General Information

NMOCD District:	New Mexico	Incident ID:	nKMW1109729911
Landowner:	Mosaic Potash Carlsbad, Inc.	RP Reference:	N/A
Client:	Devon Energy Production Company, LP	Site Location:	Laguna Salado 22 Federal #004H
Date:	3/14/2025	Project #:	23E-01414-01
Client Contact:	Jim Raley	Phone #:	575.689.7597
Vertex PM:	Chad Hensley	Phone #:	575.200.6167

Objective

The objective of the Environmental Site Remediation Work Plan is to identify areas of exceedance for areas of concern following a site investigation, during which background samples were collected for potential naturally elevated chloride levels, to address the open releases at Laguna Salado 22 Federal #004H (hereafter referred to as "the site"). The areas of environmental concern include the pasture to the north of the associated well where a 4" polyline was clipped by a road grader. The initial C-141 Release Notification was submitted on September 15, 2009. (Attachment 1). Closure criteria have been selected as per New Mexico Administrative Code 19.15.29.12. All applicable research as it pertains to closure criteria selection is presented in Attachment 2. The closure criteria for the site are presented below in Table 1.

Table 1. Closure Criteria for Soils Impacted by a Release

< 50 feet	Chloride 0'	4,330 mg/kg
	Chloride 2'	2,410 mg/kg
	Chloride 3'	2,000 mg/kg
	Chloride 4'	2,000 mg/kg
	TPH (GRO+DRO+MRO)	100 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

TPH - Total petroleum hydrocarbons = gasoline range organics (GRO) + diesel range organics (DRO) + motor oil range organics (MRO)
BTEX - Benzene, toluene, ethylbenzene, and xylenes

Site Assessment/Characterization

Site characterization was started on August 25, 2023, and completed by February 28, 2025. Research was able to identify flooding from the brine lake of the lower portions of the release around the period of 2017. The impact is shown in the analytical data collected by from background samples BG24 -2 and BG24-3 and BG25-01 to BG25-06. The area impacted by the flooding is presented on Figure 2 (Attachment 3). A total of 15 sample points (boreholes) were established, and 30 samples were collected for field screening. Thirty samples, including at the deepest vertical distance to the adjusted criteria, were submitted to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico, for analysis. All sample points are presented on Figure 1 (Attachment 3). Based on the description of the release area, samples were collected within and around the release area in pasture. Laboratory analysis results have been compared to the closure criteria and the results from the characterization activity are presented in Attachment 4.

Remedial Activities

General

Areas identified with contaminant concentrations above closure criteria will be remediated through excavation. Laboratory results from the site assessment/characterization have been referenced to estimate both the vertical and horizontal limits of the impacts. Soil will be excavated to the extents 2,000 chlorides of the known contamination or four feet above the subsurface water table due to the impact of the ground water by the proximity of the brine lake and historical evaporation of the impacted subsurface water to the surface presented in figure 3 (Attachment 3). Subsurface water table is based on the current and historical brine lake elevations and corroboration with excavation spud 16 State 10H. Field screening will be utilized to confirm removal of contaminated soil below the applicable closure criteria. Contaminated soils will be stored on a 30mil liner prior to disposal at an approved facility. Once excavation is complete, confirmatory samples will be collected and laboratory analysis completed to confirm closure criteria guidelines are met. Excavations will be backfilled with clean soil sourced locally.

Should you have any questions or concerns, please do not hesitate to contact the undersigned at 575-200-6167 or chensley@vertexresource.com.

Austin Harris B.Sc.
ENVIRONMENTAL SPECIALIST, REPORTING

3/14/2025
Date

Chad Hensley
SENIOR PROJECT MANAGER, REPORT REVIEW

3/14/2025
Date

Attachments

Attachment 1 Initial C-141 Report
Attachment 2 Closure Criteria Research
Attachment 3 Figures
Attachment 4 Laboratory Results Table and Laboratory Analysis

ATTACHMENT 1

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

SEP 22 2009

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

30-015-36461
nKMW1109729911

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☐ Final Report

Name of Company **Devon Energy**	Contact **Shannon Moss, Foreman**
Address **6488 Seven Rivers Hwy – P.O. Box 250**	Telephone No. **575-748-5232**
Facility Name **Laguna Salado Battery**	Facility Type **Gas**

Surface Owner	Mineral Owner	Lease No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	22	23	29					Eddy

Latitude **N 32.299221** Longitude **W 103.97480**

NATURE OF RELEASE

Type of Release **Produced Water**	Volume of Release **30 bbls**	Volume Recovered **0**
Source of Release **4" poly SWD line, extending from the Laguna Salado Battery to the Remuda Basin SWD, ruptured; releasing approximately 30 bbls of produced water.**	Date and Hour of Occurrence **09/15/09 – 9:30**	Date and Hour of Discovery **09-15-09 – 9:30**
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? **Paul Evans – BLM** **OCD**	
By Whom? **Shannon Moss, Foreman**	Date and Hour **9:45**	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.* **At the Laguna Salado Battery, a road grader clipped a 4" poly SWD line, extending from the Laguna Salado Battery to the Remuda Basin SWD, thus causing it to rupture; releasing approximately 30 bbls of produced water.**

Describe Area Affected and Cleanup Action Taken.*
50' x 50' Sandy Pasture – Valves closed and area bermed, Leak repaired and contaminated soil removed and hauled to disposal site.

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

Signature: Mykol Horner

Printed Name: **Mykol Horner**

Title: **Field Tech 1**

E-mail Address: **mykol.horner@dvn.com**

Date: **09/18/09** Phone: **575-748-0160**

* Attach Additional Sheets If Necessary

OIL CONSERVATION DIVISION

Approved by District Supervisor:

Signed By Mike Bratcher

Approval Date: 4/7/11 Expiration Date:

Conditions of Approval:
Remediation per OCD Rules & Guidelines. **SUBMIT REMEDIATION PROPOSAL NOT LATER THAN:** 5/7/11

Attached ☐

ATTACHMENT 2

Closure Criteria Worksheet			
Site Name: LAGUNA SALADO 22 FEDERAL #004H			
Spill Coordinates: 32.294426,-103.9730835			
Site Specific Conditions		**Value**	**Unit**
1	Depth to Groundwater	**<50**	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	15,734	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	385	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	19,430	feet
5	i) Within 500 feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, **or**	19,430	feet
	ii) Within 1000 feet of any fresh water well or spring		feet
6	Within incorporated municipal boundaries or within a defined municipal fresh water field covered under a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978 as amended, unless the municipality specifically approves	No	(Y/N)
7	Within 300 feet of a wetland	8,606	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
9	Within an unstable area (Karst Map)	Medium	Critical High Medium Low
10	Within a 100-year Floodplain	500	year
11	Soil Type	Gravelly loam	
12	Ecological Classification	Shallow	
13	Geology	Qpl	
NMAC 19.15.29.12 E (Table 1) Closure Criteria		<50'	<50' 51-100' >100'

New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 02797		CUB	ED		2	3	22	23S	29E	596540	3572895*	656	200		
C 02716		CUB	ED	4	4	4	16	23S	29E	595818	3574002*	988	400		
C 02715		CUB	ED	4	1	3	15	23S	29E	596221	3574411*	993	400		
C 02717		CUB	ED	4	2	4	16	23S	29E	595817	3574407*	1233	400		
C 01217 S		CUB	ED	4	1	4	16	23S	29E	595413	3574403*	1543	350		
C 02718		CUB	ED	4	4	2	16	23S	29E	595816	3574812*	1547	400		
C 04326 POD14		CUB	ED	4	2	3	23	23S	29E	598191	3572765	1687	58	54	4
C 04326 POD16		CUB	ED	2	4	3	23	23S	29E	598209	3572664	1751	64	54	10
C 02720		CUB	ED		2	1	21	23S	29E	594911	3573690*	1784	150		
C 02721		CUB	ED		2	3	21	23S	29E	594915	3572879*	1890	150		
C 02808		CUB	ED		2	3	16	23S	29E	594909	3574501*	2025	100		
C 02809		CUB	ED		2	3	16	23S	29E	594909	3574501*	2025	100		
C 02707		C	ED			2	28	23S	29E	595535	3571868*	2026	40	18	22
C 03057 EXPLORE		CUB	ED	4	1	1	21	23S	29E	594605	3573586*	2084	150		
C 02794		CUB	ED		4	3	10	23S	29E	596518	3575731*	2203	100		
C 02795		CUB	ED		4	3	10	23S	29E	596518	3575731*	2203	200		
C 02613		CUB	ED	4	4	2	20	23S	29E	594203	3573176*	2511	400		
C 03058 EXPLORE		CUB	ED	4	1	1	16	23S	29E	594605	3575206*	2671	150		

C_01627	C	ED	1	4	4	28	23S	29E	595649	3570959*	2777	170		
C_02705	C	ED			2	17	23S	29E	593902	3575093*	3193	68	28	40
C_02608	CUB	ED	3	1	4	17	23S	29E	593598	3574387*	3206	400		
C_04597 POD1	CUB	ED	1	1	4	24	23S	29E	600124	3573002	3476			
C_04597 POD2	CUB	ED	1	1	4	24	23S	29E	600122	3572959	3481			
C_04597 POD4	CUB	ED	1	1	4	24	23S	29E	600159	3572947	3519			
C_04597 POD3	CUB	ED	1	1	4	24	23S	29E	600172	3572991	3524			
C_04597 POD5	CUB	ED	2	1	4	24	23S	29E	600198	3572931	3560			
C_03059 EXPLORE	CUB	ED	4	1	3	17	23S	29E	592993	3574378*	3790		65	
C_02806	CUB	ED		1	1	09	23S	29E	594473	3576927*	4052	100		
C_02807	CUB	ED		1	1	09	23S	29E	594473	3576927*	4052	100		
C_04472 POD1	CUB	ED	2	2	4	13	23S	29E	600639	3574619	4096		37	
C_02792	CUB	ED		4	3	04	23S	29E	594868	3577336*	4215	200		
C_02793	CUB	ED		4	3	04	23S	29E	594868	3577336*	4215	100		
C_04594 POD2	CUB	ED	4	2	2	13	23S	29E	600604	3575232	4267	42	34	8
C_04594 POD5	CUB	ED	4	2	2	13	23S	29E	600626	3575236	4289	30	30	0
C_04594 POD1	CUB	ED	4	2	2	13	23S	29E	600629	3575241	4294	36	31	5
C_04594 POD7	CUB	ED	4	2	2	13	23S	29E	600659	3575217	4311	34	28	6
C_04594 POD6	CUB	ED	4	2	2	13	23S	29E	600659	3575220	4313	34	28	6
C_04594 POD3	CUB	ED	4	2	2	13	23S	29E	600645	3575280	4324	38	27	11
C_03587 POD1	CUB	ED	1	4	3	29	23S	29E	593338	3570754	4353	99	44	55
C_04594 POD4	CUB	ED	4	2	2	13	23S	29E	600704	3575224	4356	45	28	17
C_02706	C	ED			4	18	23S	29E	592302	3574291*	4451	17	10	7
C_03587 POD2	CUB	ED	1	2	4	19	23S	29E	592213	3572706	4551	77	16	61
C_02486	C	ED	3	2	3	19	23S	30E	601304	3572832*	4668	350		
C_02804	CUB	ED		2	1	08	23S	29E	593262	3576905*	4806	100		

C 02805	CUB	ED	2	1	08	23S	29E	593262	3576905*	4806	100	

Average Depth to Water: **33 feet**

Minimum Depth: **10 feet**

Maximum Depth: **65 feet**

Record Count: 45

UTMNAD83 Radius Search (in meters):

Easting (X): 596688.75 **Northing (Y):** 3573534.32 **Radius:** 5000

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

3/21/23 8:21 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER

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 04326 POD14	4	2	3	23	23S	29E	598191	3572765

Driller License: 1664 **Driller Company:** CASCADE DRILLING, LP

Driller Name: CAIN, SHAWN N.NJR.L.NER

Drill Start Date:	05/11/2019	**Drill Finish Date:**	05/11/2019	**Plug Date:**	
Log File Date:	08/28/2019	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	2.06	**Depth Well:**	58 feet	**Depth Water:**	54 feet

Water Bearing Stratifications:	Top	Bottom	Description
	45	54	Shale/Mudstone/Siltstone

Casing Perforations:	Top	Bottom
	48	58

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD 14	BH 14	C-4326

WELL OWNER NAME(S)	PHONE (OPTIONAL)
XTO Energy, Inc.	432-221-7331

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
522 W Mermond, Suite 704	Carlsbad	NM	88220

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	17	14.49	N
	LONGITUDE	103	57	25.95	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE

North East Quarter of South West Quarter of Section 23, Township 23 South, Range 29 East, Eddy County, New Mexico

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
1664	Shawn Cain	Cascade Drilling

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
5/11/2019	5/11/2019	58	58	54

COMPLETED WELL IS: ☐ ARTESIAN ☐ DRY HOLE ☑ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): 48

DRILLING FLUID: ☑ AIR ☐ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☐ ROTARY ☐ HAMMER ☐ CABLE TOOL ☑ OTHER – SPECIFY: Sonic

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	58	6					
0	48		2" PVC Blank	Flush Thread SCH 40	2.067	.154"	
48	58		2" PVC Screen	Flush Thread SCH 40	2.067	.154"	.020

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
0	2	6	Concrete	.5	Poured
2	45	6	Bentonite Chips	7.5	Poured
45	58	6	12-20 Sand	2.5	Poured

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 04/30/19)

FILE NO. C-4326	POD NO. 14	TRN NO. 648985	
LOCATION 23S.29E.23.324		WELL TAG ID NO.	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES **(attach supplemental sheets to fully describe all units)**	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	4	4	Open Excavation	Y ✓ N	
4	10	6	brown-tan clayey SAND	Y ✓ N	
10	20	10	pinkish-tan silty SAND	Y ✓ N	
20	45	25	off white-tan CALICHE	Y ✓ N	
45	54	9	gray-light green DOLOMITE	✓ Y N	
54	58	4	dark gray-light gray CLAY	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

WELL TEST: TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION:

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

6. SIGNATURE

BY SIGNING BELOW, I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAS BEEN INSTALLED AND THAT THIS WELL RECORD WILL ALSO BE FILED WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPLETION OF WELL DRILLING.

Shawn C. Shawn Cain — SIGNATURE OF DRILLER / PRINT SIGNEE NAME

8-23-19 — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 04/30/2019)

FILE NO.	POD NO.	TRN NO.	
LOCATION		WELL TAG ID NO.	PAGE 2 OF 2

National Water Information System: Web Interface

USGS Water Resources

Data Category: Water Quality | Geographic Area: United States | GO

Click to hideNews Bulletins

- Explore the *NEW* USGS National Water Dashboard interactive map to access real-time water data from over 13,500 stations nationwide.
- Full News

Water Quality Samples for the Nation

To view additional data-quality attributes, output the results using these options: one result per row, expanded attributes.
Additional precautions are here.

USGS 321742103552601 23S.30E.19.123421

Water-Quality: Field/Lab samples | GO

Eddy County, New Mexico
Hydrologic Unit Code 13060011
Latitude 32°17'42", Longitude 103°55'26" NAD27
Land-surface elevation 3,034 feet above NAVD88
The depth of the well is 100 feet below land surface.
This well is completed in the Other aquifers (N9999OTHER) national aquifer.
This well is completed in the Rustler Formation (312RSLR) local aquifer.

Output formats

Parameter Group Period of Record table
Inventory of available water-quality data for printing
Inventory of water-quality data with retrieval

Tab-separated data, one result per row

Tab-separated data one sample per row with remark codes combined with values

Tab-separated data one sample per row with tab-delimiter for remark codes

Reselect output format

Sample Datetime	Time datum	Time datum reliability code	Sample Medium Code	Hydro-logic Event	Hydro-logic Condition	Geo-logic unit	Sample type	Specif-ic conduc-tance, wat unf uS/cm @ 25 degC (00095)
1972-09-20	MDT	T	WG	9	A	312RSLR	9	2630

Questions or Comments
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
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U.S. Department of the Interior | U.S. Geological Survey
Title: Water Quality Samples for USA: Sample Data
URL: https://nwis.waterdata.usgs.gov/nwis/qwdata?

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2023-09-21 09:41:11 EDT
0.45 0.39 nadww02

U.S. Fish and Wildlife Service
National Wetlands Inventory

LagunaSalado22Fed4 River 2.98 Miles

March 21, 2023

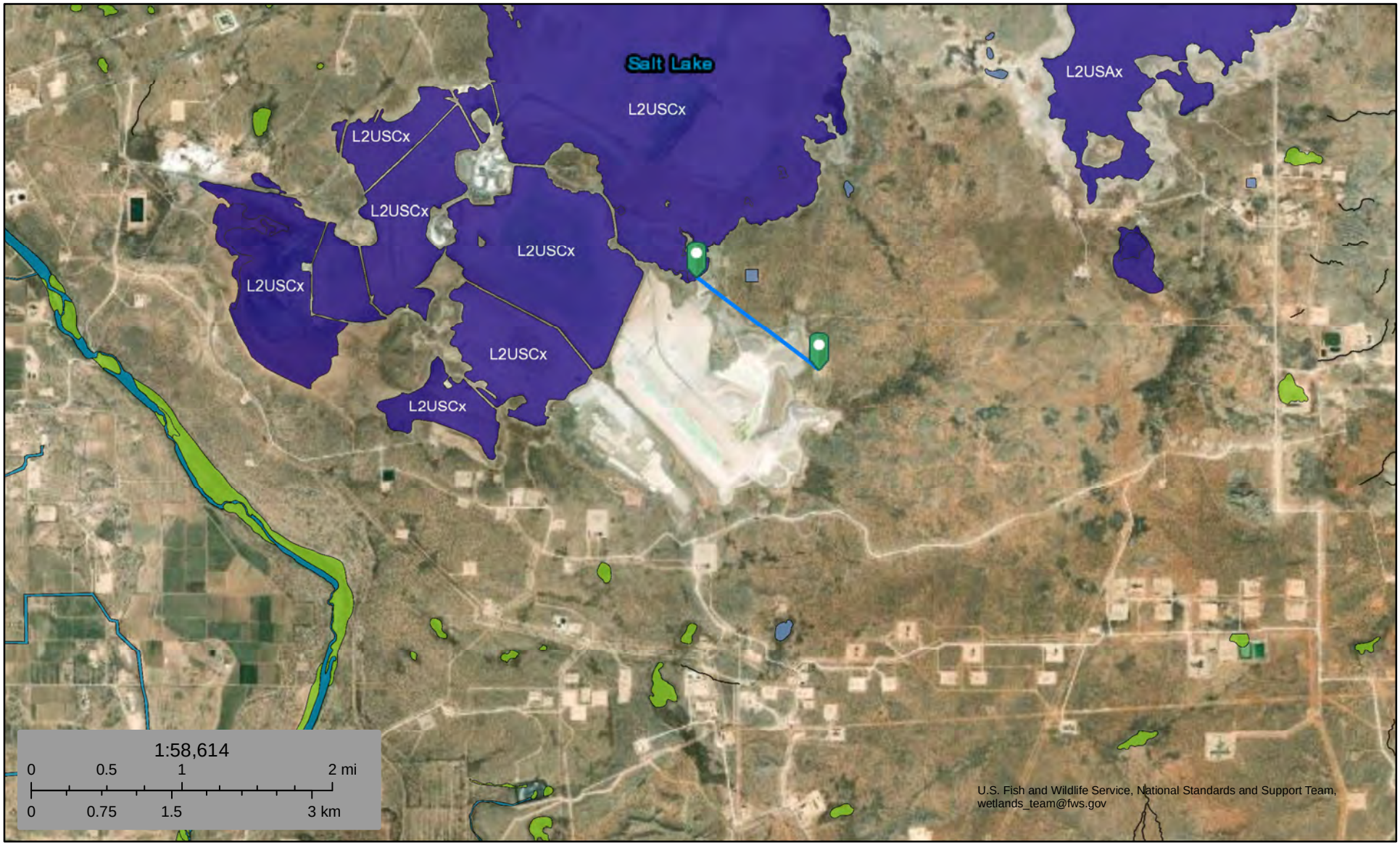
Wetlands

- 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.

U.S. Fish and Wildlife Service
National Wetlands Inventory

Laguna Salado 22 Fed 4 Lake 0.86 Miles



March 21, 2023

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.

U.S. Fish and Wildlife Service
National Wetlands Inventory

Laguna Salado 22 Federal #004H Playa 0.

September 19, 2023

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

U.S. Fish and Wildlife Service
National Wetlands Inventory

Laguna Salado 22 Federal #004H
Playa 0.1 miles

September 19, 2023

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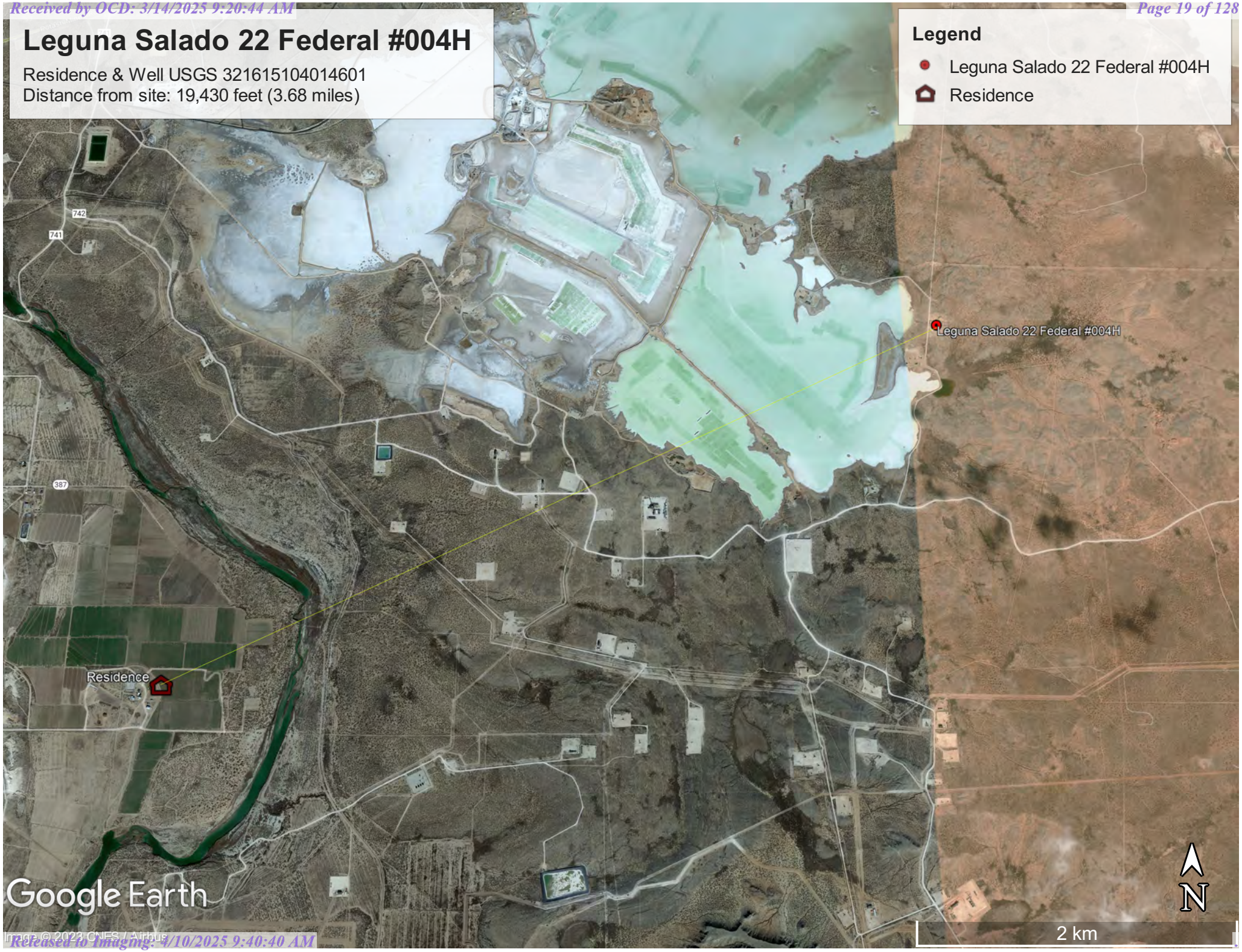
National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Leguna Salado 22 Federal #004H

Residence & Well USGS 321615104014601
Distance from site: 19,430 feet (3.68 miles)



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- Full News

USGS 321615104014601 23S.29E.30.331322

Available data for this site SUMMARY OF ALL AVAILABLE DATA GO

Well Site

DESCRIPTION:

Latitude 32°16'15", Longitude 104°01'46" NAD27
Eddy County, New Mexico , Hydrologic Unit 13060011
Well depth: 89 feet
Land surface altitude: 2,962 feet above NAVD88.
Well completed in "Other aquifers" (N9999OTHER) national aquifer.
Well completed in "Alluvium, Bolson Deposits and Other Surface Deposits" (110AVMB) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1954-11-08	1954-11-08	1
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center
Email questions about this site to New Mexico Water Science Center Water-Data Inquiries

---

Subscribe for system changes
News

Title: NWIS Site Information for USA: Site Inventory
URL: https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=321615104014601

Page Contact Information: New Mexico Water Data Support Team
Page Last Modified: 2023-03-21 17:57:26 EDT
0.31 0.29 caww01

New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

(acre ft per annum) (R=POD has been replaced and no longer serves this file, C=the file is closed) (quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) (NAD83 UTM in me

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Well Tag	Code	Grant	Source	q 64	q 16	q 4	Sec	Tws	Rng	X	Y
C 02797	CUB	MON	0	IMC	ED	C 02797						2	3	22	23S	29E	596540	3572895*
C 02716	CUB	MON	0	UNITED SALT CORPORATION	ED	C 02716					4	4	4	16	23S	29E	595818	3574002*
C 02715	CUB	MON	0	UNITED SALT CORPORATION	ED	C 02715					4	1	3	15	23S	29E	596221	3574411*
C 04326	CUB	MON	0	LT ENVIRONMENTAL INC	ED	C 04326 POD49	NA				2	4	3	23	23S	29E	597378	3572591
C 02717	CUB	MON	0	UNITED SALT CORPORATION	ED	C 02717					4	2	4	16	23S	29E	595817	3574407*
C 04326	CUB	MON	0	XTO ENERGY INC	ED	C 04326 POD50	NA				3	2	3	23	23S	29E	597992	3572782
					ED	C 04326 POD51					3	2	3	23	23S	29E	598034	3572817
					ED	C 04326 POD1					1	2	3	23	23S	29E	598124	3572992
C 01217	CUB	COM	150	INTREPID MINING NM LLC US BANK NATIONAL ASSOCIATION	ED	C 01217 S				Shallow	4	1	4	16	23S	29E	595413	3574403*
C 02622	CUB	COM	0	UNITED SALT CORPORATION	ED	C 01217 S				Shallow	4	1	4	16	23S	29E	595413	3574403*
C 02718	CUB	MON	0	UNITED SALT CORPORATION	ED	C 02718					4	4	2	16	23S	29E	595816	3574812*
C 04326	CUB	MON	0	XTO ENERGY INC	ED	C 04326 POD8	NA				3	2	3	23	23S	29E	598097	3572884
					ED	C 04326 POD6					1	2	3	23	23S	29E	598125	3572940
					ED	C 04326 POD44					3	2	3	23	23S	29E	598050	3572781
					ED	C 04326 POD4					1	2	3	23	23S	29E	598135	3572962
					ED	C 04326 POD2					1	2	3	23	23S	29E	598156	3572980
					ED	C 04326 POD43						2	3	23	23S	29E	598153	3572971
					ED	C 04326 POD3					1	2	3	23	23S	29E	598156	3572962
					ED	C 04326 POD45					3	2	3	23	23S	29E	598095	3572822
					ED	C 04326 POD9					3	2	3	23	23S	29E	598136	3572873
					ED	C 04326 POD5					2	2	3	23	23S	29E	598169	3572940
					ED	C 04326 POD40						2	3	23	23S	29E	598114	3572815
C 04456	CUB	MON	0	XTO ENERGY INC	ED	C 04456 POD2	NA				3	2	3	23	23S	29E	598103	3572791
C 04326	CUB	MON	0	XTO ENERGY INC	ED	C 04326 POD41	NA					2	3	23	23S	29E	598097	3572775
					ED	C 04326 POD7					3	2	3	23	23S	29E	598157	3572894

Record Count: 25

UTMNAD83 Radius Search (in meters):

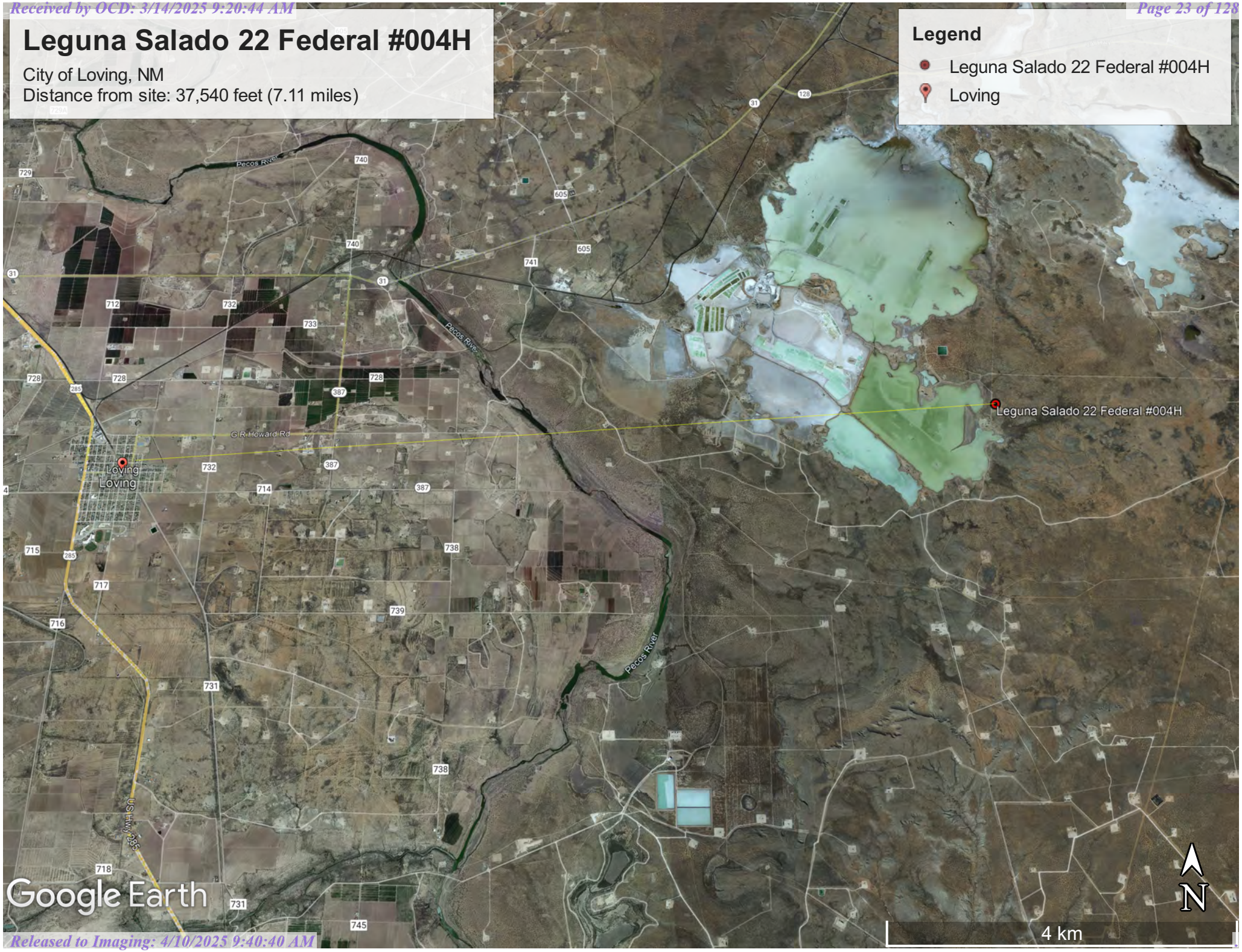
Easting (X): 596688 **Northing (Y):** 3573534 **Radius:** 1610

Sorted by: Distance

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

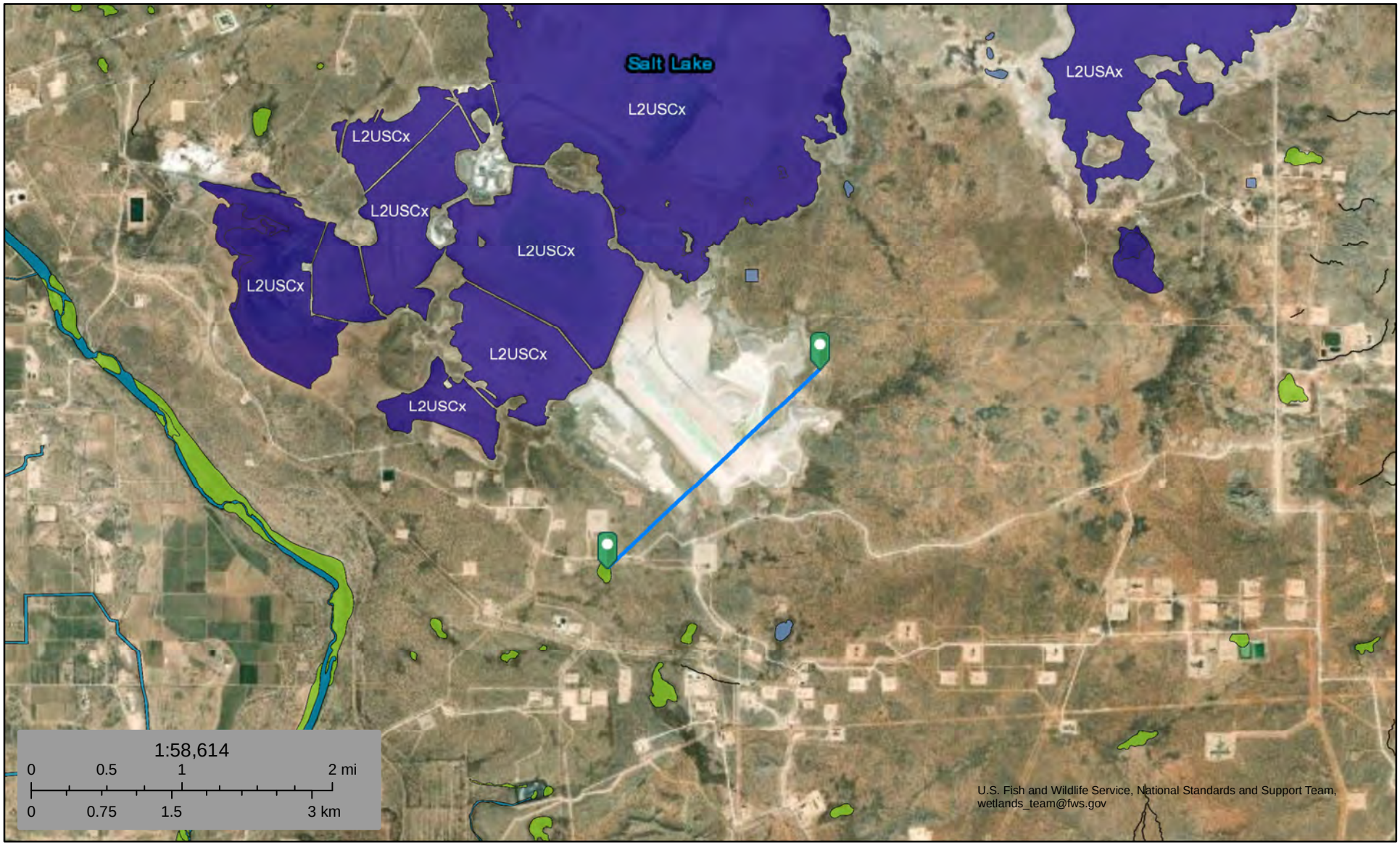
Leguna Salado 22 Federal #004H

City of Loving, NM
Distance from site: 37,540 feet (7.11 miles)



U.S. Fish and Wildlife Service
National Wetlands Inventory

LagunaSalado22Fed4 Wetland 1.63 Miles



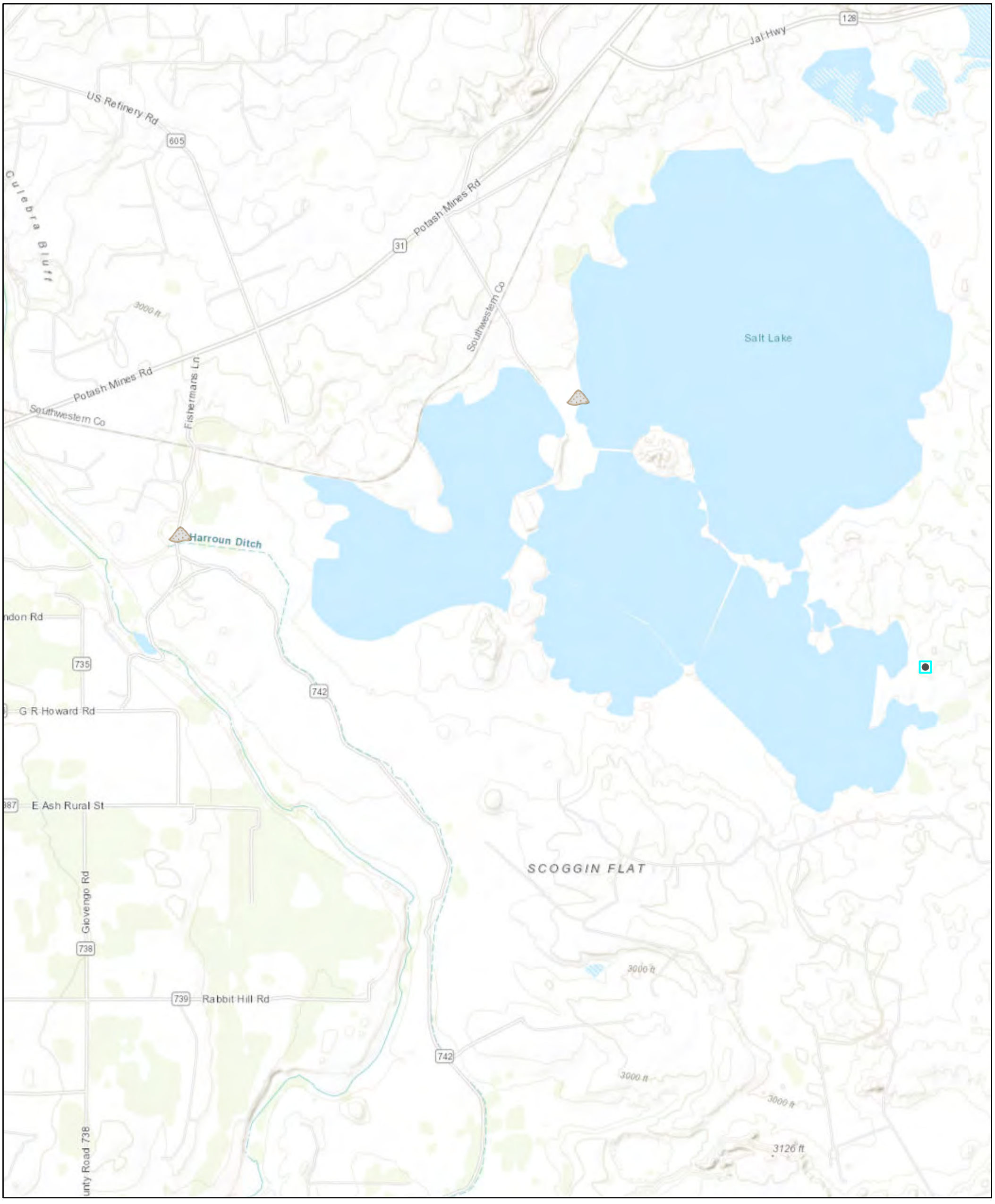
March 21, 2023

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.

Leguna Salado 22 Fed 4H



3/21/2023, 5:28:16 PM

Registered Mines

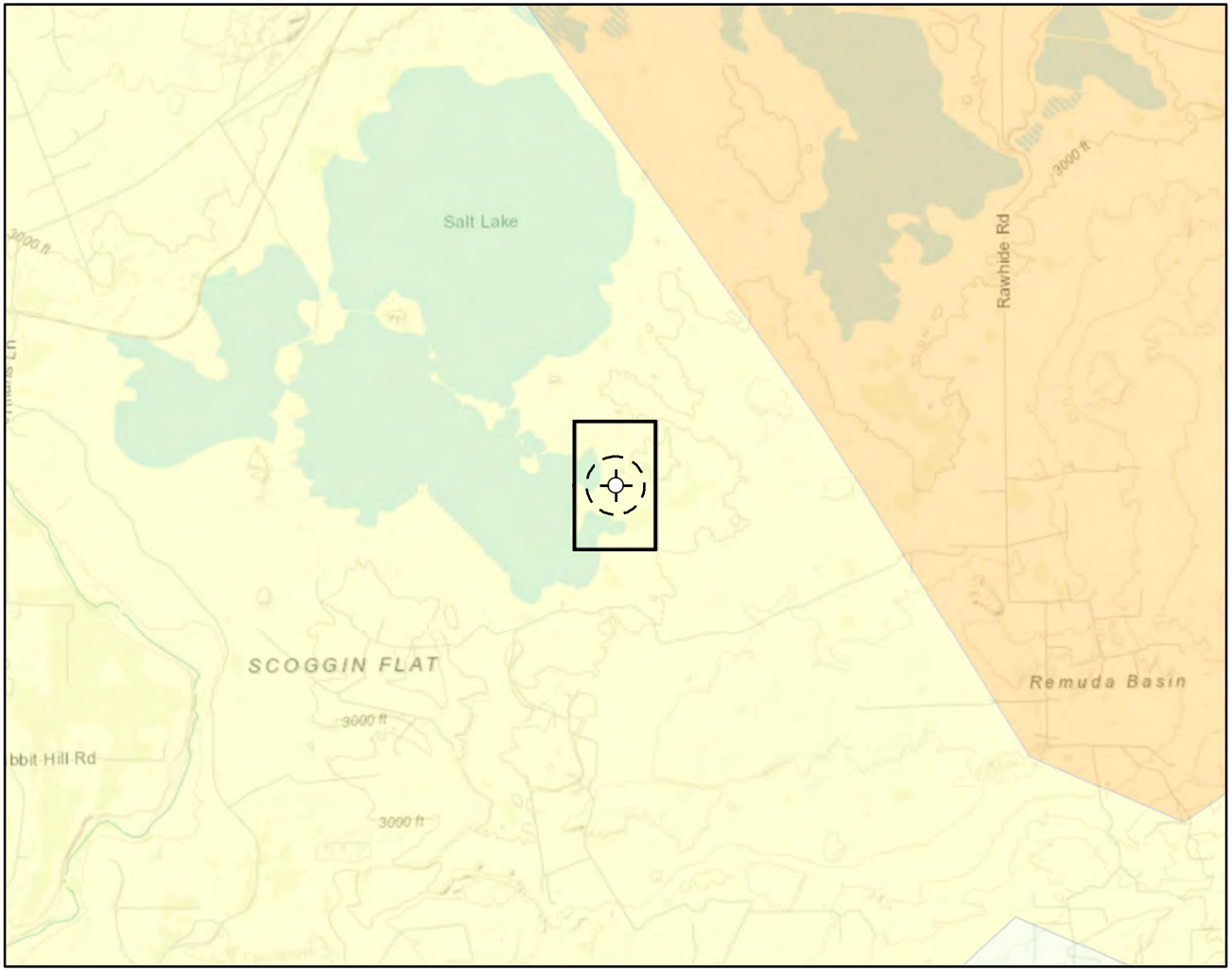
- Aggregate, Stone etc.
- Salt

1:36,112

0 0.35 0.7 1.4 mi

0 0.5 1 2 km

Bureau of Land Management, Texas Parks & Wildlife, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA



Karst Potential

- Critical
- High
- Medium
- Low

- Site Location
- Site Buffer (1,000 ft.)

Overview Map

0 0.25 0.5 1 mi

Detail Map

0 150 300 600 ft.

VERTEX

Map Center:
Lat/Long: 32.294426, -103.973084

NAD 1983 UTM Zone 13N
Date: Apr 10/23

N

Karst Potential Schematic
Laguna Salado 22 Federal
#4

FIGURE:
X

devon

Geospatial data presented in this figure may be derived from external sources and Vertex does not assume any liability for inaccuracies. This figure is intended for reference use only and is not certified for legal, survey, or engineering purposes.

Note: Inset Map, ESRI 2023; Overview Map: ESRI World Topographic. Karst potential data sourced from Rosswell Field Office, Bureau of Land Management, 2020 or United States Department of the Interior, Bureau of Land Management. (2018). Karst Potential.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Devon Energy Corporation\2023\23E-01414- Laguna Salado 22 Federal #4\Figure X Karst Potential Schematic_ Laguna Salado 22 Federal #4(23E-01414).mxd

National Flood Hazard Layer FIRMette

FEMA

103°58'42"W 32°17'55"N

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

1:6,000

103°58'4"W 32°17'25"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 3/21/2023 at 1:35 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Eddy Area, New Mexico

March 22, 2023

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:901 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 10 20 40 60

Feet: 0 40 80 160 240

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Eddy Area, New Mexico
Survey Area Data: Version 18, Sep 8, 2022

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

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

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
UG	Upton gravelly loam, 0 to 9 percent slopes	4.4	100.0%
Totals for Area of Interest		**4.4**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Eddy Area, New Mexico

UG—Upton gravelly loam, 0 to 9 percent slopes

Map Unit Setting

National map unit symbol: 1w64
Elevation: 1,100 to 4,400 feet
Mean annual precipitation: 7 to 15 inches
Mean annual air temperature: 60 to 70 degrees F
Frost-free period: 200 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Upton and similar soils: 96 percent
Minor components: 4 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Upton

Setting

Landform: Ridges, fans
Landform position (three-dimensional): Side slope, rise
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from limestone

Typical profile

H1 - 0 to 9 inches: gravelly loam
H2 - 9 to 13 inches: gravelly loam
H3 - 13 to 21 inches: cemented
H4 - 21 to 60 inches: very gravelly loam

Properties and qualities

Slope: 0 to 9 percent
Depth to restrictive feature: 7 to 20 inches to petrocalcic
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high (0.01 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 75 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Very low (about 1.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R070BC025NM - Shallow
Hydric soil rating: No

Minor Components

Reagan

Percent of map unit: 1 percent
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

Atoka

Percent of map unit: 1 percent
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

Atoka

Percent of map unit: 1 percent
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

Upton

Percent of map unit: 1 percent
Ecological site: R070BC025NM - Shallow
Hydric soil rating: No

References

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USDA Natural Resources Conservation Service

Ecological site R070BC025NM
Shallow

Accessed: 03/23/2023

General information

Provisional. A provisional ecological site description has undergone quality control and quality assurance review. It contains a working state and transition model and enough information to identify the ecological site.

Figure 1. Mapped extent

Areas shown in blue indicate the maximum mapped extent of this ecological site. Other ecological sites likely occur within the highlighted areas. It is also possible for this ecological site to occur outside of highlighted areas if detailed soil survey has not been completed or recently updated.

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

This site occurs on knolls, ridges, hillslopes alluvial fans and escarpments. Slopes range fro 0 to 25 percent and average about 7 percent. Direction of slope varies and is usually not significant. Elevations range from 2,842 to 4,500 feet.

Table 2. Representative physiographic features

Landforms	(1) Hill (2) Ridge (3) Fan piedmont
Flooding frequency	None
Ponding frequency	None
Elevation	2,842–4,500 ft
Slope	0–25%
Aspect	Aspect is not a significant factor

Climatic features

The average annual precipitation ranges from 8 to 13 inches. Variations of 5 inches, more or less, are common. Over 80 percent of the precipitation falls from April through October. Most of the summer precipitation comes in the form of high intensity – short duration thunderstorms.

Temperatures are characterized by distinct seasonal changes and large annual and diurnal temperature changes. The average annual temperature is 61 degrees with extremes of 25 degrees below zero in the winter to 112 degrees in the summer.

The average frost-free season is 180 to 220 days. The last killing frost is late March or early April, and the first killing frost is in late October or early November.

Temperature and rainfall both favor warm season perennial plant growth. In years of abundant spring moisture, annual forbs and cool season grasses can make up an important component of this site. Because of the shallow soil depth, the vegetation on this site can take advantage of moisture almost anytime it falls. Strong winds that blow from the west and southwest blow from January through June, which accelerates soil drying at a critical time for cool season plant growth.

Climate data was obtained from http://www.wrcc.sage.dri.edu/summary/climsmnm.html web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

Table 3. Representative climatic features

Frost-free period (average)	220 days
Freeze-free period (average)	240 days
Precipitation total (average)	13 in

Influencing water features

This site is not influenced from water from wetlands or streams.

Soil features

The soils of this site are shallow to very shallow. Soils are derived from mixed calcareous eolian deposits derived from sedimentary rock. Surface layers are very cobbly loam, very gravelly loam, gravelly loam, cobbly loam, gravelly fine sandy loam or gravelly sandy loam.

There is an indurated caliche layer or limestone bedrock that occurs within 20 inches and averages less than 10 inches. Limestone or caliche layer may be the restrictive layer.

Minimum and maximum values listed below represent the characteristic soils for this site.

Characteristic soils:

Lozier
Potter
Tencee
Upton
Ector
Kimbrough

Table 4. Representative soil features

Surface texture	(1) Gravelly loam (2) Extremely gravelly loam (3) Extremely cobbly loam
Family particle size	(1) Loamy
Drainage class	Well drained
Permeability class	Very slow to moderately slow
Soil depth	4–20 in
Surface fragment cover <=3"	15–40%
Available water capacity (0-40in)	1 in
Calcium carbonate equivalent (0-40in)	15–60%

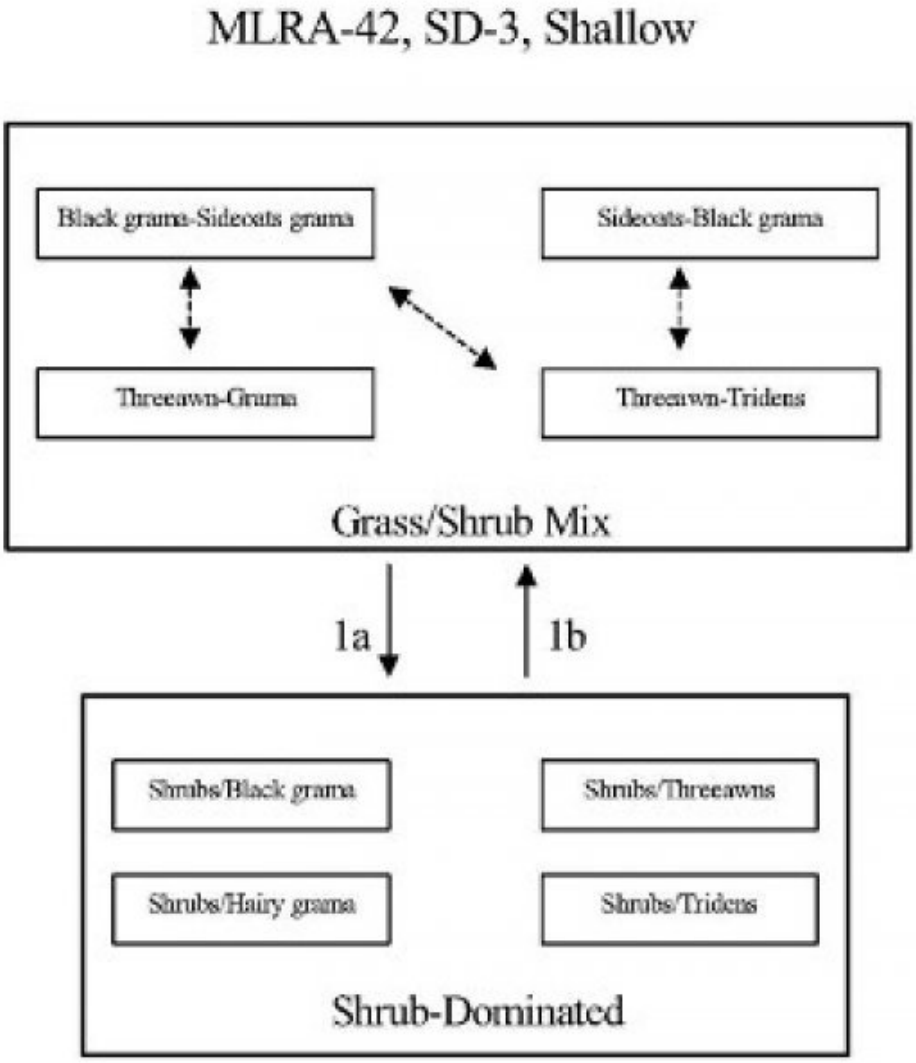
Electrical conductivity (0-40in)	0–2 mmhos/cm
Sodium adsorption ratio (0-40in)	0–1
Soil reaction (1:1 water) (0-40in)	7.4–8.4
Subsurface fragment volume <=3" (Depth not specified)	13–42%
Subsurface fragment volume >3" (Depth not specified)	0–1%

Ecological dynamics

Overview:
The Shallow site is associated with and Limestone Hills, Loamy, and Shallow Sandy sites. When associated with Limestone Hills, the Shallow site occurs on the summits, foot slopes and toeslopes of hills. Loamy sites often occur as areas between low elongated hills with rounded crests (Shallow site). When the Shallow Sandy site and Shallow site occur in association, the Shallow Sandy soils occupy the tops of low ridges and the Shallow site soils occur on the steeper sideslopes of the ridge. The historic plant community of the Shallow site has the aspect of a grassland/shrub mix, dominated by grasses, but with shrubs common throughout the site. Black grama is the dominant grass species; creosotebush, mesquite, and catclaw mimosa are common shrubs. Overgrazing and or extended drought can reduce grass cover, effect a change in grass species dominance, and may result in a shrub-dominated state. 1

State and transition model

Plant Communities and Transitional Pathways (diagram)



1a. Extended drought, overgrazing, no fire

1b. Brush control, Prescribed grazing

State 1
Grass/Shrub Mix

Community 1.1
Grass/Shrub Mix

Grassland/Shrub Mix: The historic plant community is dominated by black grama with sideoats grama as the sub-dominant. Blue grama, hairy grama, bush muhly, and sand dropseed also occur in significant amounts. Sideoats grama can occur as the dominant grass with black grama as sub-dominant on the western side of the Land Resource Unit SD-3. This may be due to higher average elevation on the west side. Retrogression within this state due to extended drought or overgrazing will cause a decrease in species such as black grama, sideoats grama, blue grama, and bush muhly. Threeawns may become the dominant grass species due to a decline in more palatable grasses or because of its ability to quickly recover following drought. Continued loss of grass cover and associated increase in amount of bare ground may result in a shrub-dominated state. Decreased fire frequencies may also be

an important component in the cause of this transition. Diagnosis: Grass cover is fairly uniform, however, surface gravel, cobble, and bare ground make up a large percent of total ground cover, and grass production during unfavorable years may only average 150-175 pounds per acre. Shrubs are common with canopy cover averaging five to ten percent. Evidence of erosion such as rills and gullies are rare, but may occur on slopes greater than eight percent.

Table 5. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Grass/Grasslike	168	352	536
Shrub/Vine	63	131	200
Forb	20	42	64
Total	**251**	**525**	**800**

Table 6. Ground cover

Tree foliar cover	0%
Shrub/vine/liana foliar cover	5-10%
Grass/grasslike foliar cover	10-15%
Forb foliar cover	0%
Non-vascular plants	0%
Biological crusts	0%
Litter	5-8%
Surface fragments >0.25" and <=3"	0%
Surface fragments >3"	0%
Bedrock	0%
Water	0%
Bare ground	40-60%

Figure 5. Plant community growth curve (percent production by month). NM2825, R042XC025NM Shallow HCPC. R042XC025NM Shallow HCPC Warm Season Plant Community.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	3	5	10	10	25	30	12	5	0	0

State 2
Shrub-Dominated

Community 2.1
Shrub-Dominated

Shrub-Dominated: This state is characterized by an increase in shrubs and a decrease in grass cover relative to grassland/shrub mix. As grass cover decreases shrubs increase, especially creosotebush, catclaw mimosa, whitethorn acacia, and mesquite. Each of these shrub species may become dominant in localized areas or across the site, depending on the spatial variability in soil characteristics and landscape position. Black grama, threeawns, hairy grama, or hairy tridens may be the dominant grass species. Fluffgrass, burrograss and broom snakeweed increase in representation. The Shallow site is resistant to state change, due to the natural rock armor of the soil and a shallow impermeable layer. The amount of rock fragments on the soil surface assist in retarding erosion. On Shallow sites with low slope, the shallow depth to either a petrocalcic layer or limestone bedrock helps to keep water perched and available to shallow rooted grasses for extended periods. 2 Diagnosis: Shrubs are the dominant species, especially creosotebush, catclaw mimosa, whitethorn acacia, or mesquite. Grass cover is variable ranging

from patchy with large connected bare areas present to sparse with only a limited amount in shrub inter-spaces. Transition to Shrub-Dominated (1a) Overgrazing and or extended periods of drought, and suppression of natural fire regimes are thought to cause this transition. As grass cover is lost, soil fertility and available soil moisture decline, due to the reduction of organic matter and decreased infiltration.3 Shrubs have the ability to extract nutrients and water from a greater area of soil than grasses and are better able to utilize limited water. Competition by shrubs for water and nutrients limits grass recruitment and establishment. Fire historically may have played a part in suppressing shrub expansion; fire suppression may therefore facilitate shrub expansion. Key indicators of approach to transition: *Decrease or change in composition or distribution of grass cover. *Increase in size and frequency of bare patches. *Increase in amount of shrub seedlings. Transition back to Grassland/Shrub Mix (1b) Brush control is necessary to re-establish grasses. Prescribed grazing will help to ensure proper forage utilization and sustain grass cover. Once the transition is reversed and grass cover is re-established, periodic use of prescribed fire may assist in maintaining the Grassland/Shrub state.

Additional community tables

Table 7. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Lb/Acre)	Foliar Cover (%)
Grass/Grasslike					
1				105–158	
	black grama	BOER4	*Bouteloua eriopoda*	105–158	–
2				79–105	
	sideoats grama	BOCU	*Bouteloua curtipendula*	79–105	–
3				79–105	
	blue grama	BOGR2	*Bouteloua gracilis*	79–105	–
	hairy grama	BOHI2	*Bouteloua hirsuta*	79–105	–
4				26–53	
	bush muhly	MUPO2	*Muhlenbergia porteri*	26–53	–
5				16–26	
	cane bluestem	BOBA3	*Bothriochloa barbinodis*	16–26	–
6				26–53	
	sand dropseed	SPCR	*Sporobolus cryptandrus*	26–53	–
7				16–26	
	hairy woollygrass	ERPI5	*Erioneuron pilosum*	16–26	–
8				5–16	
	ear muhly	MUAR	*Muhlenbergia arenacea*	5–16	–
9				5–16	
	New Mexico feathergrass	HENE5	*Hesperostipa neomexicana*	5–16	–
10				5–16	
	low woollygrass	DAPU7	*Dasyochloa pulchella*	5–16	–
11				16–26	
	Grass, perennial	2GP	*Grass, perennial*	16–26	–
Forb					
12				11–26	
	stemless four-nerve daisy	TEACE	*Tetraneuris acaulis var. epunctata*	11–26	–
13				5–16	
	woolly groundsel	PACA15	*Packera cana*	5–16	–
14				5–16	

14				5–16	
	globemallow	SPHAE	*Sphaeralcea*	5–16	–
15				5–16	
	bladderpod	LESQU	*Lesquerella*	5–16	–
16				5–16	
	cassia	CASSI	*Cassia*	5–16	–
17				11–26	
	Forb (herbaceous, not grass nor grass-like)	2FORB	*Forb (herbaceous, not grass nor grass-like)*	11–26	–
Shrub/Vine					
18				5–16	
	littleleaf sumac	RHMI3	*Rhus microphylla*	5–16	–
19				5–16	
	creosote bush	LATR2	*Larrea tridentata*	5–16	–
20				5–16	
	littleleaf ratany	KRER	*Krameria erecta*	5–16	–
21				5–16	
	javelina bush	COER5	*Condalia ericoides*	5–16	–
22				5–16	
	American tarwort	FLCE	*Flourensia cernua*	5–16	–
23				5–16	
	crown of thorns	KOSP	*Koeberlinia spinosa*	5–16	–
24				11–26	
	honey mesquite	PRGL2	*Prosopis glandulosa*	11–26	–
	honey mesquite	PRGL2	*Prosopis glandulosa*	11–26	–
25				5–16	
	catclaw mimosa	MIACB	*Mimosa aculeaticarpa var. biuncifera*	5–16	–
26				5–16	
	pricklypear	OPUNT	*Opuntia*	5–16	–
27				11–26	
	mariola	PAIN2	*Parthenium incanum*	11–26	–
	mariola	PAIN2	*Parthenium incanum*	11–26	–
28				5–16	
	broom snakeweed	GUSA2	*Gutierrezia sarothrae*	5–16	–
29				16–26	
	Shrub (>.5m)	2SHRUB	*Shrub (>.5m)*	16–26	–

Animal community

This site provides habitats which support a resident animal community that is characterized by desert cottontail, spotted ground squirrel, Merriam's kangaroo rat, cactus mouse, white-throated woodrat, gray fox, spotted skunk, roadrunner, Swainson's hawk, white-necked raven, cactus wren, pyrrhuloxia, lark sparrow, mourning dove, scaled quail, leopard lizard, round-tailed horned lizard, prairie rattlesnake, marbled whiptail, and greater earless lizard. Where associated with limestone hills, mule deer utilize this site.

Where large woody shrubs occur, most resident birds and scissor-tailed flycatcher, morning dove, lark sparrow and

Swainson's hawk nest.

Hydrological functions

The runoff curve numbers are determined by field investigations using hydraulic cover conditions and hydrologic soil groups.

Hydrologic Interpretations
Soil Series-------- Hydrologic Group
Lozier---------- D
Potter---------- C
Tencee---------- D
Upton---------- C
Kimbrough---------- D
Upton---------- D
Ector---------- D

Recreational uses

This site offers recreation potential for hiking, horseback riding, rock hunting, nature photography and bird hunting and birding. During years of abundant spring moisture, a colorful array of wild flowers is displayed during May and June. A few summer and fall flowers also occur.

Wood products

This site has no potential for wood production.

Other products

This site is suited for grazing by all kinds and classes of livestock during all seasons of the year. Missmanagement will cause a decrease in black grama, sideoats grama, and blue grama, bush muhly and New Mexico feathergrass. A corresponding increase in bare ground will occur. There will also be an increase in muhlys, fluffgrass, creosotebush, javalinabush, catclaw, and mesquite. This site will respond best to a system of management that rotates the season of use.

Other information

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month
Similarity Index-------- Ac/AUM
100 - 76---------- 3.7 – 4.5
75 – 51---------- 4.3 – 5.5
50 – 26---------- 5.3 – 10.0
25 – 0---------- 10.1 +

Inventory data references

Data collection for this site was done in conjunction with the progressive soil surveys within the Southern Desertic Basins, Plains and Mountains, Major Land Resource Areas of New Mexico (SD-3). This site has been mapped and correlated with soils in the following soil surveys. Eddy County, Lea County, and Chaves County.

Other references

Literature Cited:

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2. Hennessy, J.T., R.P. Gibbens, J.M. Tromble, and M. Cardenas. 1983. Water properties of caliche. J. Range Manage. 36: 723-726.

3. U.S. Department of Agriculture, Natural Resources Conservation Service. 2001. Soil Quality Information Sheets. Rangeland Soil Quality—Infiltration, Organic Matter, Rangeland Sheets 5,6. [Online]. Available: http://www.statlab.iastate.edu/survey/SQI/range.html

Contributors

David Trujillo
Don Sylvester

Rangeland health reference sheet

Interpreting Indicators of Rangeland Health is a qualitative assessment protocol used to determine ecosystem condition based on benchmark characteristics described in the Reference Sheet. A suite of 17 (or more) indicators are typically considered in an assessment. The ecological site(s) representative of an assessment location must be known prior to applying the protocol and must be verified based on soils and climate. Current plant community cannot be used to identify the ecological site.

Author(s)/participant(s)	
Contact for lead author	
Date	
Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:**

2. **Presence of water flow patterns:**

3. **Number and height of erosional pedestals or terracettes:**

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):**

5. **Number of gullies and erosion associated with gullies:**

6. **Extent of wind scoured, blowouts and/or depositional areas:**

7. **Amount of litter movement (describe size and distance expected to travel):**

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):**

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):**

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:**

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):**

12. **Functional/Structural Groups (list in order of descending dominance by above-ground annual-production or live foliar cover using symbols: >>, >, = to indicate much greater than, greater than, and equal to):**

    Dominant:

    Sub-dominant:

    Other:

    Additional:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):**

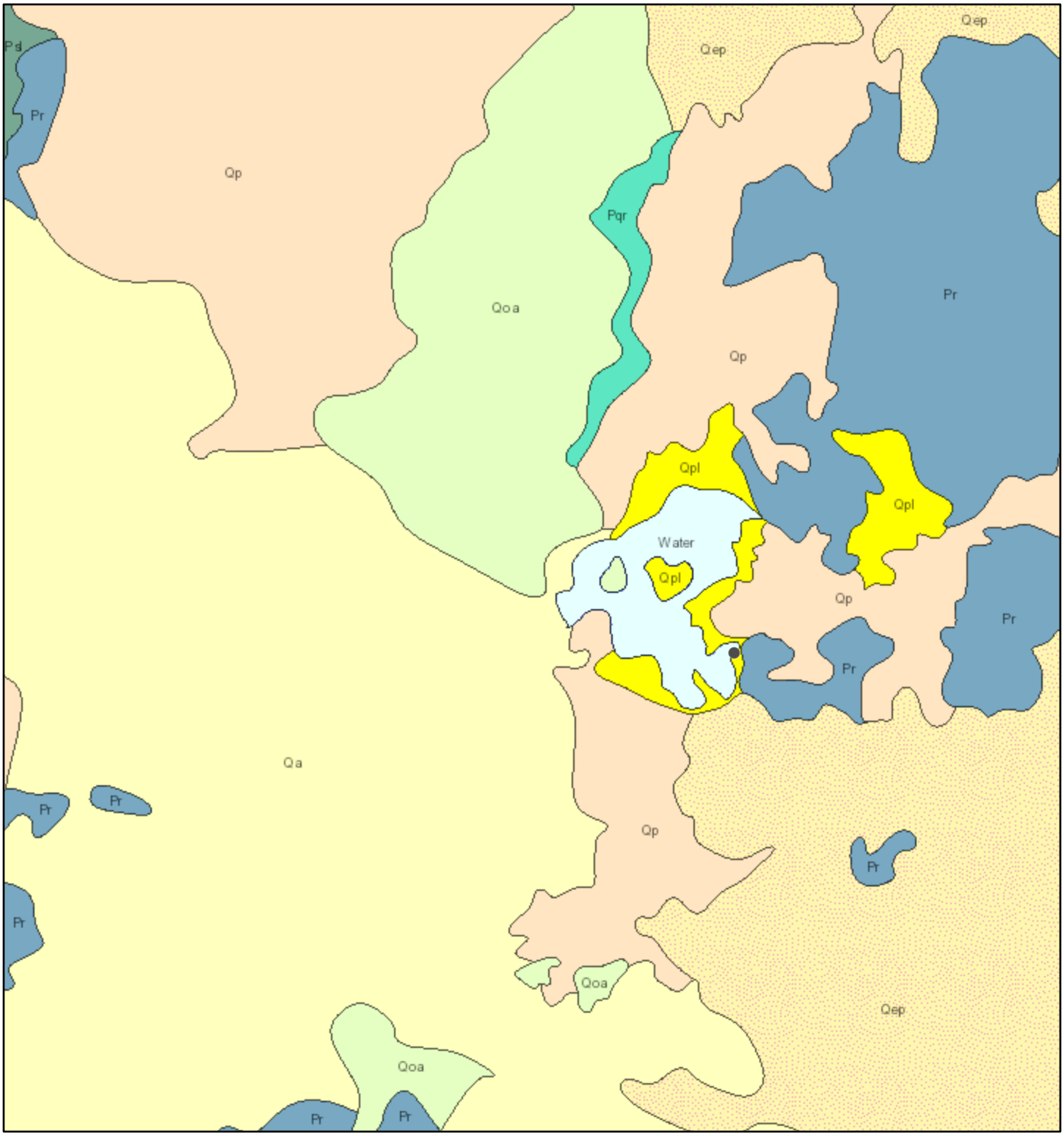
14. **Average percent litter cover (%) and depth (in):**

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):**

16. **Potential invasive (including noxious) species (native and non-native). List species which BOTH characterize degraded states and have the potential to become a dominant or co-dominant species on the ecological site if their future establishment and growth is not actively controlled by management interventions. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants. Note that unlike other indicators, we are describing what is NOT expected in the reference state for the ecological site:**

17. **Perennial plant reproductive capability:**

Laguna Salado 22 Federal #004H



3/22/2023, 6:11:46 PM

1:144,448

0 1 2 4 mi

0 1.5 3 6 km

Lithologic Units

- Playa——Alluvium and evaporite deposits (Holocene)
- Water——Perenial standing water
- Qa——Alluvium (Holocene to upper Pleistocene)

Esri, NASA, NGA, USGS, USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data;

ArcGIS Web AppBuilder

USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National

ATTACHMENT 3

2025 Background Sample
2023 Background Sample
2023 Borehole
Release Point

VERTEX

0 25 50 ft
NAD 1983 UTM Zone 13N
Date: Mar 03/25

Map Center:
Lat/Long
32.299079°,-103.974537°

N

Characterization Sampling Site Schematic
Laguna Salado 22 Federal #004H

FIGURE:
1

devon

Geospatial data presented in this figure may be derived from external sources and Vertex does not assume any liability for inaccuracies. This figure is intended for reference use only and is not certified for legal, survey, or engineering purposes.

Note: Georeferenced image from Esri, 2024. Site features from GPS by Vertex Professional Services Ltd. (Vertex), 2023 and 2025.

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Release Point

VERTEX

0 25 50 100 f

NAD 1983 UTM Zone 13N FT

Date: Mar 06/25

Map Center:
Lat/Long
32.298628°,-103.974855°

N

Salt Lake Intrusion
Laguna Salado 22 Federal #004H

FIGURE:
2

devon

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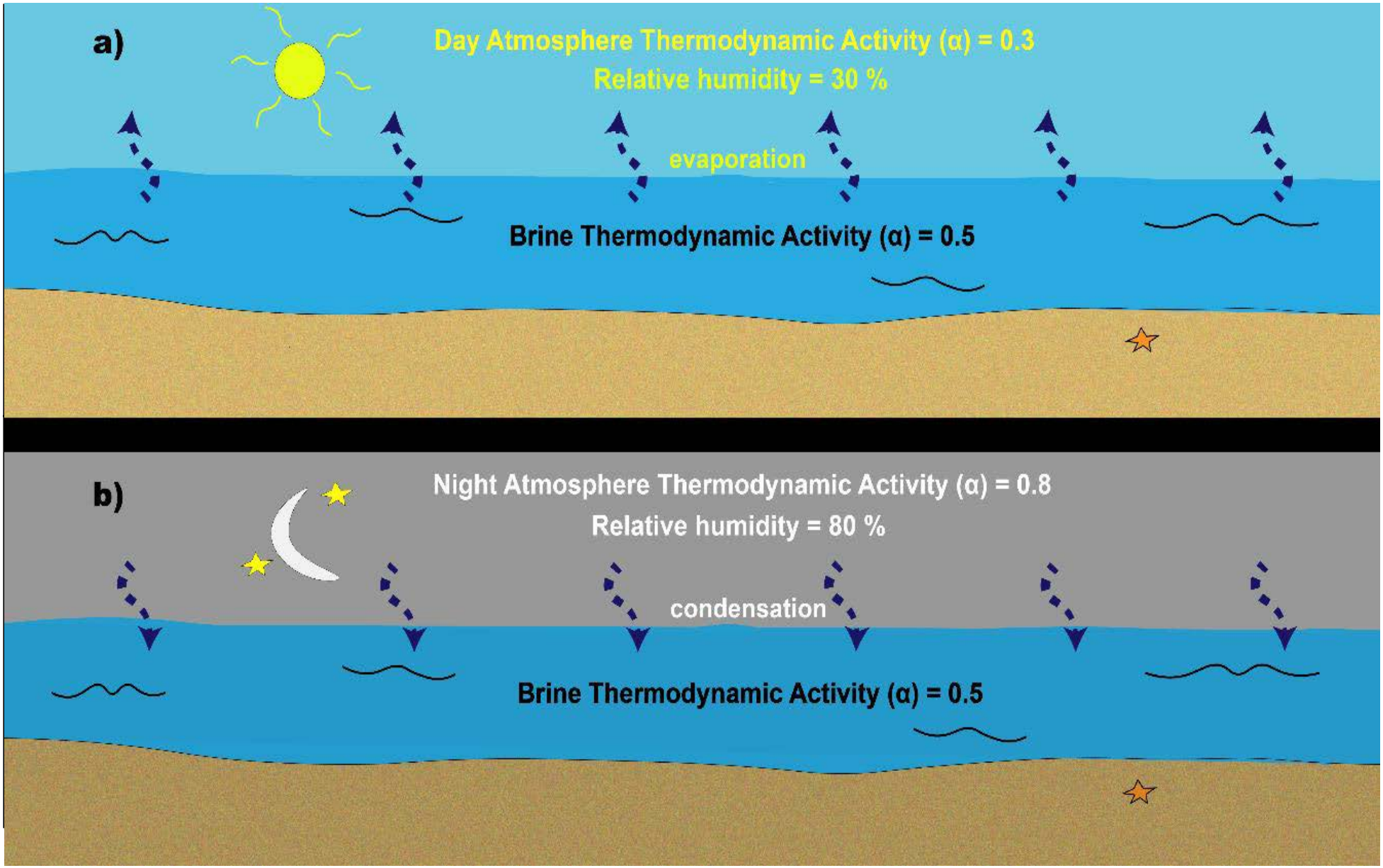

VERTEX

0 15 30 Feet

Map Center:
Lat/Long: 32.294963, -103.972652

NAD 1983 UTM Zone 13N
Date: Sep 22/23

N

Thermodynamic Activity of Ground Water
Laguna Salado 22 Federal #004H

FIGURE:
3

devon

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Note: Georeferenced image from Esri, 2022. Site features etc. from GPS. Contours derived from Lidar data downloaded from USGS. Vertex Professional Services Ltd., 2023.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Devon Energy Corporation\2023\23E-01414- Laguna Salado 22 Federal #4\Figure 2 Characterization Sampling Site Schematic 004 (23E-01414)ID17033.mxd

Client Name: Devon Energy Production Company, LP
Site Name: Laguna Salado 22 Federal #004
NMOCD Tracking #: nKMW1109729911
Project #: 23E-01414
Lab Reports:2308F18, 2309072, and H251242

Table 2. Initial Characterization Sample Field Screen and Laboratory Results - Depth to Groundwater <50 feet bgs

Sample Description			Petroleum Hydrocarbons							Inorganic
			Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BG23-01	0	August 25, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	August 25, 2023	ND	ND	ND	ND	ND	ND	ND	1,700
BG23-02	0	August 25, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	August 25, 2023	ND	ND	ND	ND	ND	ND	ND	970
BG23-03	0	August 25, 2023	ND	ND	ND	ND	ND	ND	ND	17,000
	2	August 25, 2023	ND	ND	ND	ND	ND	ND	ND	4,900
BG25-01	0	February 28, 2025	ND	ND	ND	ND	ND	ND	ND	32
	2	February 28, 2025	ND	ND	ND	ND	ND	ND	ND	80
BG25-02	0	February 28, 2025	ND	ND	ND	ND	ND	ND	ND	640
	2	February 28, 2025	ND	ND	ND	ND	ND	ND	ND	960
BG25-03	0	February 28, 2025	ND	ND	ND	ND	ND	ND	ND	960
	2	February 28, 2025	ND	ND	ND	ND	ND	ND	ND	3,280
BG25-04	0	February 28, 2025	ND	ND	ND	ND	ND	ND	ND	3,920
	2	February 28, 2025	ND	ND	ND	ND	ND	ND	ND	4,960
BG25-05	0	February 28, 2025	ND	ND	ND	ND	ND	ND	ND	3,120
	2	February 28, 2025	ND	ND	ND	ND	ND	ND	ND	2,440
BG25-06	0	February 28, 2025	ND	ND	ND	ND	ND	ND	ND	4,640
	2	February 28, 2025	ND	ND	ND	ND	ND	ND	ND	2,400
BG23-Averages	Averaged Background Sample Lab Data at Varing Depths									
	0	NA	ND	ND	ND	ND	ND	ND	ND	4,330
	2	NA	ND	ND	ND	ND	ND	ND	ND	2,410
BH23-01	0	August 25, 2023	ND	ND	ND	ND	ND	ND	ND	**35000**
	2	August 25, 2023	ND	ND	ND	ND	ND	ND	ND	4000
BH23-02	0	August 25, 2023	ND	ND	ND	ND	ND	ND	ND	18000
	2	August 25, 2023	ND	ND	ND	ND	ND	ND	ND	7800
BH23-03	0	August 25, 2023	ND	ND	ND	ND	ND	ND	ND	8200
	2	August 25, 2023	ND	ND	ND	ND	ND	ND	ND	3100
BH23-04	0	August 25, 2023	ND	ND	ND	ND	ND	ND	ND	**67000**
	2	August 25, 2023	ND	ND	ND	ND	ND	ND	ND	5600
BH23-05	0	August 31, 2023	ND	ND	ND	ND	ND	ND	ND	9400
	2	August 31, 2023	ND	ND	ND	ND	ND	ND	ND	9800
BH23-06	0	August 31, 2023	ND	ND	ND	ND	ND	ND	ND	8100
	2	August 31, 2023	ND	ND	ND	ND	ND	ND	ND	4600

"ND" Not Detected at the Reporting Limit
"-" indicates not analyzed/assessed
Bold and grey shaded indicates exceedance outside of NMOCD Closure Criteria (on-pad)
Bold and green shaded indicates exceedance outside of NMOCD Reclamation Criteria (off-pad)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

September 11, 2023

Kent Stallings

Devon Energy
6488 Seven Rivers Highway
Artesia, NM 88210
TEL: (505) 350-1336
FAX:

RE: Laguna Salado 22 Fed 4 Pasture OrderNo.: 2308F18

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 12 sample(s) on 8/29/2023 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2308F18**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Laguna Salado 22 Fed 4 Pasture
Lab ID: 2308F18-001 **Matrix:** SOIL

Client Sample ID: BG23-01 0'
Collection Date: 8/25/2023 10:05:00 AM
Received Date: 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/30/2023 4:10:27 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/30/2023 4:10:27 AM
Surr: DNOP	84.6	69-147		%Rec	1	8/30/2023 4:10:27 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/1/2023 2:29:00 PM
Surr: BFB	96.2	15-244		%Rec	1	9/1/2023 2:29:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.025		mg/Kg	1	9/1/2023 2:29:00 PM
Toluene	ND	0.050		mg/Kg	1	9/1/2023 2:29:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/1/2023 2:29:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	9/1/2023 2:29:00 PM
Surr: 4-Bromofluorobenzene	91.7	39.1-146		%Rec	1	9/1/2023 2:29:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	8/30/2023 6:18:11 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308F18**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BG23-01 2'
Project: Laguna Salado 22 Fed 4 Pasture
Collection Date: 8/25/2023 10:10:00 AM
Lab ID: 2308F18-002 **Matrix:** SOIL
Received Date: 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/30/2023 4:21:08 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/30/2023 4:21:08 AM
Surr: DNOP	90.0	69-147		%Rec	1	8/30/2023 4:21:08 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/1/2023 2:51:00 PM
Surr: BFB	99.6	15-244		%Rec	1	9/1/2023 2:51:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/1/2023 2:51:00 PM
Toluene	ND	0.049		mg/Kg	1	9/1/2023 2:51:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/1/2023 2:51:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	9/1/2023 2:51:00 PM
Surr: 4-Bromofluorobenzene	92.8	39.1-146		%Rec	1	9/1/2023 2:51:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	1700	60		mg/Kg	20	8/30/2023 6:30:35 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308F18**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BG23-02 0'
Project: Laguna Salado 22 Fed 4 Pasture
Collection Date: 8/25/2023 10:15:00 AM
Lab ID: 2308F18-003 **Matrix:** SOIL
Received Date: 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/30/2023 4:31:47 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/30/2023 4:31:47 AM
Surr: DNOP	84.1	69-147		%Rec	1	8/30/2023 4:31:47 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/1/2023 3:13:00 PM
Surr: BFB	98.2	15-244		%Rec	1	9/1/2023 3:13:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/1/2023 3:13:00 PM
Toluene	ND	0.048		mg/Kg	1	9/1/2023 3:13:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/1/2023 3:13:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	9/1/2023 3:13:00 PM
Surr: 4-Bromofluorobenzene	92.7	39.1-146		%Rec	1	9/1/2023 3:13:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	8/30/2023 6:43:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308F18**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BG23-02 2'
Project: Laguna Salado 22 Fed 4 Pasture
Collection Date: 8/25/2023 10:30:00 AM
Lab ID: 2308F18-004 **Matrix:** SOIL
Received Date: 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/30/2023 4:42:27 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/30/2023 4:42:27 AM
Surr: DNOP	87.2	69-147		%Rec	1	8/30/2023 4:42:27 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/1/2023 3:35:00 PM
Surr: BFB	95.9	15-244		%Rec	1	9/1/2023 3:35:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/1/2023 3:35:00 PM
Toluene	ND	0.048		mg/Kg	1	9/1/2023 3:35:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/1/2023 3:35:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/1/2023 3:35:00 PM
Surr: 4-Bromofluorobenzene	91.8	39.1-146		%Rec	1	9/1/2023 3:35:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	970	60		mg/Kg	20	8/30/2023 7:32:38 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308F18**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Laguna Salado 22 Fed 4 Pasture
Lab ID: 2308F18-005 **Matrix:** SOIL

Client Sample ID: BH23-01 0'
Collection Date: 8/25/2023 10:45:00 AM
Received Date: 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/30/2023 4:53:10 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/30/2023 4:53:10 AM
Surr: DNOP	90.6	69-147		%Rec	1	8/30/2023 4:53:10 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/1/2023 3:56:00 PM
Surr: BFB	100	15-244		%Rec	1	9/1/2023 3:56:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/1/2023 3:56:00 PM
Toluene	ND	0.048		mg/Kg	1	9/1/2023 3:56:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/1/2023 3:56:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/1/2023 3:56:00 PM
Surr: 4-Bromofluorobenzene	93.0	39.1-146		%Rec	1	9/1/2023 3:56:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	35000	1500		mg/Kg	500	8/31/2023 1:49:21 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308F18**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Laguna Salado 22 Fed 4 Pasture
Lab ID: 2308F18-006 **Matrix:** SOIL

Client Sample ID: BH23-01 2'
Collection Date: 8/25/2023 10:50:00 AM
Received Date: 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/30/2023 5:03:50 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/30/2023 5:03:50 AM
Surr: DNOP	79.6	69-147		%Rec	1	8/30/2023 5:03:50 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/1/2023 4:40:00 PM
Surr: BFB	96.8	15-244		%Rec	1	9/1/2023 4:40:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.023		mg/Kg	1	9/1/2023 4:40:00 PM
Toluene	ND	0.047		mg/Kg	1	9/1/2023 4:40:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	9/1/2023 4:40:00 PM
Xylenes, Total	ND	0.094		mg/Kg	1	9/1/2023 4:40:00 PM
Surr: 4-Bromofluorobenzene	91.4	39.1-146		%Rec	1	9/1/2023 4:40:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	4000	150		mg/Kg	50	8/31/2023 2:01:42 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308F18**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Laguna Salado 22 Fed 4 Pasture
Lab ID: 2308F18-007 **Matrix:** SOIL

Client Sample ID: BH23-02 0'
Collection Date: 8/25/2023 12:30:00 PM
Received Date: 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/30/2023 5:14:33 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/30/2023 5:14:33 AM
Surr: DNOP	77.5	69-147		%Rec	1	8/30/2023 5:14:33 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/1/2023 5:02:00 PM
Surr: BFB	98.8	15-244		%Rec	1	9/1/2023 5:02:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.025		mg/Kg	1	9/1/2023 5:02:00 PM
Toluene	ND	0.050		mg/Kg	1	9/1/2023 5:02:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/1/2023 5:02:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	9/1/2023 5:02:00 PM
Surr: 4-Bromofluorobenzene	92.0	39.1-146		%Rec	1	9/1/2023 5:02:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	18000	600		mg/Kg	200	8/31/2023 2:14:03 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308F18**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-02 2'
Project: Laguna Salado 22 Fed 4 Pasture
Collection Date: 8/25/2023 12:45:00 PM
Lab ID: 2308F18-008 **Matrix:** SOIL
Received Date: 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/30/2023 5:25:23 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/30/2023 5:25:23 AM
Surr: DNOP	75.6	69-147		%Rec	1	8/30/2023 5:25:23 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/1/2023 5:24:00 PM
Surr: BFB	97.8	15-244		%Rec	1	9/1/2023 5:24:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/1/2023 5:24:00 PM
Toluene	ND	0.048		mg/Kg	1	9/1/2023 5:24:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/1/2023 5:24:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/1/2023 5:24:00 PM
Surr: 4-Bromofluorobenzene	93.4	39.1-146		%Rec	1	9/1/2023 5:24:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	7800	300		mg/Kg	100	8/31/2023 2:26:24 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308F18**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Laguna Salado 22 Fed 4 Pasture
Lab ID: 2308F18-009 **Matrix:** SOIL

Client Sample ID: BH23-03 0'
Collection Date: 8/25/2023 12:40:00 PM
Received Date: 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/30/2023 5:36:14 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/30/2023 5:36:14 AM
Surr: DNOP	80.6	69-147		%Rec	1	8/30/2023 5:36:14 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/1/2023 5:46:00 PM
Surr: BFB	101	15-244		%Rec	1	9/1/2023 5:46:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/1/2023 5:46:00 PM
Toluene	ND	0.049		mg/Kg	1	9/1/2023 5:46:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/1/2023 5:46:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/1/2023 5:46:00 PM
Surr: 4-Bromofluorobenzene	90.8	39.1-146		%Rec	1	9/1/2023 5:46:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	8200	300		mg/Kg	100	8/31/2023 2:38:44 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308F18**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Laguna Salado 22 Fed 4 Pasture
Lab ID: 2308F18-010 **Matrix:** SOIL

Client Sample ID: BH23-03 2'
Collection Date: 8/25/2023 12:45:00 PM
Received Date: 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/30/2023 5:47:05 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/30/2023 5:47:05 AM
Surr: DNOP	78.1	69-147		%Rec	1	8/30/2023 5:47:05 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/1/2023 6:08:00 PM
Surr: BFB	96.3	15-244		%Rec	1	9/1/2023 6:08:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.023		mg/Kg	1	9/1/2023 6:08:00 PM
Toluene	ND	0.047		mg/Kg	1	9/1/2023 6:08:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	9/1/2023 6:08:00 PM
Xylenes, Total	ND	0.093		mg/Kg	1	9/1/2023 6:08:00 PM
Surr: 4-Bromofluorobenzene	90.6	39.1-146		%Rec	1	9/1/2023 6:08:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	3100	150		mg/Kg	50	8/31/2023 2:51:06 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308F18**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Laguna Salado 22 Fed 4 Pasture
Lab ID: 2308F18-011 **Matrix:** SOIL

Client Sample ID: BH23-04 0'
Collection Date: 8/25/2023 1:45:00 PM
Received Date: 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/30/2023 5:57:50 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/30/2023 5:57:50 AM
Surr: DNOP	77.0	69-147		%Rec	1	8/30/2023 5:57:50 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/1/2023 6:29:00 PM
Surr: BFB	96.9	15-244		%Rec	1	9/1/2023 6:29:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/1/2023 6:29:00 PM
Toluene	ND	0.047		mg/Kg	1	9/1/2023 6:29:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	9/1/2023 6:29:00 PM
Xylenes, Total	ND	0.094		mg/Kg	1	9/1/2023 6:29:00 PM
Surr: 4-Bromofluorobenzene	90.6	39.1-146		%Rec	1	9/1/2023 6:29:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	67000	3000		mg/Kg	1000	8/31/2023 5:23:56 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308F18**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Laguna Salado 22 Fed 4 Pasture
Lab ID: 2308F18-012 **Matrix:** SOIL

Client Sample ID: BH23-04 2'
Collection Date: 8/25/2023 1:50:00 PM
Received Date: 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/31/2023 2:23:27 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/31/2023 2:23:27 PM
Surr: DNOP	100	69-147		%Rec	1	8/31/2023 2:23:27 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/1/2023 12:29:17 PM
Surr: BFB	93.6	15-244		%Rec	1	9/1/2023 12:29:17 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/1/2023 12:29:17 PM
Toluene	ND	0.049		mg/Kg	1	9/1/2023 12:29:17 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/1/2023 12:29:17 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/1/2023 12:29:17 PM
Surr: 4-Bromofluorobenzene	106	39.1-146		%Rec	1	9/1/2023 12:29:17 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	5600	300		mg/Kg	100	8/31/2023 3:15:47 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308F18**

11-Sep-23

Client: Devon Energy

Project: Laguna Salado 22 Fed 4 Pasture

Sample ID: **MB-77199**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **77199**	RunNo: **99351**
Prep Date: **8/30/2023**	Analysis Date: **8/30/2023**	SeqNo: **3626420** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-77199**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **77199**	RunNo: **99351**
Prep Date: **8/30/2023**	Analysis Date: **8/30/2023**	SeqNo: **3626421** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.0	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308F18**

11-Sep-23

Client: Devon Energy

Project: Laguna Salado 22 Fed 4 Pasture

Sample ID: **LCS-77167** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **77167** RunNo: **99274**
Prep Date: **8/29/2023** Analysis Date: **8/30/2023** SeqNo: **3623887** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	96.6	61.9	130			
Surr: DNOP	4.0		5.000		79.2	69	147			

Sample ID: **MB-77167** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **77167** RunNo: **99274**
Prep Date: **8/29/2023** Analysis Date: **8/30/2023** SeqNo: **3623890** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		101	69	147			

Sample ID: **LCS-77177** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **77177** RunNo: **99380**
Prep Date: **8/29/2023** Analysis Date: **8/31/2023** SeqNo: **3627016** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.7		5.000		114	69	147			

Sample ID: **LCS-77185** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **77185** RunNo: **99380**
Prep Date: **8/30/2023** Analysis Date: **8/31/2023** SeqNo: **3627017** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	61	10	50.00	0	121	61.9	130			
Surr: DNOP	6.6		5.000		131	69	147			

Sample ID: **MB-77177** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **77177** RunNo: **99380**
Prep Date: **8/29/2023** Analysis Date: **8/31/2023** SeqNo: **3627018** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	12		10.00		116	69	147			

Sample ID: **MB-77185** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **77185** RunNo: **99380**
Prep Date: **8/30/2023** Analysis Date: **8/31/2023** SeqNo: **3627019** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308F18**

11-Sep-23

Client: Devon Energy

Project: Laguna Salado 22 Fed 4 Pasture

Sample ID: **MB-77185**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **77185**	RunNo: **99380**
Prep Date: **8/30/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627019** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	13		10.00		126	69	147			

Sample ID: **LCS-77176**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **77176**	RunNo: **99380**
Prep Date: **8/29/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627544** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.5		5.000		109	69	147			

Sample ID: **LCS-77208**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **77208**	RunNo: **99380**
Prep Date: **8/30/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627545** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.9		5.000		119	69	147			

Sample ID: **LCS-77213**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **77213**	RunNo: **99380**
Prep Date: **8/30/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627547** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.3		5.000		105	69	147			

Sample ID: **MB-77176**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **77176**	RunNo: **99380**
Prep Date: **8/29/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627552** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	13		10.00		126	69	147			

Sample ID: **MB-77208**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **77208**	RunNo: **99380**
Prep Date: **8/30/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627556** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	13		10.00		131	69	147			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308F18**

11-Sep-23

Client: Devon Energy

Project: Laguna Salado 22 Fed 4 Pasture

Sample ID: **MB-77213**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **77213**	RunNo: **99380**
Prep Date: **8/30/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627557** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		108	69	147			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308F18**

11-Sep-23

Client: Devon Energy

Project: Laguna Salado 22 Fed 4 Pasture

Sample ID: **lcs-77179** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **77179** RunNo: **99366**
Prep Date: **8/29/2023** Analysis Date: **8/31/2023** SeqNo: **3627634** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	93.6	70	130			
Surr: BFB	2000		1000		203	15	244			

Sample ID: **lcs-77198** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **77198** RunNo: **99366**
Prep Date: **8/30/2023** Analysis Date: **9/1/2023** SeqNo: **3627635** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1900		1000		193	15	244			

Sample ID: **mb-77198** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **77198** RunNo: **99366**
Prep Date: **8/30/2023** Analysis Date: **9/1/2023** SeqNo: **3627636** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	940		1000		93.9	15	244			

Sample ID: **mb-77179** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **77179** RunNo: **99366**
Prep Date: **8/29/2023** Analysis Date: **8/31/2023** SeqNo: **3627706** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	980		1000		98.3	15	244			

Sample ID: **lcs-77164** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **77164** RunNo: **99374**
Prep Date: **8/29/2023** Analysis Date: **9/1/2023** SeqNo: **3628001** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	84.8	70	130			
Surr: BFB	2000		1000		198	15	244			

Sample ID: **mb-77164** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **77164** RunNo: **99374**
Prep Date: **8/29/2023** Analysis Date: **9/1/2023** SeqNo: **3628002** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	990		1000		98.6	15	244			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308F18**

11-Sep-23

Client: Devon Energy

Project: Laguna Salado 22 Fed 4 Pasture

Sample ID:	**lcs-77172**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSS**	Batch ID:	**77172**	RunNo:	**99411**					
Prep Date:	**8/29/2023**	Analysis Date:	**9/2/2023**	SeqNo:	**3628857**	Units:	**%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1900		1000		191	15	244			

Sample ID:	**mb-77172**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBS**	Batch ID:	**77172**	RunNo:	**99411**					
Prep Date:	**8/29/2023**	Analysis Date:	**9/2/2023**	SeqNo:	**3628859**	Units:	**%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	940		1000		93.5	15	244			

Sample ID:	**lcs-77209**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSS**	Batch ID:	**77209**	RunNo:	**99415**					
Prep Date:	**8/30/2023**	Analysis Date:	**9/1/2023**	SeqNo:	**3629500**	Units:	**%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	2200		1000		216	15	244			

Sample ID:	**mb-77209**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBS**	Batch ID:	**77209**	RunNo:	**99415**					
Prep Date:	**8/30/2023**	Analysis Date:	**9/1/2023**	SeqNo:	**3629501**	Units:	**%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	980		1000		98.1	15	244			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308F18**

11-Sep-23

Client: Devon Energy

Project: Laguna Salado 22 Fed 4 Pasture

Sample ID: **LCS-77179**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **77179**	RunNo: **99366**
Prep Date: **8/29/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627739** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	108	70	130			
Toluene	1.1	0.050	1.000	0	108	70	130			
Ethylbenzene	1.1	0.050	1.000	0	111	70	130			
Xylenes, Total	3.3	0.10	3.000	0	112	70	130			
Surr: 4-Bromofluorobenzene	1.1		1.000		110	39.1	146			

Sample ID: **LCS-77198**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **77198**	RunNo: **99366**
Prep Date: **8/30/2023**	Analysis Date: **9/1/2023**	SeqNo: **3627740** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		106	39.1	146			

Sample ID: **mb-77198**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **77198**	RunNo: **99366**
Prep Date: **8/30/2023**	Analysis Date: **9/1/2023**	SeqNo: **3627741** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		106	39.1	146			

Sample ID: **mb-77179**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **77179**	RunNo: **99366**
Prep Date: **8/29/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627742** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		107	39.1	146			

Sample ID: **lcs-77164**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **77164**	RunNo: **99374**
Prep Date: **8/29/2023**	Analysis Date: **9/1/2023**	SeqNo: **3628033** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	90.7	70	130			
Toluene	0.90	0.050	1.000	0	90.3	70	130			
Ethylbenzene	0.92	0.050	1.000	0	92.2	70	130			
Xylenes, Total	2.8	0.10	3.000	0	92.2	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308F18**

11-Sep-23

Client: Devon Energy

Project: Laguna Salado 22 Fed 4 Pasture

Sample ID: **lcs-77164**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**							
Client ID: **LCSS**	Batch ID: **77164**	RunNo: **99374**							
Prep Date: **8/29/2023**	Analysis Date: **9/1/2023**	SeqNo: **3628033**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.94		1.000		94.3	39.1	146			

Sample ID: **mb-77164**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**							
Client ID: **PBS**	Batch ID: **77164**	RunNo: **99374**							
Prep Date: **8/29/2023**	Analysis Date: **9/1/2023**	SeqNo: **3628034**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.90		1.000		90.5	39.1	146			

Sample ID: **LCS-77172**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**							
Client ID: **LCSS**	Batch ID: **77172**	RunNo: **99411**							
Prep Date: **8/29/2023**	Analysis Date: **9/2/2023**	SeqNo: **3628971**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		108	39.1	146			

Sample ID: **mb-77172**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**							
Client ID: **PBS**	Batch ID: **77172**	RunNo: **99411**							
Prep Date: **8/29/2023**	Analysis Date: **9/2/2023**	SeqNo: **3628973**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		105	39.1	146			

Sample ID: **lcs-77209**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**							
Client ID: **LCSS**	Batch ID: **77209**	RunNo: **99415**							
Prep Date: **8/30/2023**	Analysis Date: **9/1/2023**	SeqNo: **3629583**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.91		1.000		90.9	39.1	146			

Sample ID: **mb-77209**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**							
Client ID: **PBS**	Batch ID: **77209**	RunNo: **99415**							
Prep Date: **8/30/2023**	Analysis Date: **9/1/2023**	SeqNo: **3629584**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.91		1.000		90.6	39.1	146			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Devon Energy | Work Order Number: 2308F18 | RcptNo: 1

Received By: Tracy Casarrubias 8/29/2023 7:55:00 AM

Completed By: Tracy Casarrubias 8/29/2023 8:21:59 AM

Reviewed By: JA 8-29-23

Chain of Custody

1. Is Chain of Custody complete?	Yes ☐	No ☑	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: TMS 8/29/23

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions: Mailing address,phone number and Email/Fax are missingon COC- -TMC 8/29/23

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0	Good	Yes	Yogi		

Chain-of-Custody Record

Client: Devon/Vertex

Mailing Address: On file

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☑ Rush 48 hr

Project Name: Laguna Salado 22 Fed 4 Pasture

Project #: 23E-01414

Project Manager: Kent Stallings

Sampler: SM

On Ice: ☒ Yes ☐ No 4091

# of Coolers: 1

Cooler Temp(including CF): 0.1 - 0.1 = 0 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2308F18	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
8/25/23	10:05	Soil	BG23-01 0'	4 oz jar	Ice	001	✓	✓					✓			
	10:10		BG23-01 2'			002										
	10:15		BG 23-02 0'			003										
	10:30		BG 23-02 2'			004										
	10:45		BH 23-01 0'			005										
	10:50		BH 23-01 2'			006										
	12:30		BH 23-02 0'			007										
	12:45		BH 23-02 2'			008										
	12:40		BH 23-03 0'			009										
	12:45		BH 23-03 2'			010										
	13:45		BH 23-04 0'			011										
	13:50		BH 23-04 2'			012										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
		Jaya McCoy			8/28/23	945
8/28/23	1700			Courier		7:57
					8/29/23	

Remarks: Direct bill to Devon
W/O#: 21134488
KStallings@vertex.ca
C.C. SMccarty@vertex.ca

Pg 1 of 1

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

September 12, 2023

Kent Stallings

Devon Energy
6488 Seven Rivers Highway
Artesia, NM 88210
TEL: (505) 350-1336
FAX:

RE: Laguna Salado 22 Fed 4 Pasture OrderNo.: 2309072

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 6 sample(s) on 9/2/2023 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2309072**
Date Reported: **9/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Laguna Salado 22 Fed 4 Pasture
Lab ID: 2309072-001 **Matrix:** SOIL

Client Sample ID: BG23-03 0'
Collection Date: 8/25/2023 10:35:00 AM
Received Date: 9/2/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	9/6/2023 4:28:14 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/6/2023 4:28:14 PM
Surr: DNOP	96.6	69-147		%Rec	1	9/6/2023 4:28:14 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/6/2023 11:52:00 PM
Surr: BFB	99.4	15-244		%Rec	1	9/6/2023 11:52:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/6/2023 11:52:00 PM
Toluene	ND	0.048		mg/Kg	1	9/6/2023 11:52:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/6/2023 11:52:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/6/2023 11:52:00 PM
Surr: 4-Bromofluorobenzene	89.4	39.1-146		%Rec	1	9/6/2023 11:52:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	17000	1500		mg/Kg	500	9/7/2023 10:03:19 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2309072**
Date Reported: **9/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Laguna Salado 22 Fed 4 Pasture
Lab ID: 2309072-002 **Matrix:** SOIL

Client Sample ID: BG23-03 2'
Collection Date: 8/25/2023 10:40:00 AM
Received Date: 9/2/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/6/2023 4:51:58 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/6/2023 4:51:58 PM
Surr: DNOP	91.9	69-147		%Rec	1	9/6/2023 4:51:58 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/7/2023 12:57:00 AM
Surr: BFB	98.1	15-244		%Rec	1	9/7/2023 12:57:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.025		mg/Kg	1	9/7/2023 12:57:00 AM
Toluene	ND	0.050		mg/Kg	1	9/7/2023 12:57:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	9/7/2023 12:57:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	9/7/2023 12:57:00 AM
Surr: 4-Bromofluorobenzene	89.0	39.1-146		%Rec	1	9/7/2023 12:57:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	4900	300		mg/Kg	100	9/7/2023 10:15:40 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2309072**
Date Reported: **9/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Laguna Salado 22 Fed 4 Pasture
Lab ID: 2309072-003 **Matrix:** SOIL

Client Sample ID: BH23-05 0'
Collection Date: 8/31/2023 9:10:00 AM
Received Date: 9/2/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	9/6/2023 5:15:49 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/6/2023 5:15:49 PM
Surr: DNOP	91.6	69-147		%Rec	1	9/6/2023 5:15:49 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/7/2023 2:02:00 AM
Surr: BFB	96.8	15-244		%Rec	1	9/7/2023 2:02:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/7/2023 2:02:00 AM
Toluene	ND	0.048		mg/Kg	1	9/7/2023 2:02:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/7/2023 2:02:00 AM
Xylenes, Total	ND	0.095		mg/Kg	1	9/7/2023 2:02:00 AM
Surr: 4-Bromofluorobenzene	89.6	39.1-146		%Rec	1	9/7/2023 2:02:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	9400	600		mg/Kg	200	9/7/2023 10:28:01 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309072**
Date Reported: **9/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Laguna Salado 22 Fed 4 Pasture
Lab ID: 2309072-004 **Matrix:** SOIL

Client Sample ID: BH23-05 2'
Collection Date: 8/31/2023 9:15:00 AM
Received Date: 9/2/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	9/6/2023 5:39:41 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/6/2023 5:39:41 PM
Surr: DNOP	95.5	69-147		%Rec	1	9/6/2023 5:39:41 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/7/2023 2:24:00 AM
Surr: BFB	104	15-244		%Rec	1	9/7/2023 2:24:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/7/2023 2:24:00 AM
Toluene	ND	0.047		mg/Kg	1	9/7/2023 2:24:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	9/7/2023 2:24:00 AM
Xylenes, Total	ND	0.094		mg/Kg	1	9/7/2023 2:24:00 AM
Surr: 4-Bromofluorobenzene	90.1	39.1-146		%Rec	1	9/7/2023 2:24:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	9800	300		mg/Kg	100	9/7/2023 10:40:23 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309072**
Date Reported: **9/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Laguna Salado 22 Fed 4 Pasture
Lab ID: 2309072-005 **Matrix:** SOIL

Client Sample ID: BH23-06 0'
Collection Date: 8/31/2023 9:20:00 AM
Received Date: 9/2/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/6/2023 6:03:48 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/6/2023 6:03:48 PM
Surr: DNOP	90.9	69-147		%Rec	1	9/6/2023 6:03:48 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/7/2023 2:46:00 AM
Surr: BFB	101	15-244		%Rec	1	9/7/2023 2:46:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/7/2023 2:46:00 AM
Toluene	ND	0.048		mg/Kg	1	9/7/2023 2:46:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/7/2023 2:46:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	9/7/2023 2:46:00 AM
Surr: 4-Bromofluorobenzene	91.6	39.1-146		%Rec	1	9/7/2023 2:46:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	8100	600		mg/Kg	200	9/7/2023 10:52:44 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309072**
Date Reported: **9/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Laguna Salado 22 Fed 4 Pasture
Lab ID: 2309072-006 **Matrix:** SOIL

Client Sample ID: BH23-06 2'
Collection Date: 8/31/2023 9:25:00 AM
Received Date: 9/2/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	9/6/2023 6:27:56 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/6/2023 6:27:56 PM
Surr: DNOP	84.5	69-147		%Rec	1	9/6/2023 6:27:56 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/7/2023 3:08:00 AM
Surr: BFB	99.8	15-244		%Rec	1	9/7/2023 3:08:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.023		mg/Kg	1	9/7/2023 3:08:00 AM
Toluene	ND	0.047		mg/Kg	1	9/7/2023 3:08:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	9/7/2023 3:08:00 AM
Xylenes, Total	ND	0.093		mg/Kg	1	9/7/2023 3:08:00 AM
Surr: 4-Bromofluorobenzene	92.6	39.1-146		%Rec	1	9/7/2023 3:08:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	4600	300		mg/Kg	100	9/7/2023 11:05:05 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2309072**

12-Sep-23

Client: Devon Energy

Project: Laguna Salado 22 Fed 4 Pasture

Sample ID:	**MB-77340**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**77340**	RunNo:	**99513**					
Prep Date:	**9/6/2023**	Analysis Date:	**9/6/2023**	SeqNo:	**3633388**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID:	**LCS-77340**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**77340**	RunNo:	**99513**					
Prep Date:	**9/6/2023**	Analysis Date:	**9/6/2023**	SeqNo:	**3633389**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.7	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2309072**

12-Sep-23

Client: Devon Energy

Project: Laguna Salado 22 Fed 4 Pasture

Sample ID: **MB-77317**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **77317**	RunNo: **99483**
Prep Date: **9/6/2023**	Analysis Date: **9/6/2023**	SeqNo: **3632800** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.1		10.00		90.7	69	147			

Sample ID: **LCS-77317**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **77317**	RunNo: **99483**
Prep Date: **9/6/2023**	Analysis Date: **9/6/2023**	SeqNo: **3632801** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	10	50.00	0	108	61.9	130			
Surr: DNOP	4.3		5.000		85.5	69	147			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2309072**

12-Sep-23

Client: Devon Energy

Project: Laguna Salado 22 Fed 4 Pasture

Sample ID: **mb-77310**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **77310**	RunNo: **99469**
Prep Date: **9/5/2023**	Analysis Date: **9/6/2023**	SeqNo: **3632342** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		107	15	244			

Sample ID: **2309072-001ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BG23-03 0'**	Batch ID: **77310**	RunNo: **99469**
Prep Date: **9/5/2023**	Analysis Date: **9/7/2023**	SeqNo: **3632344** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	4.8	24.18	0	104	70	130			
Surr: BFB	2300		967.1		234	15	244			

Sample ID: **2309072-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BG23-03 0'**	Batch ID: **77310**	RunNo: **99469**
Prep Date: **9/5/2023**	Analysis Date: **9/7/2023**	SeqNo: **3632345** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.8	24.15	0	95.5	70	130	8.90	20	
Surr: BFB	2100		966.2		221	15	244	0	0	

Sample ID: **LCS-77310**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **77310**	RunNo: **99469**
Prep Date: **9/5/2023**	Analysis Date: **9/6/2023**	SeqNo: **3632755** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	92.0	70	130			
Surr: BFB	2100		1000		213	15	244			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2309072**

12-Sep-23

Client: Devon Energy

Project: Laguna Salado 22 Fed 4 Pasture

Sample ID: **lcs-77310**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **77310**	RunNo: **99469**
Prep Date: **9/5/2023**	Analysis Date: **9/6/2023**	SeqNo: **3632741** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.025	1.000	0	88.5	70	130			
Toluene	0.89	0.050	1.000	0	89.4	70	130			
Ethylbenzene	0.91	0.050	1.000	0	90.7	70	130			
Xylenes, Total	2.7	0.10	3.000	0	90.6	70	130			
Surr: 4-Bromofluorobenzene	0.92		1.000		92.4	39.1	146			

Sample ID: **mb-77310**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **77310**	RunNo: **99469**
Prep Date: **9/5/2023**	Analysis Date: **9/6/2023**	SeqNo: **3632742** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.89		1.000		89.0	39.1	146			

Sample ID: **2309072-002ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BG23-03 2'**	Batch ID: **77310**	RunNo: **99469**
Prep Date: **9/5/2023**	Analysis Date: **9/7/2023**	SeqNo: **3632745** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	0.9940	0	91.7	70	130			
Toluene	0.92	0.050	0.9940	0	92.7	70	130			
Ethylbenzene	0.94	0.050	0.9940	0	94.6	70	130			
Xylenes, Total	2.8	0.099	2.982	0	94.5	70	130			
Surr: 4-Bromofluorobenzene	0.94		0.9940		95.0	39.1	146			

Sample ID: **2309072-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BG23-03 2'**	Batch ID: **77310**	RunNo: **99469**
Prep Date: **9/5/2023**	Analysis Date: **9/7/2023**	SeqNo: **3632746** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.025	0.9911	0	89.0	70	130	3.36	20	
Toluene	0.90	0.050	0.9911	0	90.5	70	130	2.66	20	
Ethylbenzene	0.92	0.050	0.9911	0	92.6	70	130	2.43	20	
Xylenes, Total	2.8	0.099	2.973	0	92.6	70	130	2.38	20	
Surr: 4-Bromofluorobenzene	0.90		0.9911		90.5	39.1	146	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Devon Energy | Work Order Number: 2309072 | RcptNo: 1

Received By: Tracy Casarrubias 9/2/2023 7:45:00 AM

Completed By: Tracy Casarrubias 9/2/2023 7:57:20 AM

Reviewed By: JN 9/5/23

Chain of Custody

1. Is Chain of Custody complete?	Yes ☐	No ☑	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	# of preserved bottles checked for pH:
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	(<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: TMC 9/2/23

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions: Mailing address,phone number and Email/Fax are missing on COC- TMC 9/2/23

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.6	Good	Yes	Yogi		

Chain-of-Custody Record

Client: Devon/Vertex

Mailing Address: On file

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☐ Standard ☑ Rush 48hr

Project Name: LagunaSalado22Fed4 Pasture

Project #: 23E-01414

Project Manager: Kent Stallings

Sampler: SM

On Ice: ☑ Yes ☐ No 4009

# of Coolers: 1

Cooler Temp(Including CF): 0.6 - 0 = 0.6 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2309072	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	CDF, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
8/25/23	10:35	Soil	BG23-03 0'	4oz jar	Ice	001	✓	✓					✓			
8/25/23	10:40		BG23-03 2'			002										
8/31/23	9:10		BH23-05 0'			003										
8/31/23	9:15		BH23-05 2'			004										
8/31/23	9:20		BH23-06 0'			005										
8/31/23	9:25		BH23-06 2'			006										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
9/1/23	930	Megan McCoy			9/1/23	930
9/1/23	1900				9/2/23	7:45

Remarks: Direct bill to: Devon
W/O #: 21134488
smccarty@vertex.ca
c.c. kstallings@vertex.ca

CARDINAL Laboratories

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

March 06, 2025

CHAD HENSLEY

VERTEX RESOURCE

3101 BOYD DRIVE

CARLSBAD, NM 88220

RE: LAGUNA SALADO FED #4

Enclosed are the results of analyses for samples received by the laboratory on 03/03/25 12:38.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	03/03/2025	Sampling Date:	02/28/2025
Reported:	03/06/2025	Sampling Type:	Soil
Project Name:	LAGUNA SALADO FED #4	Sampling Condition:	Cool & Intact
Project Number:	23E - 01414	Sample Received By:	Shalyn Rodriguez
Project Location:	DEVON		

Sample ID: BG 25 - 01 0.0' (H251242-01)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/05/2025	ND	2.08	104	2.00	3.79	
Toluene*	<0.050	0.050	03/05/2025	ND	2.17	109	2.00	3.61	
Ethylbenzene*	<0.050	0.050	03/05/2025	ND	2.10	105	2.00	3.03	
Total Xylenes*	<0.150	0.150	03/05/2025	ND	6.19	103	6.00	3.33	
Total BTEX	<0.300	0.300	03/05/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.2 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	03/04/2025	ND	400	100	400	4.08	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	208	104	200	6.74	
DRO >C10-C28*	<10.0	10.0	03/04/2025	ND	210	105	200	5.72	
EXT DRO >C28-C36	<10.0	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane *101 %* *44.4-145*

Surrogate: 1-Chlorooctadecane *115 %* *40.6-153*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	03/03/2025	Sampling Date:	02/28/2025
Reported:	03/06/2025	Sampling Type:	Soil
Project Name:	LAGUNA SALADO FED #4	Sampling Condition:	Cool & Intact
Project Number:	23E - 01414	Sample Received By:	Shalyn Rodriguez
Project Location:	DEVON		

Sample ID: BG 25 - 01 1.0' (H251242-02)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/05/2025	ND	2.08	104	2.00	3.79	
Toluene*	<0.050	0.050	03/05/2025	ND	2.17	109	2.00	3.61	
Ethylbenzene*	<0.050	0.050	03/05/2025	ND	2.10	105	2.00	3.03	
Total Xylenes*	<0.150	0.150	03/05/2025	ND	6.19	103	6.00	3.33	
Total BTEX	<0.300	0.300	03/05/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *95.6 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	03/04/2025	ND	400	100	400	4.08	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	208	104	200	6.74	
DRO >C10-C28*	<10.0	10.0	03/04/2025	ND	210	105	200	5.72	
EXT DRO >C28-C36	<10.0	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane *88.9 %* *44.4-145*

Surrogate: 1-Chlorooctadecane *98.8 %* *40.6-153*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	03/03/2025	Sampling Date:	02/28/2025
Reported:	03/06/2025	Sampling Type:	Soil
Project Name:	LAGUNA SALADO FED #4	Sampling Condition:	Cool & Intact
Project Number:	23E - 01414	Sample Received By:	Shalyn Rodriguez
Project Location:	DEVON		

Sample ID: BG 25 - 01 2.0' (H251242-03)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/05/2025	ND	2.08	104	2.00	3.79	
Toluene*	<0.050	0.050	03/05/2025	ND	2.17	109	2.00	3.61	
Ethylbenzene*	<0.050	0.050	03/05/2025	ND	2.10	105	2.00	3.03	
Total Xylenes*	<0.150	0.150	03/05/2025	ND	6.19	103	6.00	3.33	
Total BTEX	<0.300	0.300	03/05/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *95.8 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**640**	16.0	03/04/2025	ND	400	100	400	4.08	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	208	104	200	6.74	
DRO >C10-C28*	<10.0	10.0	03/04/2025	ND	210	105	200	5.72	
EXT DRO >C28-C36	<10.0	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane *112 %* *44.4-145*

Surrogate: 1-Chlorooctadecane *128 %* *40.6-153*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	03/03/2025	Sampling Date:	02/28/2025
Reported:	03/06/2025	Sampling Type:	Soil
Project Name:	LAGUNA SALADO FED #4	Sampling Condition:	Cool & Intact
Project Number:	23E - 01414	Sample Received By:	Shalyn Rodriguez
Project Location:	DEVON		

Sample ID: BG 25 - 01 3.0' (H251242-04)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/05/2025	ND	2.08	104	2.00	3.79	
Toluene*	<0.050	0.050	03/05/2025	ND	2.17	109	2.00	3.61	
Ethylbenzene*	<0.050	0.050	03/05/2025	ND	2.10	105	2.00	3.03	
Total Xylenes*	<0.150	0.150	03/05/2025	ND	6.19	103	6.00	3.33	
Total BTEX	<0.300	0.300	03/05/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.1 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**960**	16.0	03/04/2025	ND	400	100	400	4.08	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	208	104	200	6.74	
DRO >C10-C28*	<10.0	10.0	03/04/2025	ND	210	105	200	5.72	
EXT DRO >C28-C36	<10.0	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane *106 %* *44.4-145*

Surrogate: 1-Chlorooctadecane *117 %* *40.6-153*

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Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	03/03/2025	Sampling Date:	02/28/2025
Reported:	03/06/2025	Sampling Type:	Soil
Project Name:	LAGUNA SALADO FED #4	Sampling Condition:	Cool & Intact
Project Number:	23E - 01414	Sample Received By:	Shalyn Rodriguez
Project Location:	DEVON		

Sample ID: BG 25 - 01 3.5' (H251242-05)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/05/2025	ND	2.08	104	2.00	3.79	
Toluene*	<0.050	0.050	03/05/2025	ND	2.17	109	2.00	3.61	
Ethylbenzene*	<0.050	0.050	03/05/2025	ND	2.10	105	2.00	3.03	
Total Xylenes*	<0.150	0.150	03/05/2025	ND	6.19	103	6.00	3.33	
Total BTEX	<0.300	0.300	03/05/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.4 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**960**	16.0	03/04/2025	ND	400	100	400	4.08	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	208	104	200	6.74	
DRO >C10-C28*	<10.0	10.0	03/04/2025	ND	210	105	200	5.72	
EXT DRO >C28-C36	<10.0	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane *99.9 %* *44.4-145*

Surrogate: 1-Chlorooctadecane *119 %* *40.6-153*

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Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	03/03/2025	Sampling Date:	02/28/2025
Reported:	03/06/2025	Sampling Type:	Soil
Project Name:	LAGUNA SALADO FED #4	Sampling Condition:	Cool & Intact
Project Number:	23E - 01414	Sample Received By:	Shalyn Rodriguez
Project Location:	DEVON		

Sample ID: BG 25 - 02 0.0' (H251242-06)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/05/2025	ND	2.08	104	2.00	3.79	
Toluene*	<0.050	0.050	03/05/2025	ND	2.17	109	2.00	3.61	
Ethylbenzene*	<0.050	0.050	03/05/2025	ND	2.10	105	2.00	3.03	
Total Xylenes*	<0.150	0.150	03/05/2025	ND	6.19	103	6.00	3.33	
Total BTEX	<0.300	0.300	03/05/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *95.1 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3280**	16.0	03/04/2025	ND	400	100	400	4.08	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	208	104	200	6.74	
DRO >C10-C28*	<10.0	10.0	03/04/2025	ND	210	105	200	5.72	
EXT DRO >C28-C36	<10.0	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane *126 %* *44.4-145*

Surrogate: 1-Chlorooctadecane *144 %* *40.6-153*

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Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	03/03/2025	Sampling Date:	02/28/2025
Reported:	03/06/2025	Sampling Type:	Soil
Project Name:	LAGUNA SALADO FED #4	Sampling Condition:	Cool & Intact
Project Number:	23E - 01414	Sample Received By:	Shalyn Rodriguez
Project Location:	DEVON		

Sample ID: BG 25 - 02 1.0' (H251242-07)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/05/2025	ND	2.08	104	2.00	3.79	
Toluene*	<0.050	0.050	03/05/2025	ND	2.17	109	2.00	3.61	
Ethylbenzene*	<0.050	0.050	03/05/2025	ND	2.10	105	2.00	3.03	
Total Xylenes*	<0.150	0.150	03/05/2025	ND	6.19	103	6.00	3.33	
Total BTEX	<0.300	0.300	03/05/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *93.8 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3920**	16.0	03/04/2025	ND	400	100	400	4.08	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	208	104	200	6.74	
DRO >C10-C28*	<10.0	10.0	03/04/2025	ND	210	105	200	5.72	
EXT DRO >C28-C36	<10.0	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane *127 %* *44.4-145*

Surrogate: 1-Chlorooctadecane *147 %* *40.6-153*

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Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	03/03/2025	Sampling Date:	02/28/2025
Reported:	03/06/2025	Sampling Type:	Soil
Project Name:	LAGUNA SALADO FED #4	Sampling Condition:	Cool & Intact
Project Number:	23E - 01414	Sample Received By:	Shalyn Rodriguez
Project Location:	DEVON		

Sample ID: BG 25 - 02 2.0' (H251242-08)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/05/2025	ND	2.08	104	2.00	3.79	
Toluene*	<0.050	0.050	03/05/2025	ND	2.17	109	2.00	3.61	
Ethylbenzene*	<0.050	0.050	03/05/2025	ND	2.10	105	2.00	3.03	
Total Xylenes*	<0.150	0.150	03/05/2025	ND	6.19	103	6.00	3.33	
Total BTEX	<0.300	0.300	03/05/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *95.1 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**4960**	16.0	03/04/2025	ND	400	100	400	4.08	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	208	104	200	6.74	
DRO >C10-C28*	<10.0	10.0	03/04/2025	ND	210	105	200	5.72	
EXT DRO >C28-C36	<10.0	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane *129 %* *44.4-145*

Surrogate: 1-Chlorooctadecane *148 %* *40.6-153*

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Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	03/03/2025	Sampling Date:	02/28/2025
Reported:	03/06/2025	Sampling Type:	Soil
Project Name:	LAGUNA SALADO FED #4	Sampling Condition:	Cool & Intact
Project Number:	23E - 01414	Sample Received By:	Shalyn Rodriguez
Project Location:	DEVON		

Sample ID: BG 25 - 02 3.0' (H251242-09)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/05/2025	ND	2.08	104	2.00	3.79	
Toluene*	<0.050	0.050	03/05/2025	ND	2.17	109	2.00	3.61	
Ethylbenzene*	<0.050	0.050	03/05/2025	ND	2.10	105	2.00	3.03	
Total Xylenes*	<0.150	0.150	03/05/2025	ND	6.19	103	6.00	3.33	
Total BTEX	<0.300	0.300	03/05/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.7 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3120**	16.0	03/04/2025	ND	400	100	400	4.08	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	208	104	200	6.74	
DRO >C10-C28*	<10.0	10.0	03/04/2025	ND	210	105	200	5.72	
EXT DRO >C28-C36	<10.0	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane *111 %* *44.4-145*

Surrogate: 1-Chlorooctadecane *125 %* *40.6-153*

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CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	03/03/2025	Sampling Date:	02/28/2025
Reported:	03/06/2025	Sampling Type:	Soil
Project Name:	LAGUNA SALADO FED #4	Sampling Condition:	Cool & Intact
Project Number:	23E - 01414	Sample Received By:	Shalyn Rodriguez
Project Location:	DEVON		

Sample ID: BG 25 - 02 4.0' (H251242-10)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/05/2025	ND	2.08	104	2.00	3.79	
Toluene*	<0.050	0.050	03/05/2025	ND	2.17	109	2.00	3.61	
Ethylbenzene*	<0.050	0.050	03/05/2025	ND	2.10	105	2.00	3.03	
Total Xylenes*	<0.150	0.150	03/05/2025	ND	6.19	103	6.00	3.33	
Total BTEX	<0.300	0.300	03/05/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *95.7 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2440**	16.0	03/04/2025	ND	400	100	400	4.08	

TPH 8015M mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/05/2025	ND	208	104	200	6.74	
DRO >C10-C28*	<10.0	10.0	03/05/2025	ND	210	105	200	5.72	
EXT DRO >C28-C36	<10.0	10.0	03/05/2025	ND					

Surrogate: 1-Chlorooctane *143 %* *44.4-145*

Surrogate: 1-Chlorooctadecane *151 %* *40.6-153*

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Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	03/03/2025	Sampling Date:	02/28/2025
Reported:	03/06/2025	Sampling Type:	Soil
Project Name:	LAGUNA SALADO FED #4	Sampling Condition:	Cool & Intact
Project Number:	23E - 01414	Sample Received By:	Shalyn Rodriguez
Project Location:	DEVON		

Sample ID: BG 25 - 03 0.0' (H251242-11)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/05/2025	ND	2.08	104	2.00	3.79	
Toluene*	<0.050	0.050	03/05/2025	ND	2.17	109	2.00	3.61	
Ethylbenzene*	<0.050	0.050	03/05/2025	ND	2.10	105	2.00	3.03	
Total Xylenes*	<0.150	0.150	03/05/2025	ND	6.19	103	6.00	3.33	
Total BTEX	<0.300	0.300	03/05/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *95.7 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**4640**	16.0	03/04/2025	ND	400	100	400	4.08	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	208	104	200	6.74	
DRO >C10-C28*	<10.0	10.0	03/04/2025	ND	210	105	200	5.72	
EXT DRO >C28-C36	<10.0	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane *129 %* *44.4-145*

Surrogate: 1-Chlorooctadecane *145 %* *40.6-153*

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CARDINAL Laboratories

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Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	03/03/2025	Sampling Date:	02/28/2025
Reported:	03/06/2025	Sampling Type:	Soil
Project Name:	LAGUNA SALADO FED #4	Sampling Condition:	Cool & Intact
Project Number:	23E - 01414	Sample Received By:	Shalyn Rodriguez
Project Location:	DEVON		

Sample ID: BG 25 - 03 1.0' (H251242-12)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/05/2025	ND	2.08	104	2.00	3.79	
Toluene*	<0.050	0.050	03/05/2025	ND	2.17	109	2.00	3.61	
Ethylbenzene*	<0.050	0.050	03/05/2025	ND	2.10	105	2.00	3.03	
Total Xylenes*	<0.150	0.150	03/05/2025	ND	6.19	103	6.00	3.33	
Total BTEX	<0.300	0.300	03/05/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.3 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2400**	16.0	03/04/2025	ND	400	100	400	4.08	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	208	104	200	6.74	
DRO >C10-C28*	<10.0	10.0	03/04/2025	ND	210	105	200	5.72	
EXT DRO >C28-C36	<10.0	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane *133 %* *44.4-145*

Surrogate: 1-Chlorooctadecane *149 %* *40.6-153*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	03/03/2025	Sampling Date:	02/28/2025
Reported:	03/06/2025	Sampling Type:	Soil
Project Name:	LAGUNA SALADO FED #4	Sampling Condition:	Cool & Intact
Project Number:	23E - 01414	Sample Received By:	Shalyn Rodriguez
Project Location:	DEVON		

Sample ID: BG 25 - 04 0.0' (H251242-13)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/05/2025	ND	2.08	104	2.00	3.79	
Toluene*	<0.050	0.050	03/05/2025	ND	2.17	109	2.00	3.61	
Ethylbenzene*	<0.050	0.050	03/05/2025	ND	2.10	105	2.00	3.03	
Total Xylenes*	<0.150	0.150	03/05/2025	ND	6.19	103	6.00	3.33	
Total BTEX	<0.300	0.300	03/05/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *95.3 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**336**	16.0	03/04/2025	ND	400	100	400	4.08	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	208	104	200	6.74	
DRO >C10-C28*	<10.0	10.0	03/04/2025	ND	210	105	200	5.72	
EXT DRO >C28-C36	<10.0	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane *110 %* *44.4-145*

Surrogate: 1-Chlorooctadecane *122 %* *40.6-153*

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CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	03/03/2025	Sampling Date:	02/28/2025
Reported:	03/06/2025	Sampling Type:	Soil
Project Name:	LAGUNA SALADO FED #4	Sampling Condition:	Cool & Intact
Project Number:	23E - 01414	Sample Received By:	Shalyn Rodriguez
Project Location:	DEVON		

Sample ID: BG 25 - 04 1.0' (H251242-14)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/05/2025	ND	2.08	104	2.00	3.79	
Toluene*	<0.050	0.050	03/05/2025	ND	2.17	109	2.00	3.61	
Ethylbenzene*	<0.050	0.050	03/05/2025	ND	2.10	105	2.00	3.03	
Total Xylenes*	<0.150	0.150	03/05/2025	ND	6.19	103	6.00	3.33	
Total BTEX	<0.300	0.300	03/05/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *95.0 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1360**	16.0	03/04/2025	ND	400	100	400	4.08	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	208	104	200	6.74	
DRO >C10-C28*	<10.0	10.0	03/04/2025	ND	210	105	200	5.72	
EXT DRO >C28-C36	<10.0	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane *121 %* *44.4-145*

Surrogate: 1-Chlorooctadecane *135 %* *40.6-153*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	03/03/2025	Sampling Date:	02/28/2025
Reported:	03/06/2025	Sampling Type:	Soil
Project Name:	LAGUNA SALADO FED #4	Sampling Condition:	Cool & Intact
Project Number:	23E - 01414	Sample Received By:	Shalyn Rodriguez
Project Location:	DEVON		

Sample ID: BG 25 - 05 0.0' (H251242-15)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/05/2025	ND	2.08	104	2.00	3.79	
Toluene*	<0.050	0.050	03/05/2025	ND	2.17	109	2.00	3.61	
Ethylbenzene*	<0.050	0.050	03/05/2025	ND	2.10	105	2.00	3.03	
Total Xylenes*	<0.150	0.150	03/05/2025	ND	6.19	103	6.00	3.33	
Total BTEX	<0.300	0.300	03/05/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.7 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**320**	16.0	03/04/2025	ND	400	100	400	4.08	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	208	104	200	6.74	
DRO >C10-C28*	<10.0	10.0	03/04/2025	ND	210	105	200	5.72	
EXT DRO >C28-C36	<10.0	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane *117 %* *44.4-145*

Surrogate: 1-Chlorooctadecane *131 %* *40.6-153*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	03/03/2025	Sampling Date:	02/28/2025
Reported:	03/06/2025	Sampling Type:	Soil
Project Name:	LAGUNA SALADO FED #4	Sampling Condition:	Cool & Intact
Project Number:	23E - 01414	Sample Received By:	Shalyn Rodriguez
Project Location:	DEVON		

Sample ID: BG 25 - 05 1.0' (H251242-16)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/05/2025	ND	2.08	104	2.00	3.79	
Toluene*	<0.050	0.050	03/05/2025	ND	2.17	109	2.00	3.61	
Ethylbenzene*	<0.050	0.050	03/05/2025	ND	2.10	105	2.00	3.03	
Total Xylenes*	<0.150	0.150	03/05/2025	ND	6.19	103	6.00	3.33	
Total BTEX	<0.300	0.300	03/05/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.7 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1310**	16.0	03/04/2025	ND	400	100	400	4.08	

TPH 8015M mg/kg Analyzed By: MS S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	208	104	200	6.74	
DRO >C10-C28*	<10.0	10.0	03/04/2025	ND	210	105	200	5.72	
EXT DRO >C28-C36	<10.0	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane *139 %* *44.4-145*

Surrogate: 1-Chlorooctadecane *156 %* *40.6-153*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	03/03/2025	Sampling Date:	02/28/2025
Reported:	03/06/2025	Sampling Type:	Soil
Project Name:	LAGUNA SALADO FED #4	Sampling Condition:	Cool & Intact
Project Number:	23E - 01414	Sample Received By:	Shalyn Rodriguez
Project Location:	DEVON		

Sample ID: BG 25 - 06 0.0' (H251242-17)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/05/2025	ND	2.08	104	2.00	3.79	
Toluene*	<0.050	0.050	03/05/2025	ND	2.17	109	2.00	3.61	
Ethylbenzene*	<0.050	0.050	03/05/2025	ND	2.10	105	2.00	3.03	
Total Xylenes*	<0.150	0.150	03/05/2025	ND	6.19	103	6.00	3.33	
Total BTEX	<0.300	0.300	03/05/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *95.3 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**320**	16.0	03/04/2025	ND	400	100	400	4.08	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/05/2025	ND	208	104	200	6.74	
DRO >C10-C28*	<10.0	10.0	03/05/2025	ND	210	105	200	5.72	
EXT DRO >C28-C36	<10.0	10.0	03/05/2025	ND					

Surrogate: 1-Chlorooctane *132 %* *44.4-145*

Surrogate: 1-Chlorooctadecane *148 %* *40.6-153*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	03/03/2025	Sampling Date:	02/28/2025
Reported:	03/06/2025	Sampling Type:	Soil
Project Name:	LAGUNA SALADO FED #4	Sampling Condition:	Cool & Intact
Project Number:	23E - 01414	Sample Received By:	Shalyn Rodriguez
Project Location:	DEVON		

Sample ID: BG 25 - 06 1.0' (H251242-18)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/05/2025	ND	2.08	104	2.00	3.79	
Toluene*	<0.050	0.050	03/05/2025	ND	2.17	109	2.00	3.61	
Ethylbenzene*	<0.050	0.050	03/05/2025	ND	2.10	105	2.00	3.03	
Total Xylenes*	<0.150	0.150	03/05/2025	ND	6.19	103	6.00	3.33	
Total BTEX	<0.300	0.300	03/05/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.9 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1360**	16.0	03/04/2025	ND	432	108	400	3.77	QM-07

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/05/2025	ND	208	104	200	6.74	
DRO >C10-C28*	<10.0	10.0	03/05/2025	ND	210	105	200	5.72	
EXT DRO >C28-C36	<10.0	10.0	03/05/2025	ND					

Surrogate: 1-Chlorooctane *127 %* *44.4-145*

Surrogate: 1-Chlorooctadecane *142 %* *40.6-153*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	03/03/2025	Sampling Date:	02/28/2025
Reported:	03/06/2025	Sampling Type:	Soil
Project Name:	LAGUNA SALADO FED #4	Sampling Condition:	Cool & Intact
Project Number:	23E - 01414	Sample Received By:	Shalyn Rodriguez
Project Location:	DEVON		

Sample ID: BG 25 - 06 2.0' (H251242-19)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/05/2025	ND	2.11	105	2.00	10.5	QM-07
Toluene*	<0.050	0.050	03/05/2025	ND	2.21	111	2.00	11.1	
Ethylbenzene*	<0.050	0.050	03/05/2025	ND	2.33	117	2.00	9.55	QM-07
Total Xylenes*	<0.150	0.150	03/05/2025	ND	6.99	116	6.00	9.01	QM-07
Total BTEX	<0.300	0.300	03/05/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *114 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1390**	16.0	03/04/2025	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/05/2025	ND	208	104	200	6.74	
DRO >C10-C28*	<10.0	10.0	03/05/2025	ND	210	105	200	5.72	
EXT DRO >C28-C36	<10.0	10.0	03/05/2025	ND					

Surrogate: 1-Chlorooctane *134 %* *44.4-145*

Surrogate: 1-Chlorooctadecane *150 %* *40.6-153*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	03/03/2025	Sampling Date:	02/28/2025
Reported:	03/06/2025	Sampling Type:	Soil
Project Name:	LAGUNA SALADO FED #4	Sampling Condition:	Cool & Intact
Project Number:	23E - 01414	Sample Received By:	Shalyn Rodriguez
Project Location:	DEVON		

Sample ID: BG 25 - 06 3.0' (H251242-20)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/05/2025	ND	2.11	105	2.00	10.5	
Toluene*	<0.050	0.050	03/05/2025	ND	2.21	111	2.00	11.1	
Ethylbenzene*	<0.050	0.050	03/05/2025	ND	2.33	117	2.00	9.55	
Total Xylenes*	<0.150	0.150	03/05/2025	ND	6.99	116	6.00	9.01	
Total BTEX	<0.300	0.300	03/05/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *106 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1650**	16.0	03/04/2025	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/05/2025	ND	208	104	200	6.74	
DRO >C10-C28*	<10.0	10.0	03/05/2025	ND	210	105	200	5.72	
EXT DRO >C28-C36	<10.0	10.0	03/05/2025	ND					

Surrogate: 1-Chlorooctane *122 %* *44.4-145*

Surrogate: 1-Chlorooctadecane *136 %* *40.6-153*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	03/03/2025	Sampling Date:	02/28/2025
Reported:	03/06/2025	Sampling Type:	Soil
Project Name:	LAGUNA SALADO FED #4	Sampling Condition:	Cool & Intact
Project Number:	23E - 01414	Sample Received By:	Shalyn Rodriguez
Project Location:	DEVON		

Sample ID: BG 25 - 06 4.0' (H251242-21)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/05/2025	ND	2.11	105	2.00	10.5	
Toluene*	<0.050	0.050	03/05/2025	ND	2.21	111	2.00	11.1	
Ethylbenzene*	<0.050	0.050	03/05/2025	ND	2.33	117	2.00	9.55	
Total Xylenes*	<0.150	0.150	03/05/2025	ND	6.99	116	6.00	9.01	
Total BTEX	<0.300	0.300	03/05/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *108 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1760**	16.0	03/04/2025	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	213	107	200	6.17	
DRO >C10-C28*	<10.0	10.0	03/04/2025	ND	224	112	200	10.4	
EXT DRO >C28-C36	<10.0	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane *117 %* *44.4-145*

Surrogate: 1-Chlorooctadecane *134 %* *40.6-153*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1-3

Company Name:	Vertex
Project Manager:	Chad Hensley
Address:	
City:	State: Zip:
Phone #:	Fax #:
Project #:	23E-01414 Project Owner:
Project Name:	Laguna Salado Fed #4
Project Location:	
Sampler Name:	AH

BILL TO

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

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.		(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	BTEX 8021	TPH 8015	Chloride
H251242																		
1	BH25-01	0.0'	G	1			X					X		2-28-25	0900			
2	BH25-01	1.0'													0910			
3	BH25-01	2.0'													0920			
4	BH25-01	3.0'													0930			
5	BH25-01	3.5'													0940			
6	BH25-02	0.0'													0950			
7	BH25-02	1.0'													1000			
8	BH25-02	2.0'													1010			
9	BH25-02	3.0'													1020			
10	BH25-02	4.0'													1030			

Relinquished By:	Date: 3-3-25	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 1030		All Results are emailed. Please provide Email address:
Relinquished By:	Date: 1238	Received By:	REMARKS: cc: chensley@vertexresource.com
	Time:		

Delivered By: (Circle One)	Observed Temp. °C 1.7	Sample Condition: Cool ☐ Yes ☐ No; Intact ☐ Yes ☐ No	CHECKED BY: (Initials)	Turnaround Time: Standard ☑ Rush ☐
Sampler - UPS - Bus - Other:	Corrected Temp. °C 2.0			Thermometer ID #113 / Correction Factor -0.5°C; #140 +0.3

Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No; Intact ☐ Yes ☐ No; Observed Temp. °C; Corrected Temp. °C

FORM-006 R 3.2 10/07/21

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2-3

Company Name:		**BILL TO**	
Project Manager:		P.O. #:	
Address:		Company:	
City:	State: Zip:	Attn:	
Phone #:	Fax #:	Address:	
Project #:	Project Owner:	City:	
Project Name:		State: Zip:	
Project Location:		Phone #:	
Sampler Name:		Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.		(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	BTEX 8021	TPH 8015	Chloride
H251242																		
11	BH25-03	0.0'	G	1			X					X		2-28-25	1040	✓	✓	✓
12	BH25-03	1.0'													1050			
13	BH25-04	0.0'													1100			
14	BH25-04	1.0'													1110			
15	BH25-05	0.0'													1120			
16	BH25-05	1.0'													1130			
17	BH25-06	0.0'													1140			
18	BH25-06	1.0'													1150			
19	BH25-06	2.0'													1300			
20	BH25-06	3.0'													1310			

Relinquished By:	Date: 3-3-25	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 1238		All Results are emailed. Please provide Email address:
Relinquished By:	Date:	Received By:	REMARKS:
	Time:		
Delivered By: (Circle One)	Observed Temp. °C 1.7	Sample Condition: Cool ☐ Yes ☐ No; Intact ☐ Yes ☐ No	CHECKED BY: (Initials) SR
Sampler - UPS - Bus - Other:	Corrected Temp. °C 2.0		Turnaround Time: Standard ☐ Rush ☐
			Thermometer ID #113 #140; Correction Factor 0.5°C +0.3
			Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No; Intact ☐ Yes ☐ No; Observed Temp. °C; Corrected Temp. °C

FORM-006 R 3.2 10/07/21

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

3-3

Company Name:	BILL TO
Project Manager:	P.O. #:
Address:	Company:
City: State: Zip:	Attn:
Phone #: Fax #:	Address:
Project #: Project Owner:	City:
Project Name:	State: Zip:
Project Location:	Phone #:
Sampler Name:	Fax #:

FOR LAB USE ONLY				MATRIX							PRESERV.			SAMPLING		ANALYSIS REQUEST														
Lab I.D.	Sample I.D.		(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	BTEX 8021	TPH 8015	Chloride													
H251242																														
21	BG25-06	4.0'	4	1				X				X		2-28-25	1320	X	X	X												

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: 3.3.25	Received By: SRodriguez	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 1238		All Results are emailed. Please provide Email address:
Relinquished By:	Date:	Received By:	REMARKS:
	Time:		
Delivered By: (Circle One)	Observed Temp. °C 1.7	Sample Condition Cool Intact	CHECKED BY: (Initials)
Sampler - UPS - Bus - Other:	Corrected Temp. °C 2.0	~~☐ Yes ☐ Yes~~ ☐ No ☐ No	

Turnaround Time: Standard ☐ Rush ☐ Bacteria (only) Sample Condition Cool Intact Observed Temp. °C ☐ Yes ☐ Yes ☐ No ☐ No Corrected Temp. °C

Thermometer ID ~~#113~~ #140 Correction Factor ~~-0.5°C~~ +0.3

FORM-006 R 3.2 10/07/21

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

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

QUESTIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 442515
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nKMW1109729911**
Incident Name	**NKMW1109729911 LAGUNA SALADO 22 FEDERAL #004H @ 30-015-36461**
Incident Type	**Produced Water Release**
Incident Status	**Remediation Plan Received**
Incident Well	**[30-015-36461] LAGUNA SALADO 22 FEDERAL #004H**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	LAGUNA SALADO 22 FEDERAL #004H
Date Release Discovered	09/15/2009
Surface Owner	Private

Incident Details	
Please answer all the questions in this group.	
Incident Type	Produced Water Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	*Not answered.*
Produced Water Released (bbls) Details	Cause: Human Error | Flow Line - Injection | Produced Water | Released: 30 BBL | Recovered: 0 BBL | Lost: 30 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	*Not answered.*
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	*Not answered.*

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QUESTIONS (continued)

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	Action Number: 442515
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QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**No, according to supplied volumes this does not appear to be a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**Yes**
Reasons why this would be considered a submission for a notification of a major release	**From paragraph A. "Major release" determine using:** **(1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.**
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

Initial Response	
The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury.	
The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	*Not answered.*
Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.	

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

I hereby agree and sign off to the above statement	Name: James Raley Title: EHS Professional Email: jim.raley@dvn.com Date: 03/14/2025

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QUESTIONS (continued)

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	Action Number: 442515
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 26 and 50 (ft.)
What method was used to determine the depth to ground water	Estimate or Other
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Greater than 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 300 and 500 (ft.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 5 (mi.)
Any other fresh water well or spring	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Between 1 and 5 (mi.)
A wetland	Between 1 and 5 (mi.)
A subsurface mine	Between 1 and 5 (mi.)
An (non-karst) unstable area	Between ½ and 1 (mi.)
Categorize the risk of this well / site being in a karst geology	Medium
A 100-year floodplain	Zero feet, overlying, or within area
Did the release impact areas not on an exploration, development, production, or storage site	Yes

Remediation Plan	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	67000
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	0
GRO+DRO (EPA SW-846 Method 8015M)	0
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
On what estimated date will the remediation commence	06/01/2025
On what date will (or did) the final sampling or liner inspection occur	07/01/2025
On what date will (or was) the remediation complete(d)	08/01/2025
What is the estimated surface area (in square feet) that will be reclaimed	4359
What is the estimated volume (in cubic yards) that will be reclaimed	645
What is the estimated surface area (in square feet) that will be remediated	0
What is the estimated volume (in cubic yards) that will be remediated	0
These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.	
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

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	Action Number: 442515
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for **off-site** disposal	LEA LAND LANDFILL [fEEM0112342028]
OR which OCD approved well (API) will be used for **off-site** disposal	*Not answered.*
OR is the **off-site** disposal site, to be used, out-of-state	*Not answered.*
OR is the **off-site** disposal site, to be used, an NMED facility	*Not answered.*
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	*Not answered.*
(In Situ) Soil Vapor Extraction	*Not answered.*
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	*Not answered.*
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	*Not answered.*
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	*Not answered.*
Ground Water Abatement pursuant to 19.15.30 NMAC	*Not answered.*
OTHER (Non-listed remedial process)	*Not answered.*
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: James Raley Title: EHS Professional Email: jim.raley@dvn.com Date: 03/14/2025
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

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QUESTIONS

Deferral Requests Only	
Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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QUESTIONS (continued)

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DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	6137
	Action Number: 442515
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QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	*{Unavailable.}*

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
Requesting a remediation closure approval with this submission	No

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CONDITIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
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CONDITIONS

Created By	Condition	Condition Date
rhamlet	The Remediation Plan is Approved. The request to use background sample results from background sample BG23-02 is approved. That particular background sample does seem to be more indicative of the release area delineation sample results.	4/10/2025