toluene	5.20	0.0250	5.00	ND	104	61-130	0.400	20	
o-Xylene	4.94	0.0250	5.00	ND	98.8	63-131	0.848	20	
p,m-Xylene	10.1	0.0500	10.0	ND	101	63-131	0.864	20	
Total Xylenes	15.1	0.0250	15.0	ND	101	63-131	0.859	20	
Surrogate: 4-Bromochlorobenzene-PID	*7.87*		*8.00*		*98.4*	*70-130*			

QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP 1 SWD	**Reported:**
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/21/2021 3:22:30PM

Nonhalogenated Organics by EPA 8015D - GRO

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 (2151008-BLK1)									Prepared: 12/14/21 Analyzed: 12/20/21
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	*8.37*		*8.00*		*105*	*70-130*			
LCS (2151008-BS2)									Prepared: 12/14/21 Analyzed: 12/20/21
Gasoline Range Organics (C6-C10)	50.4	20.0	50.0		101	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	*8.40*		*8.00*		*105*	*70-130*			
Matrix Spike (2151008-MS2)				**Source: E112066-02**					Prepared: 12/14/21 Analyzed: 12/20/21
Gasoline Range Organics (C6-C10)	50.4	20.0	50.0	ND	101	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	*8.26*		*8.00*		*103*	*70-130*			
Matrix Spike Dup (2151008-MSD2)				**Source: E112066-02**					Prepared: 12/14/21 Analyzed: 12/20/21
Gasoline Range Organics (C6-C10)	50.1	20.0	50.0	ND	100	70-130	0.660	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	*8.34*		*8.00*		*104*	*70-130*			

QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP 1 SWD	**Reported:**
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/21/2021 3:22:30PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: JL

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2151021-BLK1)									Prepared: 12/15/21 Analyzed: 12/16/21
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	*57.0*		*50.0*		*114*	*50-200*			
LCS (2151021-BS1)									Prepared: 12/15/21 Analyzed: 12/16/21
Diesel Range Organics (C10-C28)	542	25.0	500		108	38-132			
Surrogate: n-Nonane	*54.0*		*50.0*		*108*	*50-200*			
Matrix Spike (2151021-MS1)				**Source: E112066-09**					Prepared: 12/15/21 Analyzed: 12/17/21
Diesel Range Organics (C10-C28)	467	25.0	500	ND	93.5	38-132			
Surrogate: n-Nonane	*56.1*		*50.0*		*112*	*50-200*			
Matrix Spike Dup (2151021-MSD1)				**Source: E112066-09**					Prepared: 12/15/21 Analyzed: 12/17/21
Diesel Range Organics (C10-C28)	445	25.0	500	ND	89.0	38-132	4.91	20	
Surrogate: n-Nonane	*56.6*		*50.0*		*113*	*50-200*			

QC Summary Data

Devon Energy - Carlsbad	Project Name:	LVP 1 SWD	**Reported:**
6488 7 Rivers Hwy	Project Number:	01058-0007	
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/21/2021 3:22:30PM

Anions by EPA 300.0/9056A

Analyst: GB

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2151009-BLK1)									Prepared: 12/14/21 Analyzed: 12/14/21
Chloride	ND	20.0							
LCS (2151009-BS1)									Prepared: 12/14/21 Analyzed: 12/14/21
Chloride	254	20.0	250		102	90-110			
Matrix Spike (2151009-MS1)				**Source: E112066-02**					Prepared: 12/14/21 Analyzed: 12/14/21
Chloride	257	20.0	250	ND	103	80-120			
Matrix Spike Dup (2151009-MSD1)				**Source: E112066-02**					Prepared: 12/14/21 Analyzed: 12/14/21
Chloride	257	20.0	250	ND	103	80-120	0.0233	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 1 SWD	
6488 7 Rivers Hwy	Project Number:	01058-0007	**Reported:**
Artesia NM, 88210	Project Manager:	Ashley Giovengo	12/21/21 15:22

ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
RPD	Relative Percent Difference
DNI	Did Not Ignite

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

Client: Devon
Project: LVP 1 SWD
Project Manager: Ashley Giovengo
Address: 1224 Standpipe Rd.
City, State, Zip: Carlsbad, NM 88220
Phone: (505) 382-1211
Email: ashley.giovengo@wescominc.com
Report due by:

Bill To
Attention: Jim Raley
Address: 5315 Buena Vista Dr.
City, State, Zip: Carlsbad, NM 88220
Phone: (575) 689-7597
Email: jim.raley@dvn.com

Lab Use Only
Lab WO# E112066
Job Number 01058-0007

TAT: 1D | 2D | 3D | Standard: X

EPA Program: CWA | SDWA | RCRA

State: NM: X | CO | UT | AZ | TX

Analysis and Method: DRO/ORO by 8015 | GRO/DRO by 8015 | BTEX by 8021 | VOC by 8260 | Metals 6010 | Chloride 300.0 | BGDOC NM | BGDOC TX

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number	BGDOC NM	Remarks
202	12-8-21	soil	1 Jar	BG01 - 1'	1	X	
204				BG01 - 2'	2		
1135				SS01C - 0'	3		
1142				SS01C - 4'	4		
1245				SS02A - 1'	5		
1253				SS02A - 4'	6		
1521				SS03A - 0'	7		
1537				SS03A - 5'	8		

Additional Instructions:

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. Sampled by:

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Shawna Herrera	12·13·2021	10:31AM		12·13·21	1031
	12.13.21	1645		12/14/21	12:00

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 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.

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Chain of Custody

Client: DEVON	Bill To
Project: LVP 1 SWD	Attention: Jim Raley
Project Manager: Ashley Giovengo	Address: 5315 Buena Vista Rd.
Address: 1224 Standpipe Rd.	City, State, Zip: Carlsbad, NM 88220
City, State, Zip: Carlsbad, NM 88220	Phone: (575)689-7597
Phone: (505)382-1211	Email: jim.raley@dvn.com
Email: ashley.giovengo@wescominc.com	
Report due by:	

Lab Use Only: Lab WO# E112066 | Job Number 01058C0007

TAT: 1D | 2D | 3D | Standard (X)

EPA Program: CWA | SDWA | RCRA

State: NM (X) | CO | UT | AZ | TX

Analysis and Method: DRO/ORO by 8015 | GRO/DRO by 8015 | BTEX by 8021 | VOC by 8260 | Metals 6010 | Chloride 300.0 | BGDOC NM | BGDOC TX

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number	BGDOC NM	Remarks
916	12-9-21	Soil	1 Jar	SS04A - 0'	9	X	
910				SS04A - 4'	10		
1036				SS05A - 0'	11		
1027				SS05A - 4'	12		
1302				SS06D - 0'	13		
1249				SS06D - 4.5'	14		
1121				SS06 - 4.5'	15		
936				SS04 - 5'	16		

Additional Instructions:

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. Sampled by:

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
Paula Herrera	12·13·2021	10:31AM		12·13·21	1031
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	12·13·21	1645		12/14/21	12:00
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Lab Use Only: Received on ice: (Y) / N

T1 _____ T2 _____ TB _____

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.

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Envirotech Analytical Laboratory

Printed: 12/14/2021 12:17:11PM

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:	12/14/21 12:00	Work Order ID:	E112066
Phone:	(505) 382-1211	Date Logged In:	12/14/21 09:38	Logged In By:	Alexa Michaels
Email:	ashley.giovengo@wescominc.com	Due Date:	12/20/21 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	Carrier: Fed Ex
4. Was the COC complete, i.e., signatures, dates/times, requested analyses?	Yes	
5. Were all samples received within holding time? Note: Analysis, such as pH which should be conducted in the field, i.e, 15 minute hold time, are not included in this disucssion.	Yes	

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 Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling	Yes	
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 filteration 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: n/a

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

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Practical Solutions for a Better Tomorrow

Analytical Report

Devon Energy - Carlsbad

Project Name:	LVP SWD #001
Work Order:	E203126
Job Number:	01058-0007
Received:	3/21/2022

Revision: 2

Report Reviewed By:

Walter Hinchman
Laboratory Director
3/25/22

Date Reported: 3/25/22

Ashley Giovengo
6488 7 Rivers Hwy
Artesia, NM 88210

Project Name: LVP SWD #001
Workorder: E203126
Date Received: 3/21/2022 7:40:00AM

Ashley Giovengo,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 3/21/2022 7:40:00AM, 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 reguarding 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

Raina Schwanz
Laboratory Administrator
Office: 505-632-1881
rainaschwanz@envirotech-inc.com

Alexa Michaels
Sample Custody Officer
Office: 505-632-1881
labadmin@envirotech-inc.com

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Southern New Mexico Area
Lynn Jarboe
Technical Representative/Client Services
Office: 505-421-LABS(5227)
Cell: 505-320-4759
ljarboe@envirotech-inc.com

West Texas Midland/Odessa Area
Rayny Hagan
Technical Representative
Office: 505-421-LABS(5227)

Envirotech Web Address: www.envirotech-inc.com

Table of Contents

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	03/25/22 10:54

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SS07 - 8.5'	E203126-01A	Solid	03/17/22	03/21/22	Glass Jar, 4 oz.
	E203126-01B	Solid	03/17/22	03/21/22	Glass Jar, 4 oz.
	E203126-01C	Solid	03/17/22	03/21/22	Plastic Baggie

Sample Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	
6488 7 Rivers Hwy	Project Number:	01058-0007	**Reported:**
Artesia NM, 88210	Project Manager:	Ashley Giovengo	3/25/2022 10:54:28AM

SS07 - 8.5'

E203126-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: IY			Batch: 2213019
Benzene	ND	0.250	10	03/22/22	03/23/22	
Ethylbenzene	ND	0.250	10	03/22/22	03/23/22	
Toluene	ND	0.250	10	03/22/22	03/23/22	
o-Xylene	ND	0.250	10	03/22/22	03/23/22	
p,m-Xylene	ND	0.500	10	03/22/22	03/23/22	
Total Xylenes	ND	0.250	10	03/22/22	03/23/22	
Surrogate: Bromofluorobenzene		*93.3 %*	*70-130*	*03/22/22*	*03/23/22*	
Surrogate: 1,2-Dichloroethane-d4		*100 %*	*70-130*	*03/22/22*	*03/23/22*	
Surrogate: Toluene-d8		*99.4 %*	*70-130*	*03/22/22*	*03/23/22*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: IY			Batch: 2213019
Gasoline Range Organics (C6-C10)	ND	200	10	03/22/22	03/23/22	
Surrogate: Bromofluorobenzene		*93.3 %*	*70-130*	*03/22/22*	*03/23/22*	
Surrogate: 1,2-Dichloroethane-d4		*100 %*	*70-130*	*03/22/22*	*03/23/22*	
Surrogate: Toluene-d8		*99.4 %*	*70-130*	*03/22/22*	*03/23/22*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2213025
Diesel Range Organics (C10-C28)	ND	25.0	1	03/22/22	03/22/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/22/22	03/22/22	
Surrogate: n-Nonane		*107 %*	*50-200*	*03/22/22*	*03/22/22*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: KL			Batch: 2213035
Chloride	**328**	20.0	1	03/23/22	03/24/22	

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	3/25/2022 10:54:28AM

Volatile Organic Compounds by EPA 8260B

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 (2213019-BLK1)									Prepared: 03/22/22 Analyzed: 03/23/22
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	*0.470*		*0.500*		*93.9*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.508*		*0.500*		*102*	*70-130*			
Surrogate: Toluene-d8	*0.491*		*0.500*		*98.2*	*70-130*			
LCS (2213019-BS1)									Prepared: 03/22/22 Analyzed: 03/23/22
Benzene	2.47	0.0250	2.50		99.0	70-130			
Ethylbenzene	2.53	0.0250	2.50		101	70-130			
Toluene	2.52	0.0250	2.50		101	70-130			
o-Xylene	2.46	0.0250	2.50		98.2	70-130			
p,m-Xylene	4.89	0.0500	5.00		97.8	70-130			
Total Xylenes	7.35	0.0250	7.50		98.0	70-130			
Surrogate: Bromofluorobenzene	*0.480*		*0.500*		*96.0*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.499*		*0.500*		*99.8*	*70-130*			
Surrogate: Toluene-d8	*0.510*		*0.500*		*102*	*70-130*			
Matrix Spike (2213019-MS1)				**Source: E203117-02**					Prepared: 03/22/22 Analyzed: 03/23/22
Benzene	2.63	0.0250	2.50	ND	105	48-131			
Ethylbenzene	2.65	0.0250	2.50	ND	106	45-135			
Toluene	2.64	0.0250	2.50	ND	106	48-130			
o-Xylene	2.62	0.0250	2.50	ND	105	43-135			
p,m-Xylene	5.22	0.0500	5.00	ND	104	43-135			
Total Xylenes	7.85	0.0250	7.50	ND	105	43-135			
Surrogate: Bromofluorobenzene	*0.500*		*0.500*		*100*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.498*		*0.500*		*99.5*	*70-130*			
Surrogate: Toluene-d8	*0.503*		*0.500*		*101*	*70-130*			
Matrix Spike Dup (2213019-MSD1)				**Source: E203117-02**					Prepared: 03/22/22 Analyzed: 03/23/22
Benzene	2.52	0.0250	2.50	ND	101	48-131	4.23	23	
Ethylbenzene	2.57	0.0250	2.50	ND	103	45-135	3.04	27	
Toluene	2.55	0.0250	2.50	ND	102	48-130	3.47	24	
o-Xylene	2.54	0.0250	2.50	ND	101	43-135	3.41	27	
p,m-Xylene	5.04	0.0500	5.00	ND	101	43-135	3.65	27	
Total Xylenes	7.57	0.0250	7.50	ND	101	43-135	3.57	27	
Surrogate: Bromofluorobenzene	*0.494*		*0.500*		*98.8*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.489*		*0.500*		*97.8*	*70-130*			
Surrogate: Toluene-d8	*0.505*		*0.500*		*101*	*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	3/25/2022 10:54:28AM

Nonhalogenated Organics by EPA 8015D - GRO

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 (2213019-BLK1)									Prepared: 03/22/22 Analyzed: 03/23/22
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: Bromofluorobenzene	*0.470*		*0.500*		*93.9*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.508*		*0.500*		*102*	*70-130*			
Surrogate: Toluene-d8	*0.491*		*0.500*		*98.2*	*70-130*			
LCS (2213019-BS2)									Prepared: 03/22/22 Analyzed: 03/23/22
Gasoline Range Organics (C6-C10)	53.1	20.0	50.0		106	70-130			
Surrogate: Bromofluorobenzene	*0.475*		*0.500*		*94.9*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.497*		*0.500*		*99.4*	*70-130*			
Surrogate: Toluene-d8	*0.508*		*0.500*		*102*	*70-130*			
Matrix Spike (2213019-MS2)				**Source: E203117-02**					Prepared: 03/22/22 Analyzed: 03/23/22
Gasoline Range Organics (C6-C10)	53.3	20.0	50.0	ND	107	70-130			
Surrogate: Bromofluorobenzene	*0.487*		*0.500*		*97.3*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.476*		*0.500*		*95.1*	*70-130*			
Surrogate: Toluene-d8	*0.506*		*0.500*		*101*	*70-130*			
Matrix Spike Dup (2213019-MSD2)				**Source: E203117-02**					Prepared: 03/22/22 Analyzed: 03/23/22
Gasoline Range Organics (C6-C10)	56.0	20.0	50.0	ND	112	70-130	4.98	20	
Surrogate: Bromofluorobenzene	*0.480*		*0.500*		*95.9*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.494*		*0.500*		*98.8*	*70-130*			
Surrogate: Toluene-d8	*0.501*		*0.500*		*100*	*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	3/25/2022 10:54:28AM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: JL

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2213025-BLK1)									Prepared: 03/22/22 Analyzed: 03/23/22
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	*48.5*		*50.0*		*96.9*	*50-200*			
LCS (2213025-BS1)									Prepared: 03/22/22 Analyzed: 03/22/22
Diesel Range Organics (C10-C28)	492	25.0	500		98.4	38-132			
Surrogate: n-Nonane	*49.8*		*50.0*		*99.6*	*50-200*			
Matrix Spike (2213025-MS1)				**Source: E203134-02**					Prepared: 03/22/22 Analyzed: 03/22/22
Diesel Range Organics (C10-C28)	503	25.0	500	ND	101	38-132			
Surrogate: n-Nonane	*42.0*		*50.0*		*84.1*	*50-200*			
Matrix Spike Dup (2213025-MSD1)				**Source: E203134-02**					Prepared: 03/22/22 Analyzed: 03/22/22
Diesel Range Organics (C10-C28)	498	25.0	500	ND	99.7	38-132	0.873	20	
Surrogate: n-Nonane	*45.2*		*50.0*		*90.4*	*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	3/25/2022 10:54:28AM

Anions by EPA 300.0/9056A

Analyst: KL

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2213035-BLK1)									Prepared: 03/23/22 Analyzed: 03/24/22
Chloride	ND	20.0							
LCS (2213035-BS1)									Prepared: 03/23/22 Analyzed: 03/24/22
Chloride	252	20.0	250		101	90-110			
Matrix Spike (2213035-MS1)				**Source: E203088-01**					Prepared: 03/23/22 Analyzed: 03/24/22
Chloride	331	20.0	250	64.4	107	80-120			
Matrix Spike Dup (2213035-MSD1)				**Source: E203088-01**					Prepared: 03/23/22 Analyzed: 03/24/22
Chloride	384	20.0	250	64.4	128	80-120	14.9	20	M2

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	03/25/22 10:54

M2	Matrix spike recovery was outside quality control limits. The associated LCS spike recovery was acceptable.
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
RPD	Relative Percent Difference
DNI	Did Not Ignite

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

Page 1 of

Client: Devon Energy	Bill To	Lab Use Only	TAT	EPA Program
Project: LVP SWD #001	Attention: Jim Raley	Lab WO# E203126	Job Number 01058-0007	1D 2D 3D Standard: X	CWA SDWA
Project Manager: Ashley Giovenso	Address: 5315 Buena Vista Dr.			RCRA
Address: 1224 Standpipe Rd	City, State, Zip Carlsbad, NM 88220			
City, State, Zip Carlsbad, NM 88220	Phone: 575-689-7597			State: NM X
Phone: 505-382-1211	Email: jim.raley@dvn.com			
Email: ashley.giovenso@wescominc.com				
Report due by:				

Analysis and Method: DRO/ORO by 8015; GRO/DRO by 8015; BTEX by 8021; VOC by 8260; Metals 6010; Chloride 300.0; BGDOC NM; BGDOC TX

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number	BGDOC NM	Remarks
1:25	3/17/22	O	1jar	SS07 - 8.5'	1	X	

Additional Instructions: preserved on ice; please cc: shar-harvester, cole.burton and ashley.giovenso@wescominc.com and jim.raley@dvn.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. Sampled by:

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	03/18/22			3.18.22	1410
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	3.20.22	1205	Caitlin Christian	3/21/22	7:40
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: (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 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: 3/21/2022 9:50:50AM

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:	03/21/22 07:40	Work Order ID:	E203126
Phone:	(505) 382-1211	Date Logged In:	03/21/22 09:49	Logged In By:	Caitlin Christian
Email:	ashley.giovengo@wescominc.com	Due Date:	03/25/22 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	No	
3. Were samples dropped off by client or carrier?	Yes	Carrier: Courrier
4. Was the COC complete, i.e., signatures, dates/times, requested analyses?	Yes	
5. Were all samples received within holding time? Note: Analysis, such as pH which should be conducted in the field, i.e, 15 minute hold time, are not included in this disucssion.	Yes	

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 Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling	Yes	
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?	No	

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 filteration 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

Comments/Resolution

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: E203125

Job Number: 01058-0007

Received: 3/21/2022

Revision: 2

Report Reviewed By:

Walter Hinchman
Laboratory Director
3/25/22

Date Reported: 3/25/22

Ashley Giovengo
6488 7 Rivers Hwy
Artesia, NM 88210

Project Name: LVP SWD #001
Workorder: E203125
Date Received: 3/21/2022 7:40:00AM

Ashley Giovengo,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 3/21/2022 7:40:00AM, 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 reguarding 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

Raina Schwanz
Laboratory Administrator
Office: 505-632-1881
rainaschwanz@envirotech-inc.com

Alexa Michaels
Sample Custody Officer
Office: 505-632-1881
labadmin@envirotech-inc.com

Field Offices:

Southern New Mexico Area
Lynn Jarboe
Technical Representative/Client Services
Office: 505-421-LABS(5227)
Cell: 505-320-4759
ljarboe@envirotech-inc.com

West Texas Midland/Odessa Area
Rayny Hagan
Technical Representative
Office: 505-421-LABS(5227)

Envirotech Web Address: www.envirotech-inc.com

Table of Contents

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	03/25/22 10:47

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SS08 - 9'	E203125-01A	Solid	03/17/22	03/21/22	Glass Jar, 4 oz.
	E203125-01B	Solid	03/17/22	03/21/22	Glass Jar, 4 oz.
	E203125-01C	Solid	03/17/22	03/21/22	Plastic Baggie

Sample Data

Devon Energy - Carlsbad	Project Name:	LVP SWD #001	
6488 7 Rivers Hwy	Project Number:	01058-0007	**Reported:**
Artesia NM, 88210	Project Manager:	Ashley Giovengo	3/25/2022 10:47:40AM

SS08 - 9'

E203125-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: IY			Batch: 2213019
Benzene	ND	0.250	10	03/22/22	03/23/22	
Ethylbenzene	ND	0.250	10	03/22/22	03/23/22	
Toluene	ND	0.250	10	03/22/22	03/23/22	
o-Xylene	ND	0.250	10	03/22/22	03/23/22	
p,m-Xylene	ND	0.500	10	03/22/22	03/23/22	
Total Xylenes	ND	0.250	10	03/22/22	03/23/22	
Surrogate: Bromofluorobenzene		*93.0 %*	*70-130*	*03/22/22*	*03/23/22*	
Surrogate: 1,2-Dichloroethane-d4		*98.3 %*	*70-130*	*03/22/22*	*03/23/22*	
Surrogate: Toluene-d8		*99.7 %*	*70-130*	*03/22/22*	*03/23/22*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: IY			Batch: 2213019
Gasoline Range Organics (C6-C10)	ND	200	10	03/22/22	03/23/22	
Surrogate: Bromofluorobenzene		*93.0 %*	*70-130*	*03/22/22*	*03/23/22*	
Surrogate: 1,2-Dichloroethane-d4		*98.3 %*	*70-130*	*03/22/22*	*03/23/22*	
Surrogate: Toluene-d8		*99.7 %*	*70-130*	*03/22/22*	*03/23/22*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2213025
Diesel Range Organics (C10-C28)	ND	25.0	1	03/22/22	03/22/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/22/22	03/22/22	
Surrogate: n-Nonane		*102 %*	*50-200*	*03/22/22*	*03/22/22*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: KL			Batch: 2213035
Chloride	**956**	20.0	1	03/23/22	03/24/22	

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	3/25/2022 10:47:40AM

Volatile Organic Compounds by EPA 8260B

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 (2213019-BLK1)									Prepared: 03/22/22 Analyzed: 03/23/22
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	*0.470*		*0.500*		*93.9*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.508*		*0.500*		*102*	*70-130*			
Surrogate: Toluene-d8	*0.491*		*0.500*		*98.2*	*70-130*			
LCS (2213019-BS1)									Prepared: 03/22/22 Analyzed: 03/23/22
Benzene	2.47	0.0250	2.50		99.0	70-130			
Ethylbenzene	2.53	0.0250	2.50		101	70-130			
Toluene	2.52	0.0250	2.50		101	70-130			
o-Xylene	2.46	0.0250	2.50		98.2	70-130			
p,m-Xylene	4.89	0.0500	5.00		97.8	70-130			
Total Xylenes	7.35	0.0250	7.50		98.0	70-130			
Surrogate: Bromofluorobenzene	*0.480*		*0.500*		*96.0*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.499*		*0.500*		*99.8*	*70-130*			
Surrogate: Toluene-d8	*0.510*		*0.500*		*102*	*70-130*			
Matrix Spike (2213019-MS1)				**Source: E203117-02**					Prepared: 03/22/22 Analyzed: 03/23/22
Benzene	2.63	0.0250	2.50	ND	105	48-131			
Ethylbenzene	2.65	0.0250	2.50	ND	106	45-135			
Toluene	2.64	0.0250	2.50	ND	106	48-130			
o-Xylene	2.62	0.0250	2.50	ND	105	43-135			
p,m-Xylene	5.22	0.0500	5.00	ND	104	43-135			
Total Xylenes	7.85	0.0250	7.50	ND	105	43-135			
Surrogate: Bromofluorobenzene	*0.500*		*0.500*		*100*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.498*		*0.500*		*99.5*	*70-130*			
Surrogate: Toluene-d8	*0.503*		*0.500*		*101*	*70-130*			
Matrix Spike Dup (2213019-MSD1)				**Source: E203117-02**					Prepared: 03/22/22 Analyzed: 03/23/22
Benzene	2.52	0.0250	2.50	ND	101	48-131	4.23	23	
Ethylbenzene	2.57	0.0250	2.50	ND	103	45-135	3.04	27	
Toluene	2.55	0.0250	2.50	ND	102	48-130	3.47	24	
o-Xylene	2.54	0.0250	2.50	ND	101	43-135	3.41	27	
p,m-Xylene	5.04	0.0500	5.00	ND	101	43-135	3.65	27	
Total Xylenes	7.57	0.0250	7.50	ND	101	43-135	3.57	27	
Surrogate: Bromofluorobenzene	*0.494*		*0.500*		*98.8*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.489*		*0.500*		*97.8*	*70-130*			
Surrogate: Toluene-d8	*0.505*		*0.500*		*101*	*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	3/25/2022 10:47:40AM

Nonhalogenated Organics by EPA 8015D - GRO

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 (2213019-BLK1)									Prepared: 03/22/22 Analyzed: 03/23/22
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: Bromofluorobenzene	*0.470*		*0.500*		*93.9*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.508*		*0.500*		*102*	*70-130*			
Surrogate: Toluene-d8	*0.491*		*0.500*		*98.2*	*70-130*			
LCS (2213019-BS2)									Prepared: 03/22/22 Analyzed: 03/23/22
Gasoline Range Organics (C6-C10)	53.1	20.0	50.0		106	70-130			
Surrogate: Bromofluorobenzene	*0.475*		*0.500*		*94.9*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.497*		*0.500*		*99.4*	*70-130*			
Surrogate: Toluene-d8	*0.508*		*0.500*		*102*	*70-130*			
Matrix Spike (2213019-MS2)				**Source: E203117-02**					Prepared: 03/22/22 Analyzed: 03/23/22
Gasoline Range Organics (C6-C10)	53.3	20.0	50.0	ND	107	70-130			
Surrogate: Bromofluorobenzene	*0.487*		*0.500*		*97.3*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.476*		*0.500*		*95.1*	*70-130*			
Surrogate: Toluene-d8	*0.506*		*0.500*		*101*	*70-130*			
Matrix Spike Dup (2213019-MSD2)				**Source: E203117-02**					Prepared: 03/22/22 Analyzed: 03/23/22
Gasoline Range Organics (C6-C10)	56.0	20.0	50.0	ND	112	70-130	4.98	20	
Surrogate: Bromofluorobenzene	*0.480*		*0.500*		*95.9*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.494*		*0.500*		*98.8*	*70-130*			
Surrogate: Toluene-d8	*0.501*		*0.500*		*100*	*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	3/25/2022 10:47:40AM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: JL

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2213025-BLK1)									Prepared: 03/22/22 Analyzed: 03/23/22
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	*48.5*		*50.0*		*96.9*	*50-200*			
LCS (2213025-BS1)									Prepared: 03/22/22 Analyzed: 03/22/22
Diesel Range Organics (C10-C28)	492	25.0	500		98.4	38-132			
Surrogate: n-Nonane	*49.8*		*50.0*		*99.6*	*50-200*			
Matrix Spike (2213025-MS1)				**Source: E203134-02**					Prepared: 03/22/22 Analyzed: 03/22/22
Diesel Range Organics (C10-C28)	503	25.0	500	ND	101	38-132			
Surrogate: n-Nonane	*42.0*		*50.0*		*84.1*	*50-200*			
Matrix Spike Dup (2213025-MSD1)				**Source: E203134-02**					Prepared: 03/22/22 Analyzed: 03/22/22
Diesel Range Organics (C10-C28)	498	25.0	500	ND	99.7	38-132	0.873	20	
Surrogate: n-Nonane	*45.2*		*50.0*		*90.4*	*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	3/25/2022 10:47:40AM

Anions by EPA 300.0/9056A

Analyst: KL

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2213035-BLK1)									Prepared: 03/23/22 Analyzed: 03/24/22
Chloride	ND	20.0							
LCS (2213035-BS1)									Prepared: 03/23/22 Analyzed: 03/24/22
Chloride	252	20.0	250		101	90-110			
Matrix Spike (2213035-MS1)				**Source: E203088-01**					Prepared: 03/23/22 Analyzed: 03/24/22
Chloride	331	20.0	250	64.4	107	80-120			
Matrix Spike Dup (2213035-MSD1)				**Source: E203088-01**					Prepared: 03/23/22 Analyzed: 03/24/22
Chloride	384	20.0	250	64.4	128	80-120	14.9	20	M2

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	03/25/22 10:47

M2	Matrix spike recovery was outside quality control limits. The associated LCS spike recovery was acceptable.
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
RPD	Relative Percent Difference
DNI	Did Not Ignite

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

Client: Devon Energy
Project: LVP SWD #001
Project Manager: Ashley Giovengo
Address: 1224 Standpipe Rd
City, State, Zip Carlsbad, NM 88220
Phone: 505-382-1211
Email: ashley.giovengo@wescominc.com
Report due by:

Bill To
Attention: Jim Raley
Address: 5315 Buena Vista Dr.
City, State, Zip Carlsbad, NM 88220
Phone: 575-689-7597
Email: jim.raley@dvn.com

Lab Use Only
Lab WO# E203125
Job Number 01058-0007

TAT: 1D | 2D | 3D | Standard X

EPA Program: CWA | SDWA | RCRA

State: NM X | CO | UT | AZ | TX

Analysis and Method

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	BGDOC NM	BGDOC TX	Remarks
1:08	03/17/22	O	1 jar	SS08 - 9'	1							X		

Additional Instructions: Preserved on ice; Please cc shar.harvester, cole.burton, ashley.giovengo@wescominc.com and jim.raley@dvn.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. Sampled by:

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
	03/18/22			3.18.22	1410
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	3-20-22	1205	Cartter Chatin	3/21/22	7:40
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

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 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: 3/21/2022 9:42:02AM

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:	03/21/22 07:40	Work Order ID:	E203125
Phone:	(505) 382-1211	Date Logged In:	03/21/22 09:37	Logged In By:	Caitlin Christian
Email:	ashley.giovengo@wescominc.com	Due Date:	03/25/22 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	Carrier: Courrier
4. Was the COC complete, i.e., signatures, dates/times, requested analyses?	Yes	
5. Were all samples received within holding time? Note: Analysis, such as pH which should be conducted in the field, i.e, 15 minute hold time, are not included in this disucssion.	Yes	

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 Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling	Yes
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?	No

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 filteration 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.

ATTACHMENT G

Supplemental Lithology Summary

WSP USA
3300 North "A" Street
Building 1, Unit 222
Midland, Texas 79705
432.704.5178

March 21, 2022

District II
New Mexico Oil Conservation Division
811 South First Street
Artesia, New Mexico 88210

RE: Remediation Plan – Supplemental Lithology Summary
LVP SWD #001
Incident Number nAPP2135033453
Eddy County, New Mexico

To Whom It May Concern:

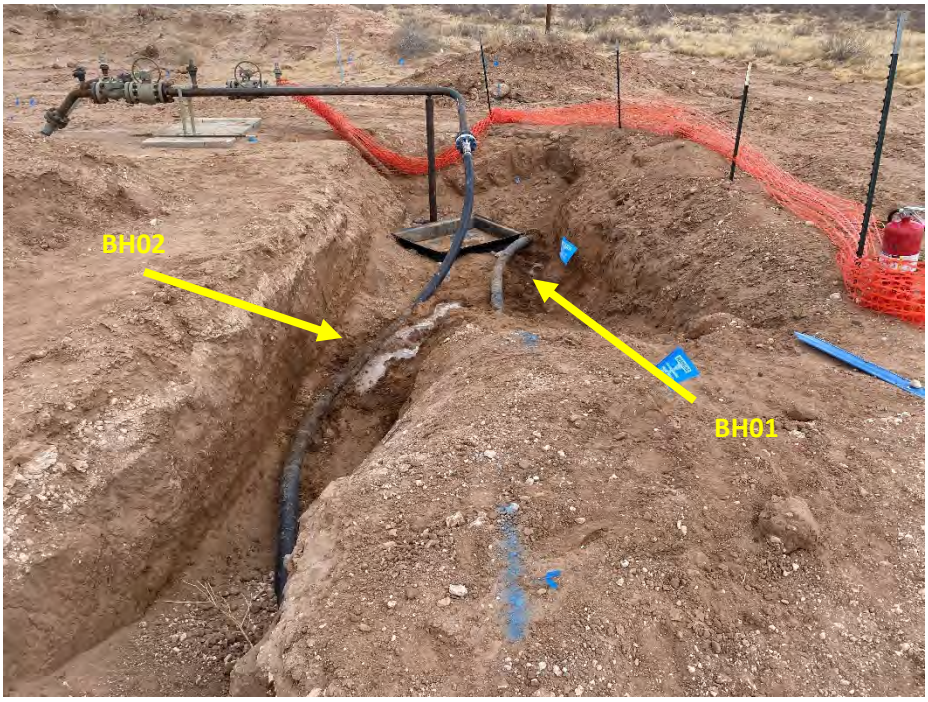
WSP USA Inc. (WSP) on behalf of Devon Energy Company (Devon) and Wescom, Inc. (Wescom), presents the following Lithology Summary as a supplement to Wescom's *Remediation Plan*, dated February 25, 2022, for the LVP SWD #001 (Site), located in in Unit I, Section 33, Township 22 South, Range 26 East, in Eddy County, New Mexico. WSP understands the Remediation Plan was submitted to the New Mexico Oil Conservation Division (NMOCD) and was subsequently denied. According to the NMOCD:

> *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. Need delineation data in source area (laboratory samples). Not vertically delineated. Variance denied; must prove rock layer is impenetrable. Please resubmit revised Remediation Plan by April 11, 2022.*

The following lithology summary describes additional field efforts to investigate subsurface soil to satisfy deficiencies identified by NMOCD in their Remediation Plan denial.

ADDITIONAL SUBSURFACE INVESTIGATION

On March 17, 2022, WSP met Wescom onsite to complete additional subsurface investigation activities related to a cemented rock layer observed at approximately 5 feet below ground surface (bgs). WSP utilized a Shaw Tool, Ltd Portable Core Drill to further advance two boreholes (BH01 and BH02), near the water transfer line release location, to attempt to complete vertical definition of impacted soil associated with the subject release as well as assess the competency of the cemented rock layer. Below is a photograph with the borehole locations for reference.



Photograph 1 – Borehole locations

The boreholes were completed to a total depth of approximately 9 feet bgs due to refusal. Below is a summary of observed lithology during the additional subsurface investigation activities.

LITHOLOGY SUMMARY

The Site is located approximately 1,085 feet from the Pecos River. The surficial geology in this location appears to be alluvial fine and coarse-grained sediments of Quaternary age and generally consists of fine-grained to coarse-grained sand with gravel and cobbles. The soil is loose within the top 0.5-foot and becomes more compacted with depth. Photograph 1 depicts the shallow subsurface lithology.

Below the sand with gravel layer, at approximately 5.5 feet bgs, a well-cemented mostly small gravel with fine to medium-grained sand conglomerate layer was encountered. According to the New Mexico State University's *Growing Plants in Caliche Soil; Guide A-151* (referred to as Guide A-151 through the rest of this letter), caliche is a "soil layer that has been cemented by carbonates of calcium and magnesium." Caliche can be formed as two physical types; a soft caliche that is relatively easy to break either through hand or mechanical force and a hard caliche that is difficult to break, otherwise known as indurated. According to Guide A-151,

> Caliche layers are formed when carbonates in the soil are dissolved and leached by rainwater. The water then rapidly evaporates or is removed by plants, leaving carbonates behind. The carbonates bind with other soil particles (such as sand, clay, or

silt) and become hardened caliche deposits (Hennessy et al., 1983).

The transition between the fine to coarse-grained sand to the gravel was poorly cemented for the first 0.25-inches and then carbonate cementation was predominant in the conglomerate until approximately 8 feet bgs. Photograph 2 depicts the small gravel with fine to coarse-grained sand conglomerate layer.

Photograph 2 – Small gravel with fine to coarse-grained sand conglomerate layer at approximately 5.5 feet bgs

At approximately 8 feet bgs, the well-cemented small gravel conglomerate transitions into a moderately-cemented small to large gravel caliche conglomerate. Cores observed in boreholes BH01 and BH02 indicated the transition from moderate-cemented small gravel to large gravel conglomerate at approximately 8 feet bgs. Photograph 3 below depicts the small gravel to large gravel conglomerate transition.

Photograph 3 –Moderately-cemented large gravel to indurated caliche transition

As core drilling continued into the large gravel conglomerate, the conglomerate became more indurated (hardened) the deeper drilling went. Gravel was no longer present in the indurated caliche at approximately 8.5 feet bgs. Core drilling advancement ceased at approximately 9 feet bgs when only indurated caliche was present and the effort to drill through presented health hazards due to the inability to advance through the hardened material and subsequent high temperatures of the drill bit and potential for seizing up and harming the operators of the core drill. As seen in Photograph 4, the indurated caliche (right side of photograph) is solid with no visible fractures running through the core sample.

Photograph 4 – moderate to well-cemented small to large gravel conglomerate to full indurated caliche transition (from left to right)

LITHOLOGY EVALUATION CONCLUSION

As noted in the February 2022 Remediation Plan, "*remediation of impacted soil would be completed in accordance with the Site's Recommended Remediation Action Levels (RRALs) or to the deepest vertical extent possible."* Based on the lithology observed in boreholes BH01 and BH02, advanced with a portable core drill, fine-grained to coarse-grained sand with gravel is present to approximately 5.5 feet bgs. This soil would be conducive to remediation via mechanical (excavation) methods as described in the Remediation Plan.

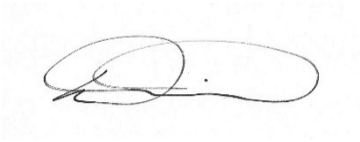
Below the sand with gravel layer, the transition into a well-cemented gravel conglomerate would present difficulties to complete further remediation via excavation due to its cemented nature. Beyond the difficulties of excavation, the ability of contaminants to migrate through the well-cemented gravel appears low as most of the pore spaces have been filled in with carbonate caliche that has mineralized following evaporation of fluids.

Once the caliche, and more specifically the indurated caliche, are encountered at approximately 8 feet to 8.5 feet bgs, the probability of contaminants to migrate vertically down is low due to the limited to no pore spaces and/or noticeable fractures available for downward mobility of fluids.

The presence of more than 4 feet of the moderately-cemented conglomerate and indurated caliche should prevent vertical migration of contaminants and therefore the request for a variance to excavated until soil refusal at the cemented gravel layer by Wescom, on behalf of Devon, appears justified.

If you have any questions or comments, please do not hesitate to contact Mr. Daniel R. Moir, P.G. at (303) 887-2946 or dan.moir@wsp.com.

Sincerely, WSP USA Inc.



Daniel R. Moir, P.G.
Sr. Lead Consultant, Geologist

cc: Jim Raley, Devon Energy Company
Ashley Giovengo, Wescom, Inc.

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District IV
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Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 97572

CONDITIONS

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 97572
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Proposal to submit Revised Remediation Plan within 120 days approved. Please include location of SS07 and SS08 on site plan. Please complete delineation within the source area (Spill01A, Spill02A, Spill03A, SSO1) and vertical delineation. Remediation Plan should include proposed area of remediation. Please resubmit revised Remediation Plan by September 19, 2022.	5/17/2022