



June 6, 2023

Vertex Project #: 23E-01205

Spill Closure Report: Nina Cortell Federal Com TB
Section 03, Township 22 South, Range 32 East
API: 30-025-44548/44554
County: Lea
Incident Report: nAPP2306051909

Prepared For: **Matador Production Company**
1500, 5400 LBJ Freeway
Dallas, Texas 75240

New Mexico Oil Conservation Division – District 1 – Hobbs

1625 North French Drive
Hobbs, New Mexico 88240

Matador Production Company (Matador) retained Vertex Resource Services Inc. (Vertex) to conduct a Spill Assessment for a release of produced water caused by corrosion on the sand filter pot fitting at Nina Cortell Federal Com TB, API 30-025-44548/44554, Incident nAPP2306051909 (hereafter referred to as “Nina Cortell”). This letter provides a description of the Spill Assessment and includes a request for Incident Closure. The spill area is located at N 32.41390, W -103.66816.

Background

The site is located approximately 26.61 miles northeast of Loving, New Mexico (Google Inc., 2023). The legal location for the site is Section 03, Township 22 South and Range 32 East in Lea County, New Mexico. The spill area is located on Bureau of Land Management property. An aerial photograph and site schematic are included on Figure 1 (Attachment 1).

The Geological Map of New Mexico (New Mexico Bureau of Geology and Mineral Resources, 2023) indicates the Nina Cortell’s surface geology is comprised primarily of Qp – Piedmont and alluvial deposits (Holocene to middle Pleistocene). The Natural Resources Conservation Service *Web Soil Survey* characterizes the predominant soil texture at Nina Cortell as Simona fine sandy loam. It tends to be well drained with very high run off and low to moderately low available moisture levels in the soil profile (United States Department of Agriculture, Natural Resources Conservation Service, 2023).

The surrounding landscape is associated with plains at elevations of 3,000 to 4,200 feet above sea level. The climate is semi-arid, with annual precipitation ranging between 10 to 15 inches. Historically, the plant community has grassland aspect, dominated by grasses with shrubs. Black grama is dominant with a mixture of creosotebush, mesquite, and shrubs. Overgrazing and extended drought can reduce grass cover (United States Department of Agriculture, Natural Resources Conservation Service, 2023).

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There is no surface water located at Nina Cortell. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 Mexico Administrative Code (NMAC; New Mexico Oil Conservation Division, 2018), is the Pecos River located approximately 23.6 miles southwest of the site (United States Fish and Wildlife Service, 2023). There are no continuous flowing watercourses or significant watercourses, lakebeds, sinkholes, playa lakes, or other critical water or community features as outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

Incident Description

The spill occurred on March 1, 2023, due to corrosion on the sand filter pot fitting. The spill was reported on March 1, 2023, and involved the release of approximately 95 barrels (bbl.) of produced water onto the engineered pad. Approximately 30 bbl. of free fluid was removed during initial spill clean-up. The aerial view site schematic is included on Figure 1 (Attachment 1). A site characterization and laboratory analysis are included in Table 2 (Attachment 2). The New Mexico Oil Conservation Division (NMOCD) C-141 Report: nAPP2306051909 is included in Attachment 3. The daily field reports (DFRs) and site photographs are included in Attachment 4.

Closure Criteria Determination

The depth to groundwater was determined using information from the New Mexico Office of the State Engineer Water Rights Reporting System. A 0.5-mile search radius was used to determine groundwater depth. The closest recorded depth to a water bearing stratification was at 55 feet below ground surface (bgs) and 0.84 miles from the site (New Mexico Office of the State Engineer, New Mexico Water Rights Reporting System, 2023). Documentation used in Closure Criteria Determination research is included in Attachment 5.

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Closure Criteria Worksheet			
Site Name: Nina Cortell Federal Com TB			
Spill Coordinates:		X: 32.41390	Y: -103.66816
Site Specific Conditions		Value	Unit
1	Depth to Groundwater	55	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	124,547	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	43,704	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	56,802	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	4,433	feet
	ii) Within 1000 feet of any fresh water well or spring	4,433	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	2,887	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
9	Within an unstable area (Karst Map)	Low	Critical High Medium Low
10	Within a 100-year Floodplain	Undetermined	year
11	Soil Type	Simona fine sandy loam	
12	Ecological Classification	Shallow Sandy	
13	Geology	Qp	
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	<50'	<50' 51-100' >100'

The closure criteria determined for the site are associated with the following constituent concentration limits as presented in Table 1.

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Minimum depth below any point within the horizontal boundary of the release to groundwater less than 10,000 mg/l TDS	Constituent	Limit
< 50 feet	Chloride	600 mg/kg
	TPH (GRO+DRO+MRO)	100 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

TDS - Total dissolved solids

TPH - Total petroleum hydrocarbons = gasoline range organics (GRO) + diesel range organics (DRO) + motor oil range organics (MRO)

BTEX - Benzene, toluene, ethylbenzene, and xylenes

Remedial Actions Taken

An initial site inspection of the spill area was completed on March 30, 2023, which identified the area of the spill specified in the initial C-141 Report, estimated the approximate volume of the spill and white lined the area required for the 811 One Call request. The impacted area was determined to be approximately 168 feet long and 128 feet wide; the total affected area was determined to be 7,453 square feet. Characterization sample analysis results are included in Table 2 (Attachment 2). The DFR associated with the site inspection is included in Attachment 4.

Remediation efforts began on May 8, 2023, and were completed on May 12, 2023. Vertex personnel supervised the excavation of impacted soils. Field screening was completed on multiple sample points and consisted of analysis using Dextil Petroflag using EPA SW-846 Method 9074 (extractable hydrocarbons) and electroconductivity meter (chlorides). Field screening results were used to identify areas requiring further remediation from those areas showing concentrations below determined closure criteria levels. Soils were removed to a depth of 1 foot bgs. Impacted soil was transported by a licensed waste hauler and disposed of at an approved waste management facility.

Notification that confirmatory samples were being collected was provided to the NMOCD on May 8, 2023, and is included in Attachment 6. Confirmatory composite samples were collected from the base and walls of the excavation in 200 square foot increments. A total of 44 samples were collected for laboratory analysis following NMOCD soil sampling procedures. Samples were submitted to Hall Environmental Analysis Laboratory under chain-of-custody protocols and analyzed for BTEX (EPA Method 8021B), total petroleum hydrocarbons (GRO, DRO, MRO – EPA Method 8015D) and total chlorides (EPA Method 300.0). Laboratory results are presented in Table 3 (Attachment 2) and the laboratory data report is included in Attachment 7. All confirmatory samples collected and analyzed were below closure criteria for the site.

Closure Request

The spill area was fully delineated, remediated and backfilled with local soils. The confirmatory sample notification email is included in Attachment 6. Confirmatory samples were analyzed by the laboratory and found to be below allowable concentrations as per the NMAC Closure Criteria for Soils Impacted by a Release locations “under 50 feet to groundwater”. Based on these findings, Matador Production Company requests that this spill be closed.

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Should you have any questions or concerns, please do not hesitate to contact the undersigned at 575.361.9880 or mpeppin@vertex.ca.



Monica Peppin, A.S.
PROJECT MANAGER, REPORTING

June 6, 2023

Date

Attachments

- Attachment 1. Figures
- Attachment 2. Tables
- Attachment 3. NMOCD C-141 Report
- Attachment 4. Daily Field Reports with Photographs
- Attachment 5. Closure Criteria Research
- Attachment 6. Confirmatory Sample Notification to the NMOCD
- Attachment 7. Laboratory Data Reports and Chain of Custody Forms

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References

Google Inc. (2023). *Google Earth Pro* (Version 7.3.4) [Software]. Retrieved from <http://www.google.com/earth>

New Mexico Bureau of Geology and Mineral Resources. (2023). *Interactive Geologic Map*. Retrieved from <http://geoinfo.nmt.edu>.

New Mexico Mining and Minerals Division. (2023). *Coal Mine Resources in New Mexico*. Retrieved from <http://www.emnrd.state.nm.us/MMD/gismapminedata.html>

New Mexico Oil Conservation Division. (2018). *New Mexico Administrative Code – Natural Resources and Wildlife Oil and Gas Releases*. Santa Fe, New Mexico.

New Mexico Office of the State Engineer, New Mexico Water Rights Reporting System. (2023). *Water Column/Average Depth to Water Report*. Retrieved from <http://nmwrrs.ose.state.nm.us/nmwrrs/waterColumn.html>

United States Department of Agriculture, Natural Resources Conservation Service. (2023). *Web Soil Survey*. Retrieved from <https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>.

United States Department of Homeland Security, FEMA Flood Map Service Center. (2020).

United States Fish and Wildlife Service. (2023). *National Wetlands Inventory Surface Waters and Wetland*. Retrieved from <https://www.fws.gov/wetlands/data/Mapper.html>.

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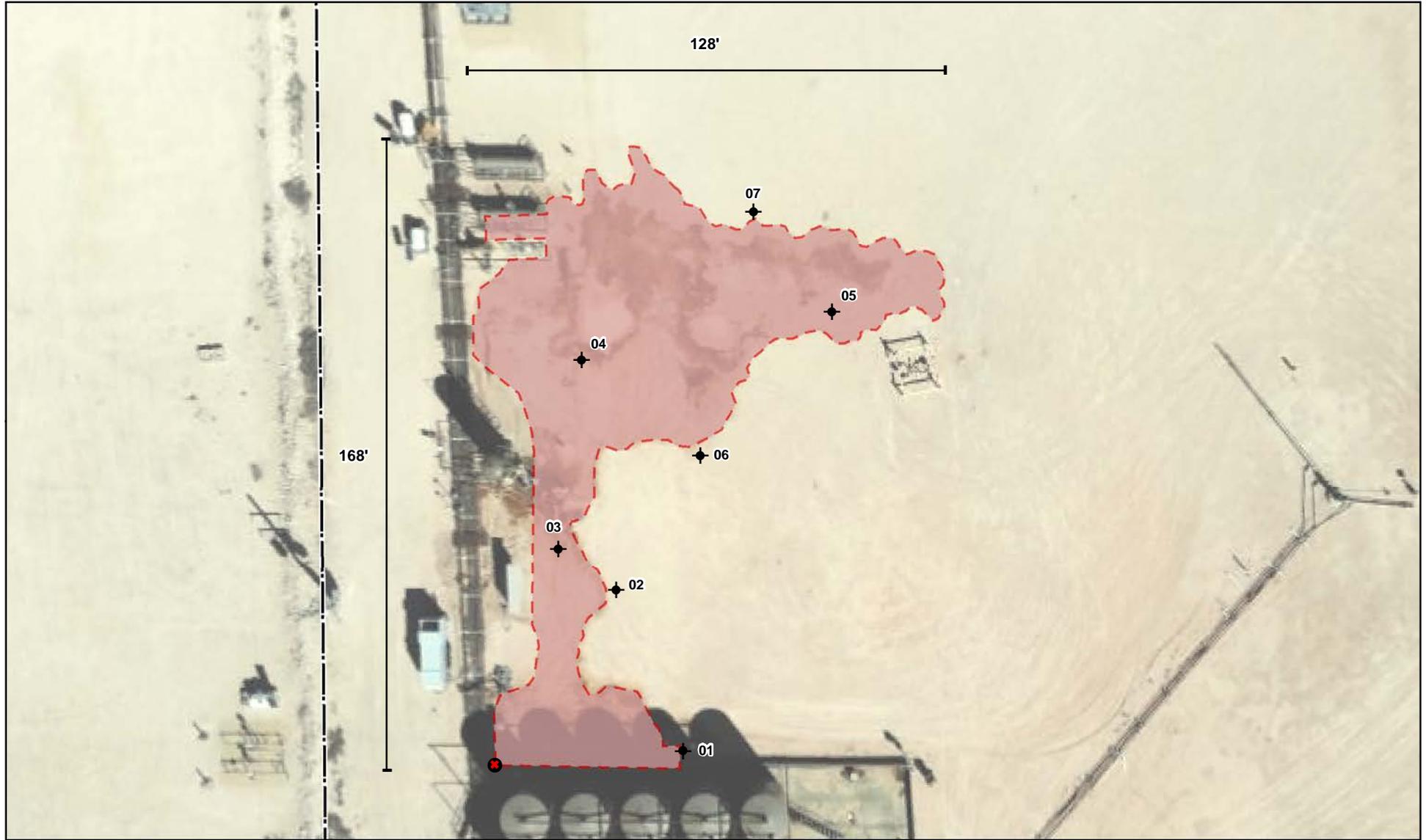
Limitations

This report has been prepared for the sole benefit of Matador Production Company. This document may not be used by any other person or entity, with the exception of the New Mexico Oil Conservation Division and Bureau of Land Management, without the express written consent of Vertex Resource Services Inc. (Vertex) and Matador Production Company. Any use of this report by a third party, or any reliance on decisions made based on it, or damages suffered as a result of the use of this report are the sole responsibility of the user.

The information and conclusions contained in this report are based upon work undertaken by trained professional and technical staff in accordance with generally accepted scientific practices current at the time the work was performed. The conclusions and recommendations presented represent the best judgement of Vertex based on the data collected during the assessment. Due to the nature of the assessment and the data available, Vertex cannot warrant against undiscovered environmental liabilities. Conclusions and recommendations presented in this report should not be considered legal advice.

ATTACHMENT 1

Document Path: G:\Projects\US PROJECTS\Matador Resources\23E-01205\Figure 1 Release Area Nina Cortell Federal Com TB (23E-01205).mxd



◆ Borehole (Prefixed by "BH23-")
⊗ Point of Release
⬜ Approximate Lease Boundary
■ Approximate Release Area (~7,453 sq.ft.)



0 5 10 20 30 40 Feet
 Map Center:
 Lat/Long: 32.414149, -103.667957

NAD 1983 UTM Zone 13N
 Date: Apr 18/23



Characterization Schematic
Nina Cortell Federal Com TB

FIGURE:

1

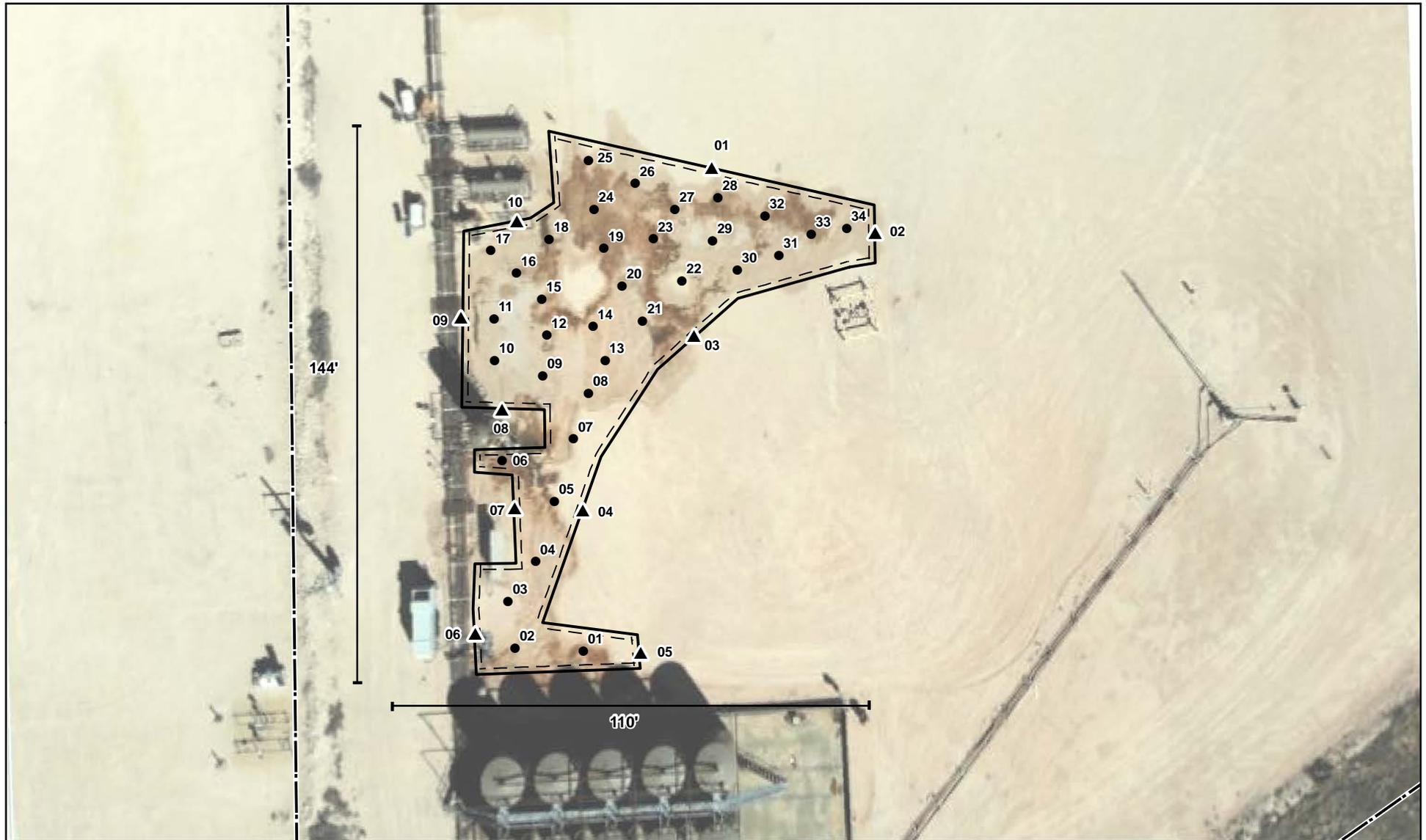


Geospatial data presented in this figure may be derived from external sources and Vertex does not assume any liability for inaccuracies. This figure is intended for reference use only and is not certified for legal, survey, or engineering purposes.

Note: Background image from UAV survey, 2023; georeferenced by Vertex. Feature locations created from imagery. Vertex Professional Services Ltd., 2023.

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Document Path: G:\Projects\US PROJECTS\Matador Resources\23E-01205\Figure 2 Confirmatory Nina Cortell Federal Com TB (23E-01205).mxd



- Base Sample (Prefixed by "BS23-")
- ▲ Wall Sample (Prefixed by "WS23-")
- ⬡ Approximate Lease Boundary
- ▭ Excavation to 1' (~6,745 sq.ft.)



0 20 40 Feet
 Map Center:
 Lat/Long: 32.414084, -103.667932

NAD 1983 UTM Zone 13N
 Date: Jun 06/23



Confirmatory Schematic
Nina Cortell Federal Com TB

FIGURE:
2



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: Background image from UAV survey, 2023; georeferenced by Vertex. Site features from GPS, Vertex Professional Services Ltd., 2023.

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ATTACHMENT 2

Table 2. Initial Characterization Sample Laboratory Results - Depth to Groundwater <50 feet bgs
Matador Production Company
Nina Cortell Federal Com TB
NMOCD Tracking #: nAPP2306051909
Project #: 23E-01205
Lab Report: 2303F77

Sample Description			Petroleum Hydrocarbons										Inorganic
Sample ID	Depth (ft)	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	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)	(mg/kg)	(mg/kg)	(mg/kg)
Criteria	NMOCD - NMAC <50 ft 19.15.29 (2018)		10	-	-	-	50	-	-	-	-	100	600
	NMOCD - NMAC 51-100 ft 19.15.29 (2018)		10	-	-	-	50	-	-	-	1000	2500	10000
	NMOCD - NMAC >100 ft 19.15.29 (2018)		10	-	-	-	50	-	-	-	1000	2500	20000
2023 Boreholes													
BH23-01	0	March 30, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4400
BH23-02	0	March 30, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	61
BH23-03	0	March 30, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12000
	2	March 30, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	65
BH23-04	0	March 30, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7500
	2	March 30, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	490
BH23-05	0	March 30, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12000
	2	March 30, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100
	3	March 30, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	61
BH23-06	0	March 30, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	170
BH23-07	0	March 30, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	60

NMAC - New Mexico Administrative Code (Title 19, Chapter 15, Part 29; 2022)

ND - Not Detected at the Reporting Limit

- Denotes no standard/not analyzed

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)



**Table 3. Confirmatory Laboratory Results - Depth to Groundwater <50 feet bgs
Matador Production Company and Operator Group
Nina Cortell Federal Com TB
NMOCD Tracking #: nAPP2306051909
Project #: 23E-01205
Lab Report: 2305811**

Sample Description			Petroleum Hydrocarbons										Inorganic
Sample ID	Depth (ft)	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	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)	(mg/kg)	(mg/kg)	(mg/kg)
Criteria	NMOCD - NMAC <50 ft 19.15.29 (2018)		10	-	-	-	50	-	-	-	-	100	600
2023 Excavation													
WS23-01	0 - 1	May 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	120
WS23-02	0 - 1	May 12, 2023	ND	ND	ND	ND	ND	ND	16	ND	16	16	160
WS23-03	0 - 1	May 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	62
WS23-04	0 - 1	May 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	110
WS23-05	0 - 1	May 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	140
WS23-06	0 - 1	May 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	110
WS23-07	0 - 1	May 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	110
WS23-08	0 - 1	May 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	95
WS23-09	0 - 1	May 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WS23-10	0 - 1	May 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	79
BS23-01	1	May 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	140
BS23-02	1	May 11, 2023	ND	ND	ND	ND	ND	ND	12	ND	12	12	170
BS23-03	1	May 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS23-04	1	May 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	130
BS23-05	1	May 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	120
BS23-06	1	May 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	88
BS23-07	1	May 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	75
BS23-08	1	May 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	68
BS23-09	1	May 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100
BS23-10	1	May 11, 2023	ND	ND	ND	ND	ND	ND	11	ND	11	11	120
BS23-11	1	May 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	84
BS23-12	1	May 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	110
BS23-13	1	May 11, 2023	ND	ND	ND	ND	ND	ND	15	ND	15	15	130
BS23-14	1	May 11, 2023	ND	ND	ND	ND	ND	ND	12	ND	12	12	170
BS23-15	1	May 11, 2023	ND	ND	ND	ND	ND	ND	33	ND	33	33	260
BS23-16	1	May 11, 2023	ND	ND	ND	ND	ND	ND	23	ND	23	23	160
BS23-17	1	May 11, 2023	ND	ND	ND	ND	ND	ND	16	ND	16	16	190
BS23-18	1	May 11, 2023	ND	ND	ND	ND	ND	ND	23	ND	23	23	220
BS23-19	1	May 11, 2023	ND	ND	ND	ND	ND	ND	15	ND	15	15	160
BS23-20	1	May 11, 2023	ND	ND	ND	ND	ND	ND	40	ND	40	40	260
BS23-21	1	May 11, 2023	ND	ND	ND	ND	ND	ND	37	ND	37	37	140
BS23-22	1	May 11, 2023	ND	ND	ND	ND	ND	ND	13	ND	13	13	150
BS23-23	1	May 11, 2023	ND	ND	ND	ND	ND	ND	41	48	41	89	290
BS23-24	1	May 11, 2023	ND	ND	ND	ND	ND	ND	31	ND	31	31	310
BS23-25	1	May 12, 2023	ND	ND	ND	ND	ND	ND	23	ND	23	23	230
BS23-26	1	May 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS23-27	1	May 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	120
BS23-28	1	May 12, 2023	ND	ND	ND	ND	ND	ND	12	ND	12	12	150
BS23-29	1	May 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS23-30	1	May 12, 2023	ND	ND	ND	ND	ND	ND	47	51	47	98	300
BS23-31	1	May 12, 2023	ND	ND	ND	ND	ND	ND	25	ND	25	25	290
BS23-32	1	May 12, 2023	ND	ND	ND	ND	ND	ND	35	ND	35	35	380
BS23-33	1	May 12, 2023	ND	ND	ND	ND	ND	ND	23	ND	23	23	310
BS23-34	1	May 12, 2023	ND	ND	ND	ND	ND	ND	24	ND	24	24	300

NMAC - New Mexico Administrative Code (Title 19, Chapter 15, Part 29; 2022)
 ND - Not Detected at the Reporting Limit
 - Denotes no standard/not analyzed



ATTACHMENT 3

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

State of New Mexico
Energy Minerals and Natural
Resources Department

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

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

Incident ID	nAPP2306051909
District RP	
Facility ID	
Application ID	

BLM - NMNM135247

Release Notification

Responsible Party

Responsible Party Matador Production Company	OGRID 228937
Contact Name Clinton Talley	Contact Telephone 575-361-4333
Contact email clinton.talley@matadorresources.com	Incident # (assigned by OCD) nAPP2306051909
Contact mailing address 5400 LBJ Freeway, Suite 1500 Dallas, Texas 75240	

Location of Release Source

Latitude 32.41390 Longitude -103.66816
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Nina Cortell Federal Com TB	Site Type CTB
Date Release Discovered 03/01/2023	API# (if applicable) 30-025-44548/30-025-44554

Unit Letter	Section	Township	Range	County
M	3	22S	32E	Lea

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

Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 95.20	Volume Recovered (bbls) 30
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

Corrosion on Sand Filter Pot fitting

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2306051909
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? >25 bbls
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? NOR emailed to NMOCD via portal by Clinton Talley 2:30 PM	

Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why: 	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: <u>Clinton Talley</u>	Title: <u>RES Specialist</u>
Signature: <u><i>Clinton Talley</i></u>	Date: <u>6/7/2023</u>
email: <u>clinton.talley@matadorresources.com</u>	Telephone: <u>337-319-8398</u>
<u>OCD Only</u> Received by: _____ Date: _____	

Incident ID	nAPP2306051909
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<u> >55 </u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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

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

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

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

Incident ID	nAPP2306051909
District RP	
Facility ID	
Application ID	

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

Printed Name: Clinton Talley Title: EHS Supervisor

Signature: *Clinton Talley* Date: 6/7/2023

email: clinton.talley@matadorresources.com Telephone: 337-319-8398

OCD Only

Received by: Jocelyn Harimon Date: 06/07/2023

Incident ID	nAPP2306051909
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

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

Printed Name: Clinton Talley Title: EHS Supervisor
 Signature: *Clinton Talley* Date: 6/7/2023
 email: clinton.talley@matadorresources.com Telephone: 337-319-8398

OCD Only

Received by: _____ Date: _____

- Approved Approved with Attached Conditions of Approval Denied Deferral Approved

Signature: _____ Date: _____

State of New Mexico
Oil Conservation Division

Page 6

Incident ID	nAPP2306051909
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

Printed Name: Clinton Talley Title: EHS Supervisor
 Signature: *Clinton Talley* Date: 6/7/2023
 email: clinton.talley@matadorresources.com Telephone: 337-319-8398

OCD Only

Received by: Jocelyn Harimon Date: 06/07/2023

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

Closure Approved by: *Nelson Velez* Date: 09/05/2023
 Printed Name: Nelson Velez Title: Environmental Specialist - Adv

ATTACHMENT 4



Daily Site Visit Report

Client:	<u>Matador Resources</u>	Inspection Date:	<u>3/1/2023</u>
Site Location Name:	<u>Nina Cortell Federal Com TB</u>	Report Run Date:	<u>3/1/2023 11:30 PM</u>
Client Contact Name:	<u>Arsenio Jones</u>	API #:	<u></u>
Client Contact Phone #:	<u>(575)361-4333</u>		
Unique Project ID	<u></u>	Project Owner:	<u></u>
Project Reference #	<u></u>	Project Manager:	<u></u>

Summary of Times

Arrived at Site	<u>3/1/2023 1:57 PM</u>
Departed Site	<u>3/1/2023 3:11 PM</u>

Daily Site Visit Report



Field Notes

- 14:00** Sand pot corrosion resulting in produced water release around equipment and pad area. Vacuum truck able to recover 30 bbls from the pad area. Based on square footage and duration of release 95 bbls total released
- 14:02** Point of release mapped and release area georeferenced. One call directions and area marked to complete delineation
- 14:12** Submission of release notice to nmocd and blm

Next Steps & Recommendations

- 1 Delineate release area



Daily Site Visit Report

Site Photos

Viewing Direction: South



Descriptive Photo - 9
Viewing Direction: South
Date: Release area
Created: 3/1/2023 2:06:31 PM
Lat:32.413993, Long:-103.669055

Release area

Viewing Direction: North



Descriptive Photo - 10
Viewing Direction: North
Date: Release area
Created: 3/1/2023 2:06:31 PM
Lat:32.413993, Long:-103.669055

Release area

Viewing Direction: West



Descriptive Photo - 41
Viewing Direction: West
Date: Electrical panel area
Created: 3/1/2023 2:06:29 PM
Lat:32.413993, Long:-103.669055

Electrical panel area

Viewing Direction: Northeast

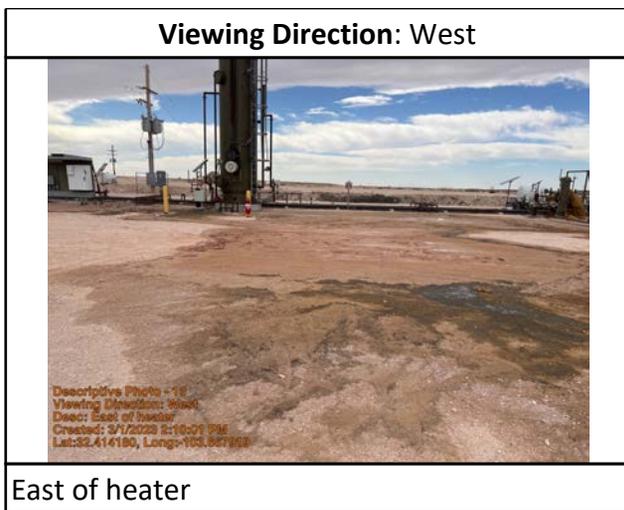


Descriptive Photo - 15
Viewing Direction: Northeast
Date: Pad area
Created: 3/1/2023 2:06:31 PM
Lat:32.413993, Long:-103.669055

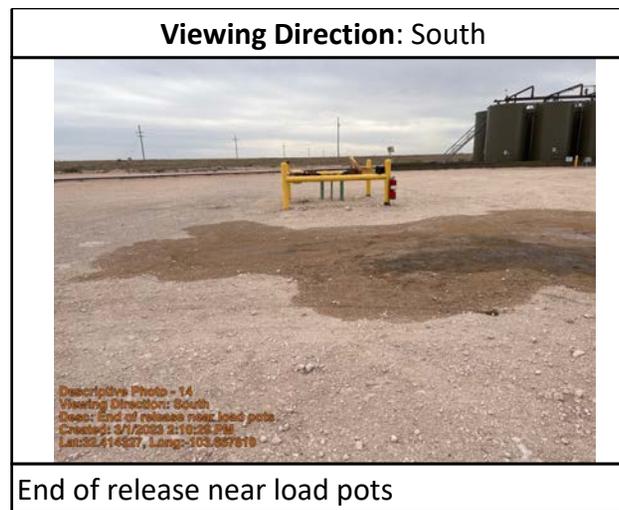
Pad area



Daily Site Visit Report



East of heater



End of release near load pots



Release area



Release area



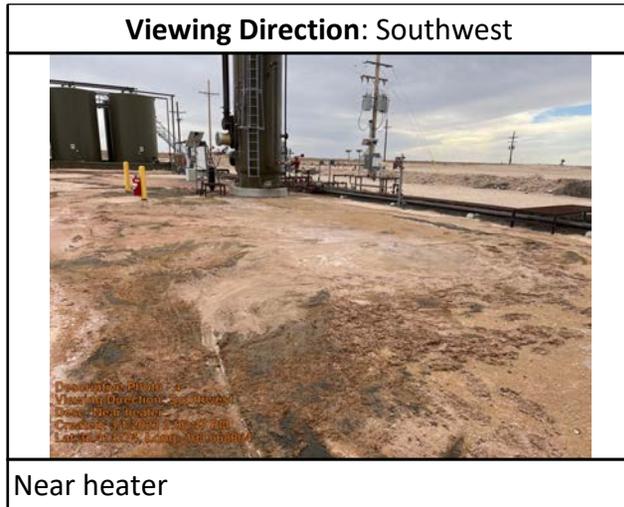
Daily Site Visit Report



Release area



Between separators



Near heater



Pad area



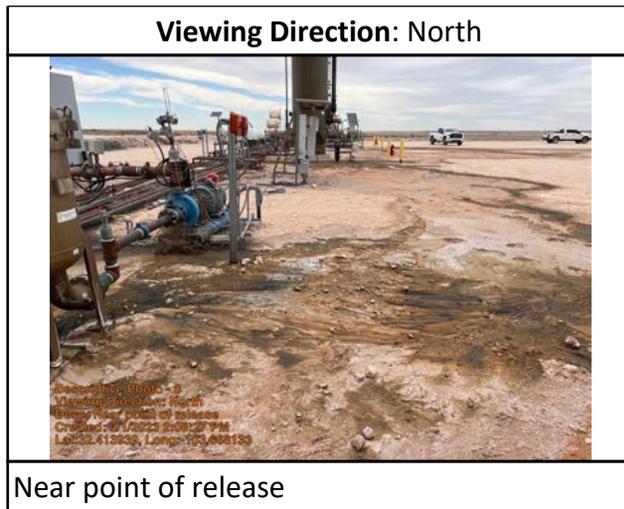
Daily Site Visit Report



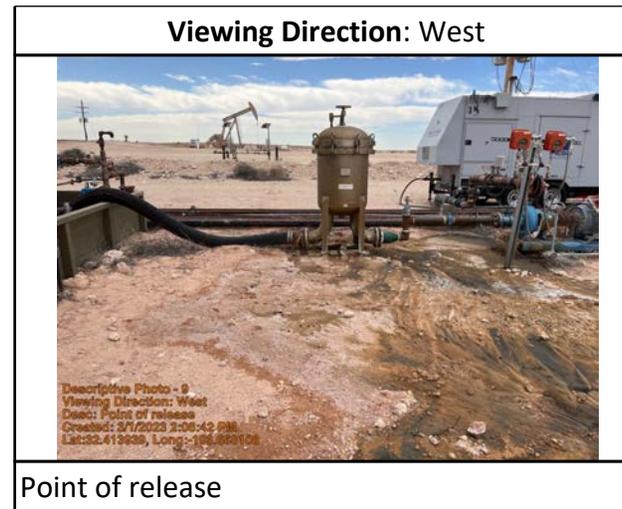
Near electrical



North side of containment



Near point of release



Point of release

Daily Site Visit Report



Daily Site Visit Signature

Inspector: Monica Peppin

Signature:

Signature

A handwritten signature in black ink, consisting of a series of loops and a large circular flourish at the end. Below the signature is a thin horizontal line with the word 'Signature' written underneath it.



Daily Site Visit Report

Client:	<u>Matador Resources</u>	Inspection Date:	<u>5/12/2023</u>
Site Location Name:	<u>Nina Cortell Federal Com TB</u>	Report Run Date:	<u>5/23/2023 9:37 PM</u>
Client Contact Name:	<u>Arsenio Jones</u>	API #:	<u></u>
Client Contact Phone #:	<u>(575)361-4333</u>		
Unique Project ID	<u></u>	Project Owner:	<u></u>
Project Reference #	<u></u>	Project Manager:	<u></u>

Summary of Times

Arrived at Site	<u>5/12/2023 8:18 AM</u>
Departed Site	<u></u>

Daily Site Visit Report



Field Notes

10:44 Complete sampling of excavation

10:44 Map out points and excavation area

Next Steps & Recommendations

- 1** Send samples to lab
- 2** Backfill
- 3** Closure report



Daily Site Visit Report

Site Photos

Viewing Direction: North



Descriptive Photo - 1
Viewing Direction: North
Date: Excavation
Created: 5/12/2023 10:51:52 AM
Lat:32.414107, Long:-103.688227

Excavation

Viewing Direction: South



Descriptive Photo - 2
Viewing Direction: South
Date: Excavation
Created: 5/12/2023 10:52:10 AM
Lat:32.414107, Long:-103.688227

Excavation

Viewing Direction: North



Descriptive Photo - 3
Viewing Direction: North
Date: Excavation
Created: 5/12/2023 10:52:42 AM
Lat:32.414107, Long:-103.688227

Excavation

Viewing Direction: Northeast



Descriptive Photo - 4
Viewing Direction: Northeast
Date: Excavation
Created: 5/12/2023 10:52:51 AM
Lat:32.414107, Long:-103.688227

Excavation



Daily Site Visit Report



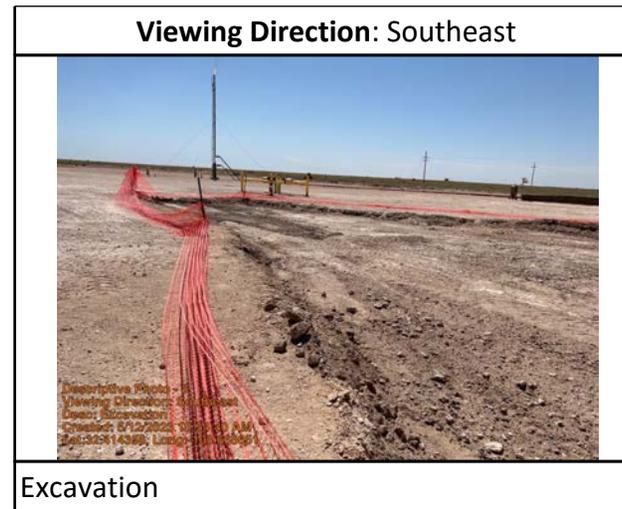
Excavation



Excavation



Excavation



Excavation



Daily Site Visit Report

Viewing Direction: East
 <p><small>Descriptive Photo Viewing Direction: East Date: 5/23/2023 Credits: Photo by Vertex Latitude: 34.000000 Longitude: -103.000000</small></p>
Excavation

Daily Site Visit Report



Daily Site Visit Signature

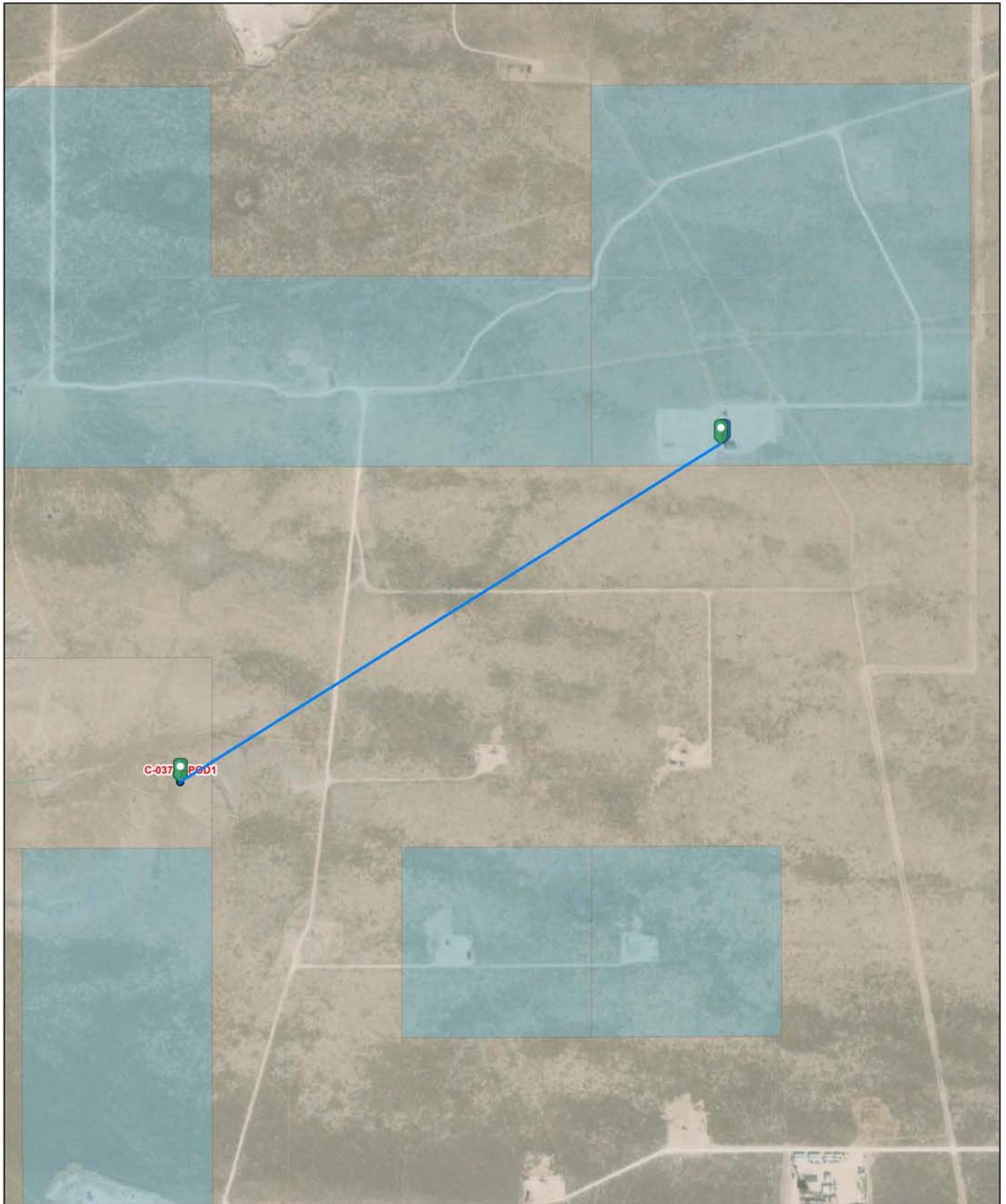
Inspector: Monica Peppin

A handwritten signature in black ink, appearing to be 'M. Peppin', written over a horizontal line.

Signature:

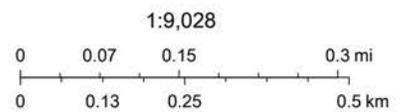
Signature

ATTACHMENT 5



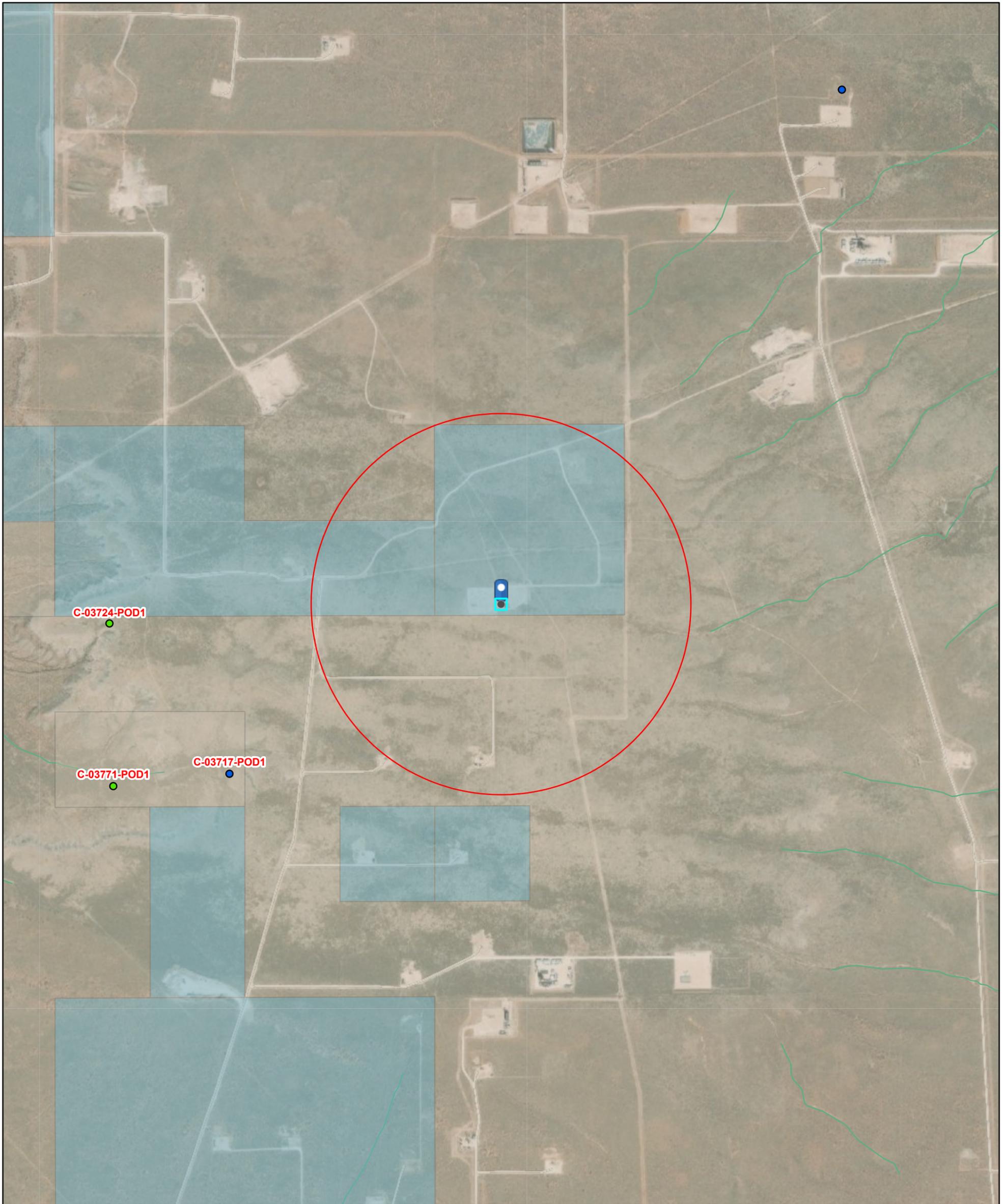
4/18/2023, 1:42:46 PM

- Override 1
- GIS WATERS PODs
 - Active
 - OSE District Boundary
- Water Right Regulations
 - Closure Area
 - New Mexico State Trust Lands
 - Subsurface Estate
 - Both Estates
- NHD Flowlines
 - Artificial Path
 - Stream River
 - SiteBoundaries



Esri, HERE, IPC, U.S. Department of Energy Office of Legacy Management, Esri, HERE, Garmin, IPC, Maxar

Nina Cortell Federal Com TB



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GIS WATERS PODs

- Active
- Pending
- OSE District Boundary

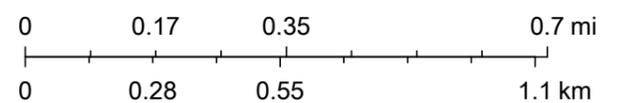
Water Right Regulations

- Closure Area
- New Mexico State Trust Lands
- Subsurface Estate
- Both Estates

NHD Flowlines

- Artificial Path
- Stream River
- Site Boundaries

1:18,056



Esri, HERE, iPC, U.S. Department of Energy Office of Legacy Management, Esri, HERE, Garmin, iPC, Maxar



New Mexico Office of the State Engineer

Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)			(NAD83 UTM in meters)
Well Tag	POD Number	(quarters are smallest to largest)			
		Q64 Q16 Q4 Sec Tws Rng	X	Y	
C	03717 POD1	4 4 1 09 22S 32E	624094	3586365	

Driller License: 1058 **Driller Company:** KEY'S DRILLING & PUMP SERVICE

Driller Name: KEY, GARY

Drill Start Date: 08/04/2014 **Drill Finish Date:** 08/12/2014 **Plug Date:**

Log File Date: 08/26/2014 **PCW Rev Date:** **Source:** Shallow

Pump Type: **Pipe Discharge Size:** **Estimated Yield:** 2 GPM

Casing Size: 10.00 **Depth Well:** 650 feet **Depth Water:**

Water Bearing Stratifications:	Top	Bottom	Description
	55	72	Sandstone/Gravel/Conglomerate
	620	630	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	2	20

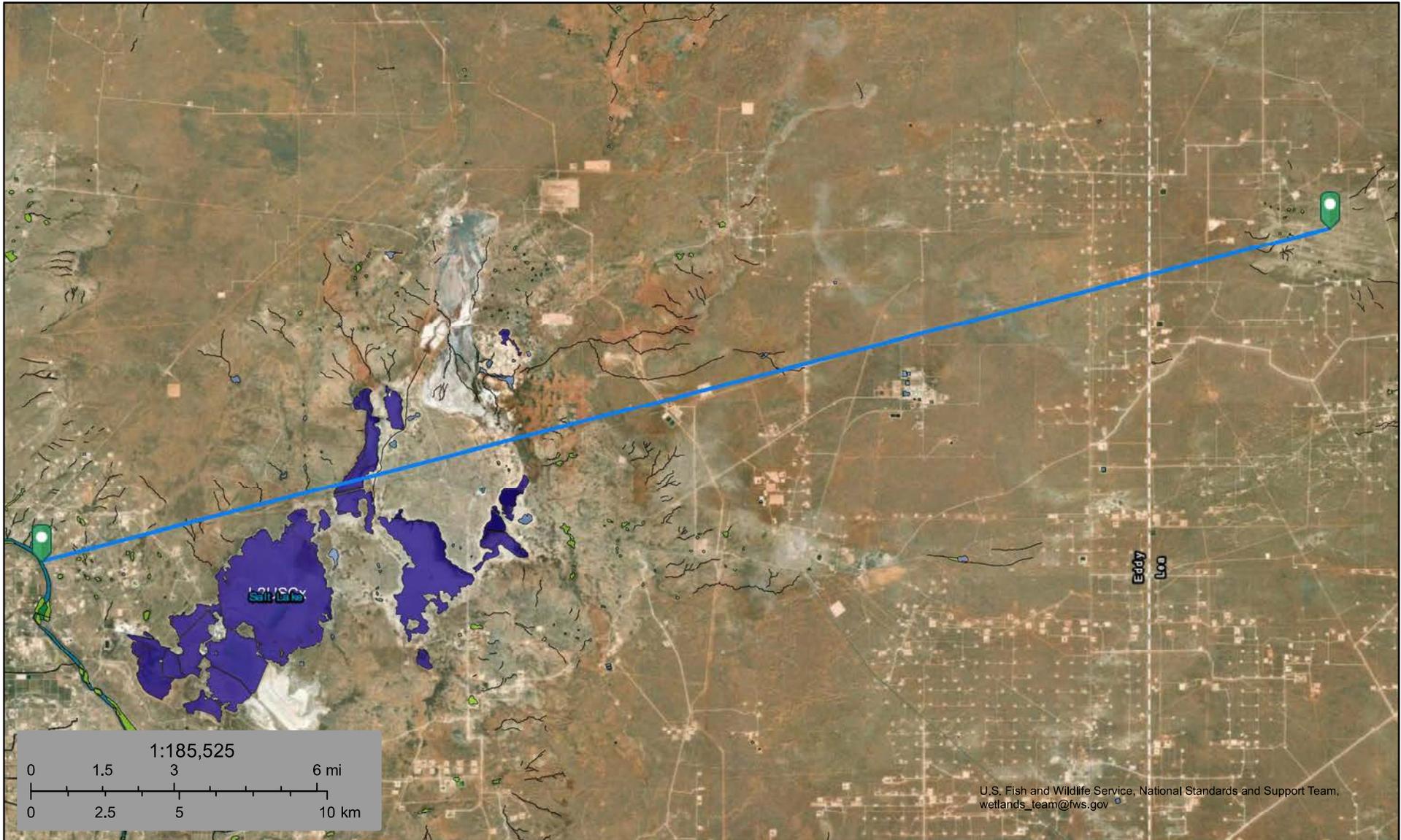
The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

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POINT OF DIVERSION SUMMARY



Nina Cortell Federal Com TB



April 18, 2023

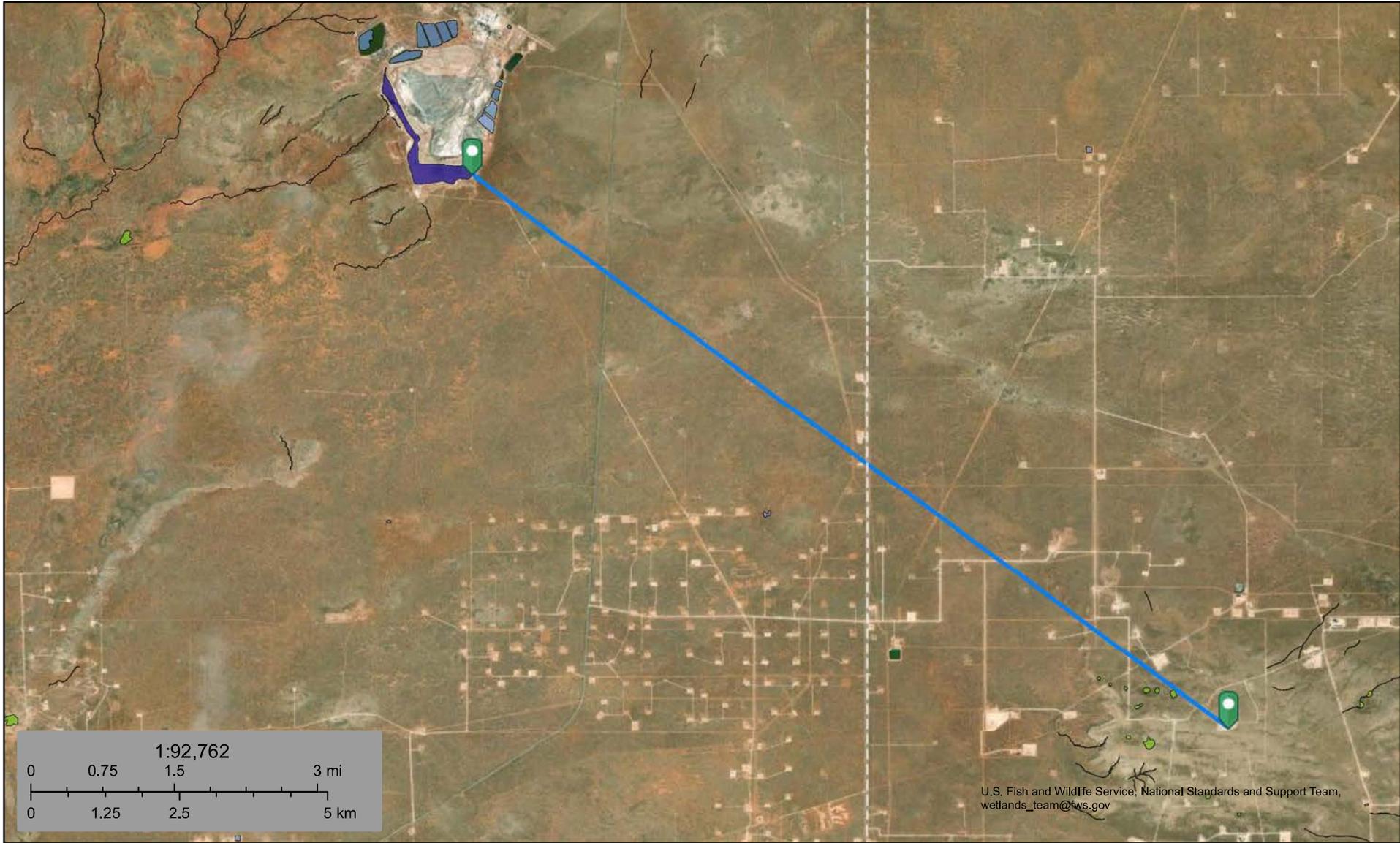
Wetlands

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

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



Nina Cortell Federal Com TB



April 18, 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.

Nina Cortell Federal Com TB

Residence: 10.76 miles (56,802 feet)

Legend

 Residence

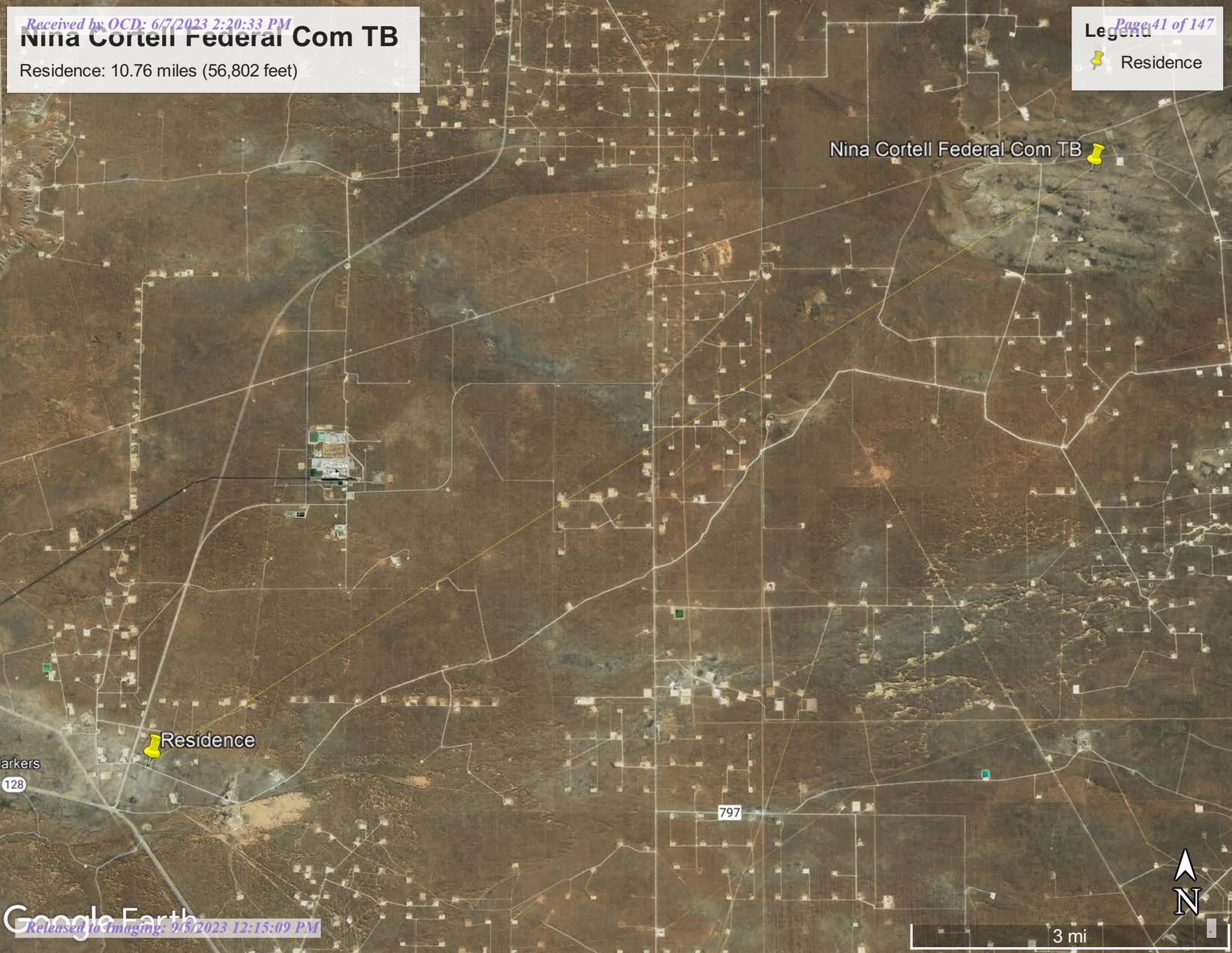
Nina Cortell Federal Com TB 

 Residence

Markers

128

797





New Mexico Office of the State Engineer

Water Right Summary



WR File Number: C 03717 **Subbasin:** C **Cross Reference:** -
Primary Purpose: STK 72-12-1 LIVESTOCK WATERING
Primary Status: PMT PERMIT
Total Acres: **Subfile:** - **Header:** -
Total Diversion: 3 **Cause/Case:** -
Owner: SLASH 46 RANCH
Contact: STACY MILLS

Documents on File

Trn #	Doc	File/Act	Status		Transaction Desc.	From/	Acres	Diversion	Consumptive
			1	2		To			
539318	72121	2014-01-15	PMT	LOG	C 03717 POD1	T		3	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q	64Q16Q4Sec	Tws	Rng	X	Y	Other Location Desc
C 03717 POD1		Shallow	4	4	1	09 22S 32E	624094	3586365	

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

4/18/23 1:18 PM

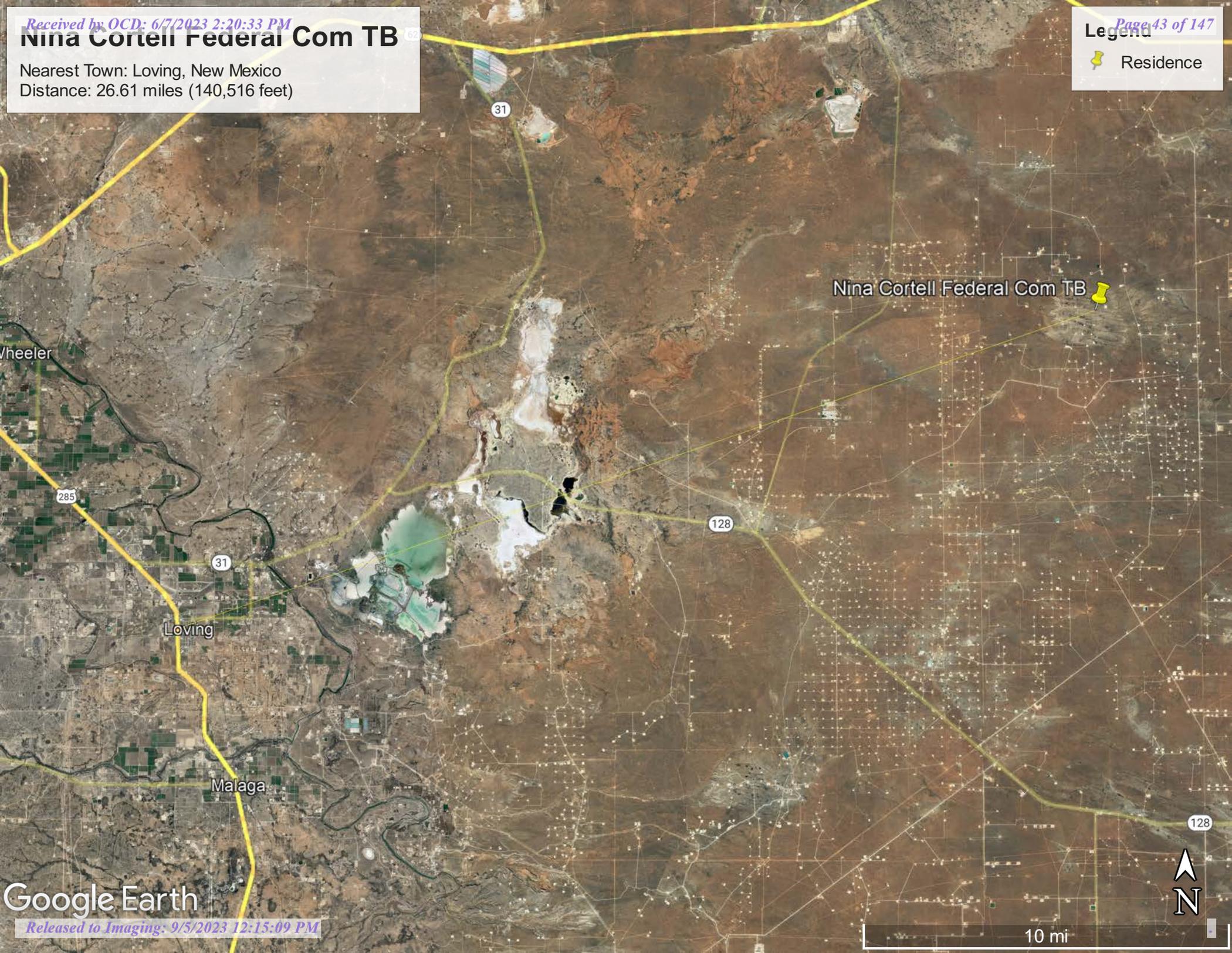
WATER RIGHT SUMMARY

Nina Cortell Federal Com TB

Legend

-  Residence

Nearest Town: Loving, New Mexico
 Distance: 26.61 miles (140,516 feet)



Nina Cortell Federal Com TB 

Loving

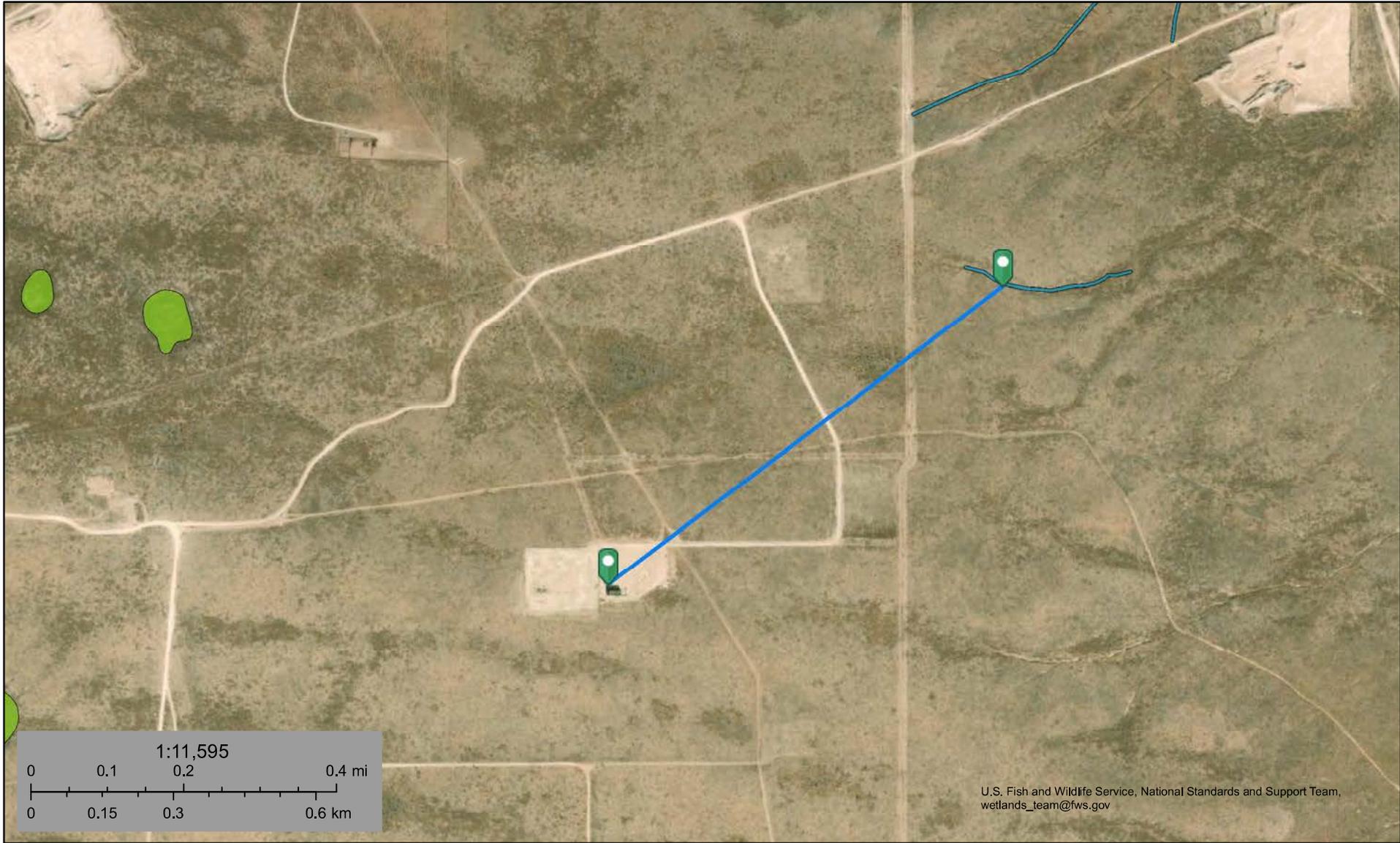
Malaga



10 mi



Nina Cortell Federal Com TB



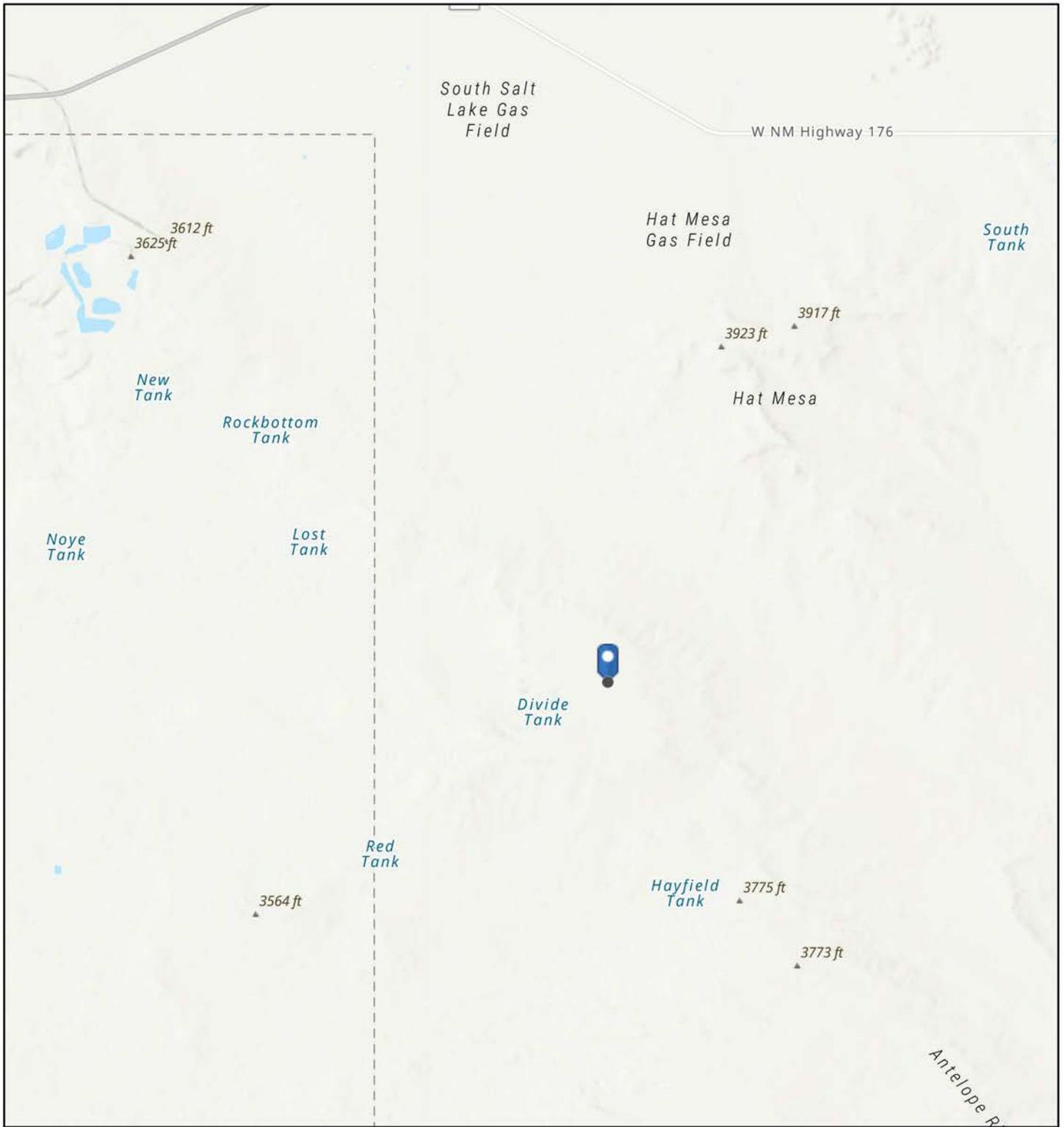
April 18, 2023

Wetlands

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

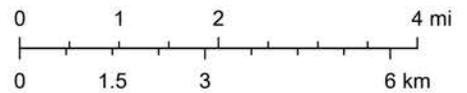
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Nina Cortell Federal Com TB



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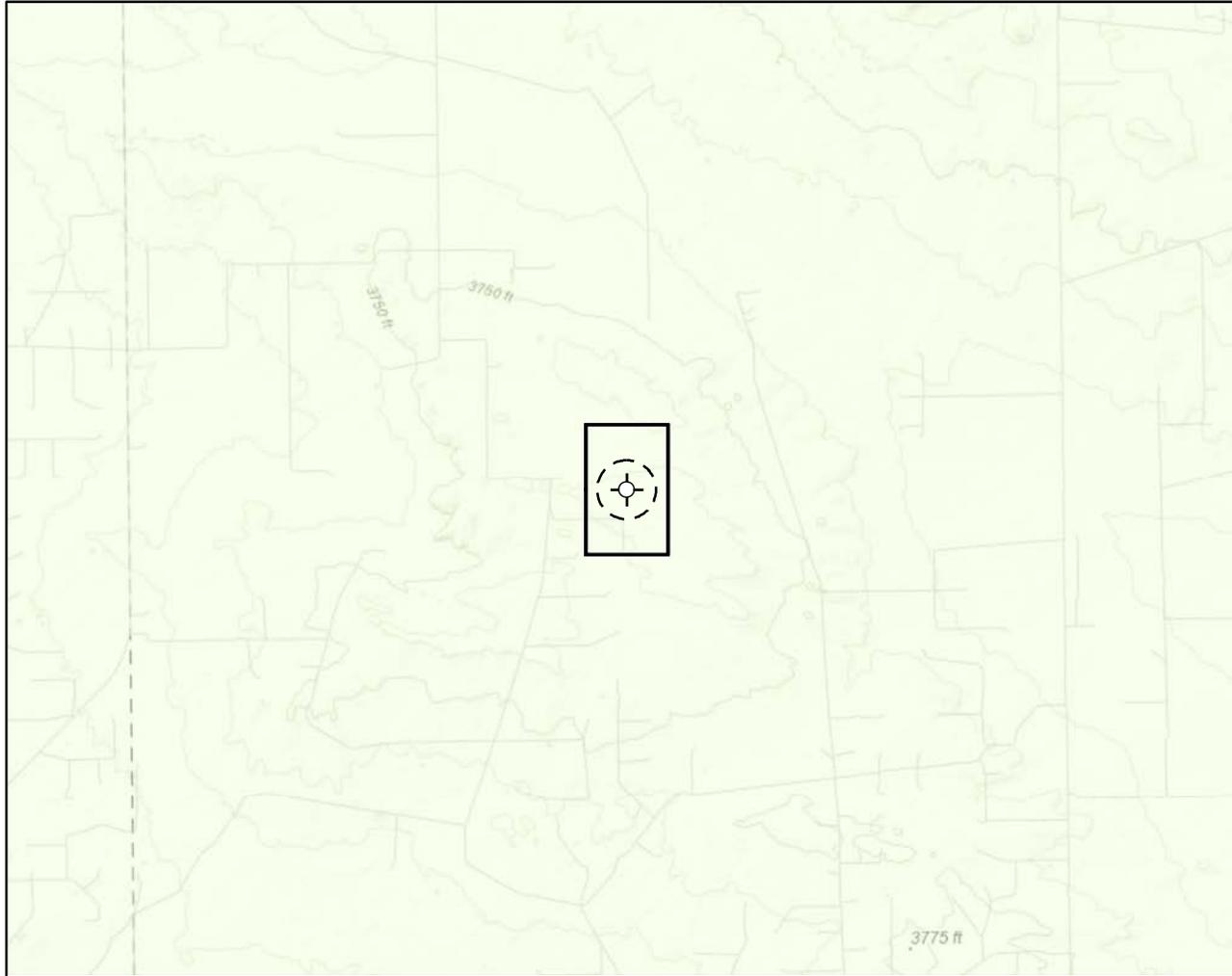
1:144,448



Esri, NASA, NGA, USGS, NM Coal Mine Reclamation Program, NM EMNRD, New Mexico State University, Texas Parks & Wildlife, CONANP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA

EMNRD MMD GIS Coordinator

Document Path: G:\Projects\US PROJECTS\Material Resources\23E-01205\Figure X Karst Potential Schematic Nina Cortell Federal Com TB (23E-01205).mxd



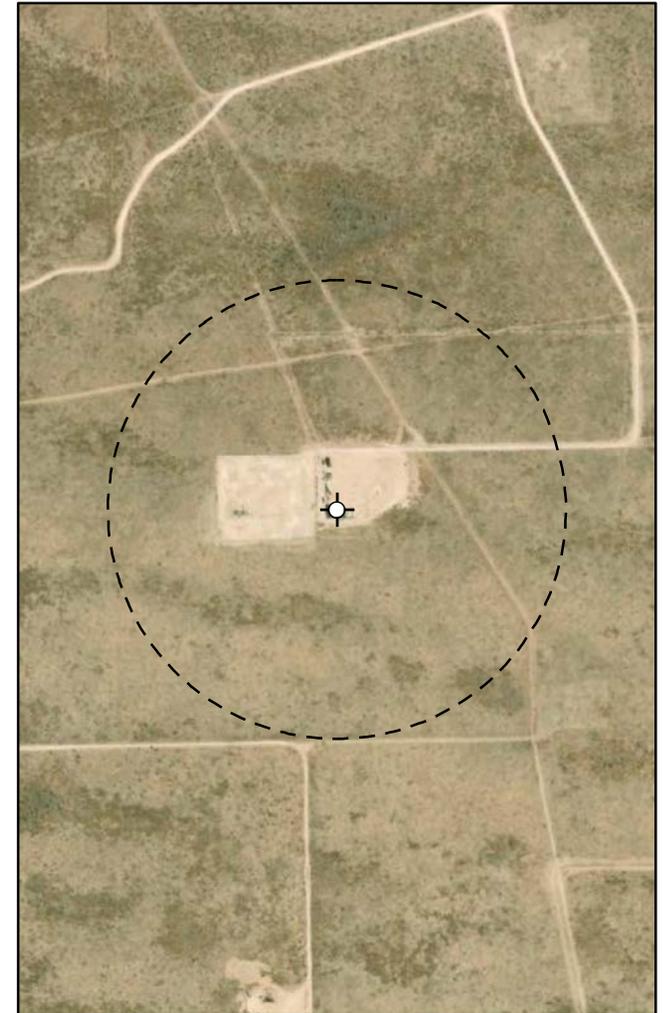
Karst Potential

- Critical
- High
- Medium
- Low

- Site Location
- Site Buffer (1000 ft.)

Overview Map

0 0.25 0.5 1 mi



Detail Map

0 150 300 600 ft.



Map Center:
Lat/Long: 32.413900, -103.668160

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



**Karst Potential Schematic
Nina Cortell Federal Com TB**

FIGURE:

X



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.

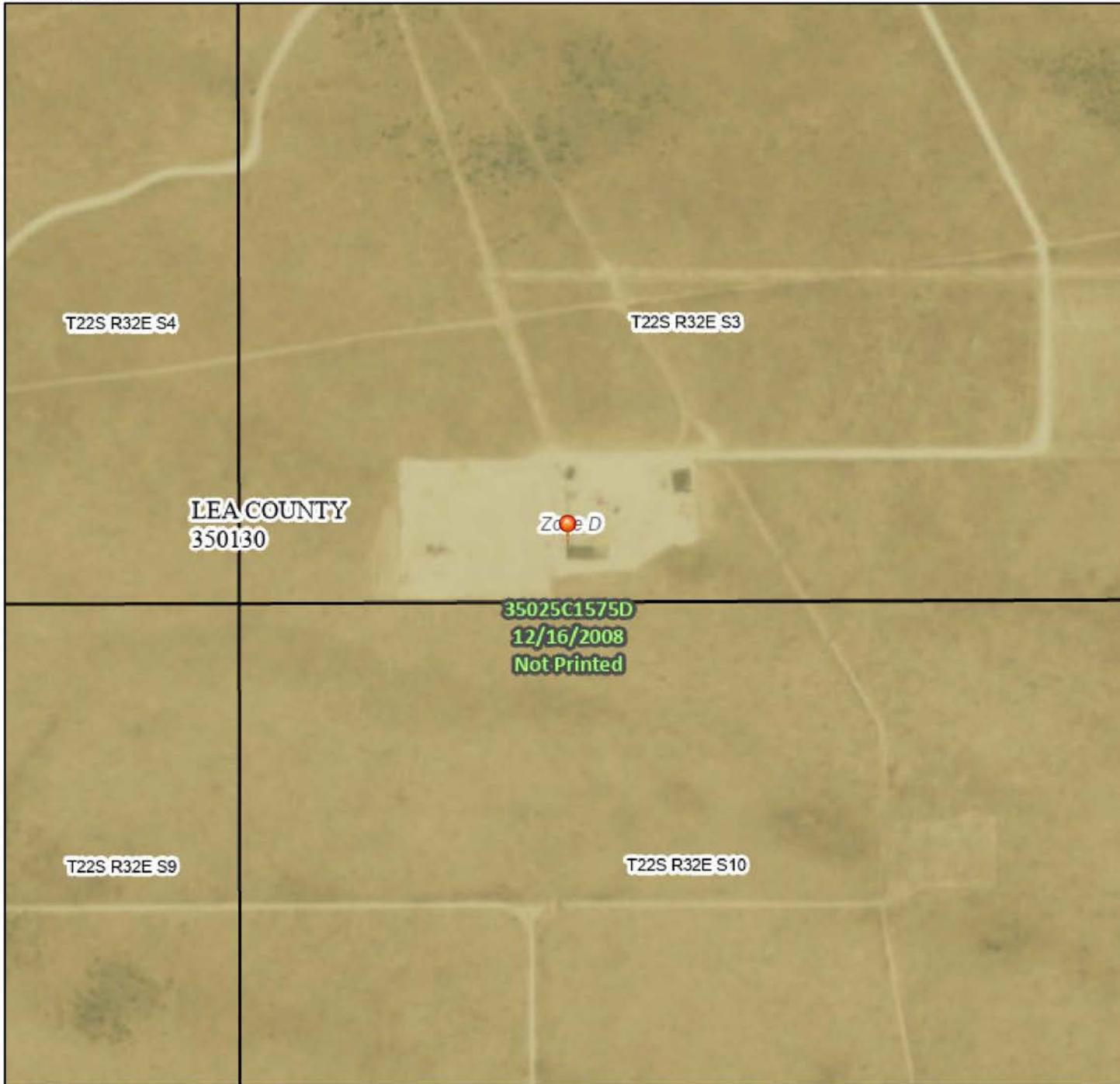
Note: Inset Map, ESRI 2023; Overview Map: ESRI World Topographic. Karst potential data sourced from Roswell Field Office, Bureau of Land Management, 2020 or United States Department of the Interior, Bureau of Land Management. (2018). Karst Potential.

VERSATILITY. EXPERTISE.

National Flood Hazard Layer FIRMMette



103°40'24"W 32°25'5"N

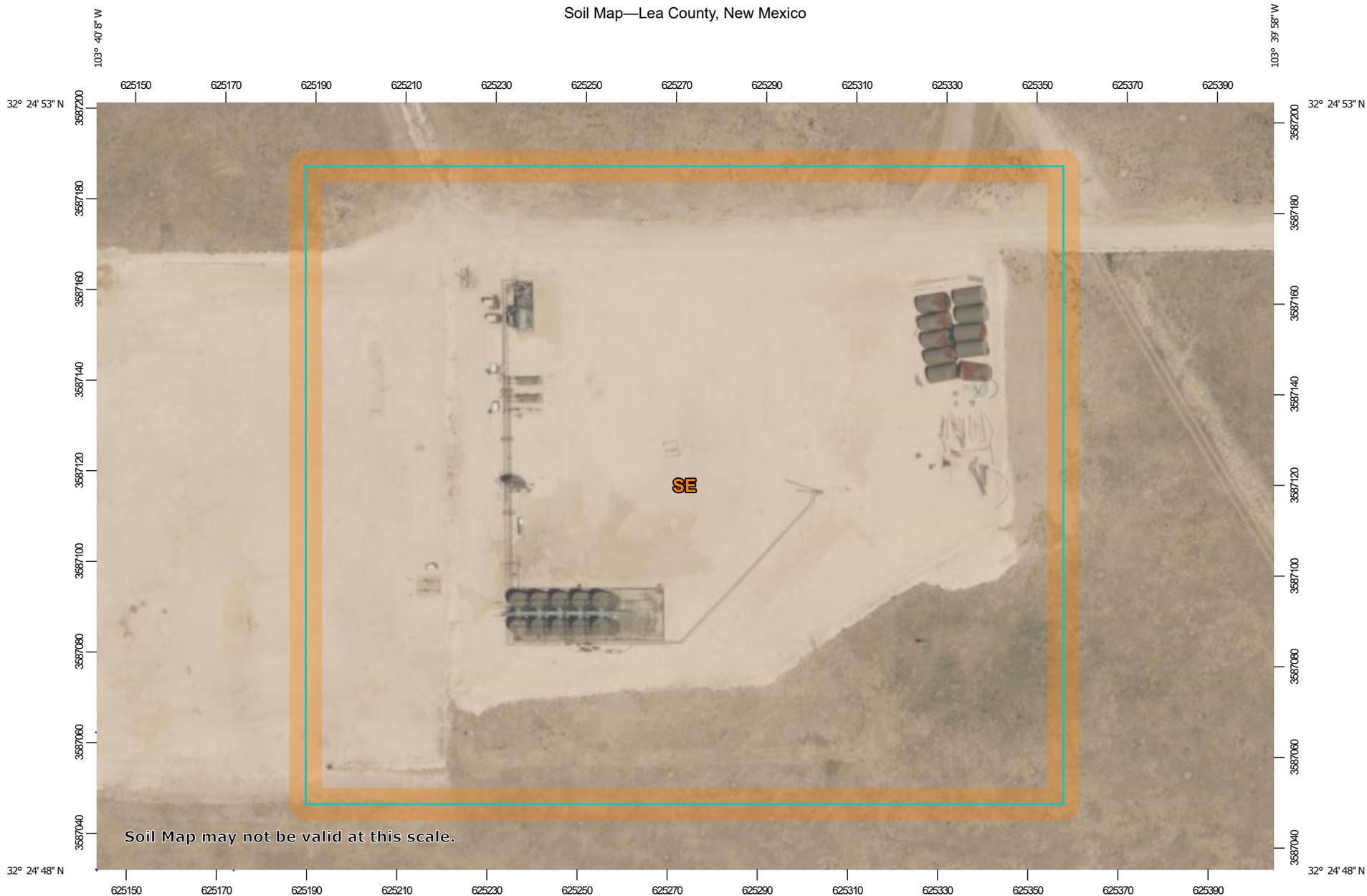


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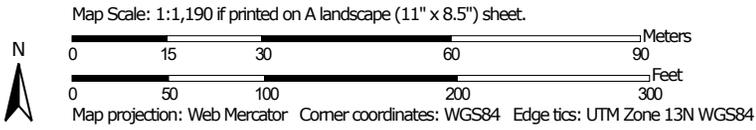
SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

- 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**
 - Cross Sections with 1% Annual Chance 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
- The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

Soil Map—Lea County, New Mexico



Soil Map may not be valid at this scale.



Soil Map—Lea County, New Mexico

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

Water Features

 Streams and Canals

Transportation

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

Background

 Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Lea County, New Mexico
 Survey Area Data: Version 19, 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.

Soil Map—Lea County, New Mexico

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
SE	Simona fine sandy loam, 0 to 3 percent slopes	5.9	100.0%
Totals for Area of Interest		5.9	100.0%

Map Unit Description: Simona fine sandy loam, 0 to 3 percent slopes---Lea County, New Mexico

Lea County, New Mexico

SE—Simona fine sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: dmr2
Elevation: 3,000 to 4,200 feet
Mean annual precipitation: 10 to 15 inches
Mean annual air temperature: 58 to 62 degrees F
Frost-free period: 190 to 205 days
Farmland classification: Not prime farmland

Map Unit Composition

Simona and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Simona

Setting

Landform: Plains
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Calcareous eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 8 inches: fine sandy loam
Bk - 8 to 16 inches: gravelly fine sandy loam
Bkm - 16 to 26 inches: cemented material

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 7 to 20 inches to petrocalcic
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 35 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: Very low (about 2.0 inches)

Interpretive groups

Land capability classification (irrigated): 6s

Map Unit Description: Simona fine sandy loam, 0 to 3 percent slopes---Lea County, New Mexico

Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R070BD002NM - Shallow Sandy
Hydric soil rating: No

Minor Components

Kimbrough

Percent of map unit: 8 percent
Ecological site: R077CY037TX - Very Shallow 16-21" PZ
Hydric soil rating: No

Lea

Percent of map unit: 7 percent
Ecological site: R077CY028TX - Limy Upland 16-21" PZ
Hydric soil rating: No

Data Source Information

Soil Survey Area: Lea County, New Mexico
Survey Area Data: Version 19, Sep 8, 2022

Ecological site R070BD002NM Shallow Sandy

Accessed: 04/18/2023

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.

Associated sites

R070BD004NM	Sandy Sandy sites often occur in association or in a complex with Shallow Sandy Sites.
-------------	--

Similar sites

R070BD004NM	Sandy Sandy ecological sites are similar to Shallow Sandy sites in species composition and Transition pathways.
-------------	---

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

This site occurs on plains, alluvial fans, uplands, or fan piedmonts. The parent material consists of mixed loamy alluvium or eolian material derived from igneous and sedimentary bedrock. The petrocalcic layer is at a depth of 10 to 25 inches and undulating.

Slopes are nearly level to undulating, usually less than 9 percent. Elevations range from 2,842 to 4,500 feet.

Table 2. Representative physiographic features

Landforms	(1) Plain (2) Fan piedmont (3) Alluvial fan
Elevation	2,842–4,500 ft
Slope	1–9%
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 from 207 to 220 days. The last killing frost is in 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 the site. The vegetation of this site can take advantage of the moisture and the time it falls. Because of the soil profile, little moisture can be stored in the soil for any length of time. Moisture is readily available to the plants from the time it falls. Strong winds from the southwest blow from January through June which rapidly dries out the soil profile during a critical period for 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)	221 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

Soils are very shallow to shallow, less than 20 inches in depth. Surface and subsurface textures are gravelly loamy sand, gravelly fine sandy loam or fine sandy loam.

An indurated calache layer occurs at depths of 6 to 25 inches and is at an average of 15 inches from the surface. Underlying material textures are very gravelly fine sandy loam, very gravelly sandy loam, gravelly fine sandy loam. Gravels are calcium carbonate concretions, calcium carbonate content ranges from 30 to 65 percent.

The indurated caliche layer typically holds water up in the profile for short periods within the root zone of plants. These soils will blow if left unprotected by vegetation.

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

Characteristic soils are:

- Simona
- Jerag

Table 4. Representative soil features

Surface texture	(1) Fine sandy loam (2) Loamy fine sand (3) Gravelly fine sandy loam
Family particle size	(1) Loamy
Drainage class	Well drained to moderately well drained
Permeability class	Moderately slow to moderate

Soil depth	7–24 in
Surface fragment cover <=3"	5–25%
Surface fragment cover >3"	0%
Available water capacity (0-40in)	1–2 in
Calcium carbonate equivalent (0-40in)	5–15%
Electrical conductivity (0-40in)	0–4 mmhos/cm
Sodium adsorption ratio (0-40in)	0
Soil reaction (1:1 water) (0-40in)	7.4–8
Subsurface fragment volume <=3" (Depth not specified)	5–25%
Subsurface fragment volume >3" (Depth not specified)	0%

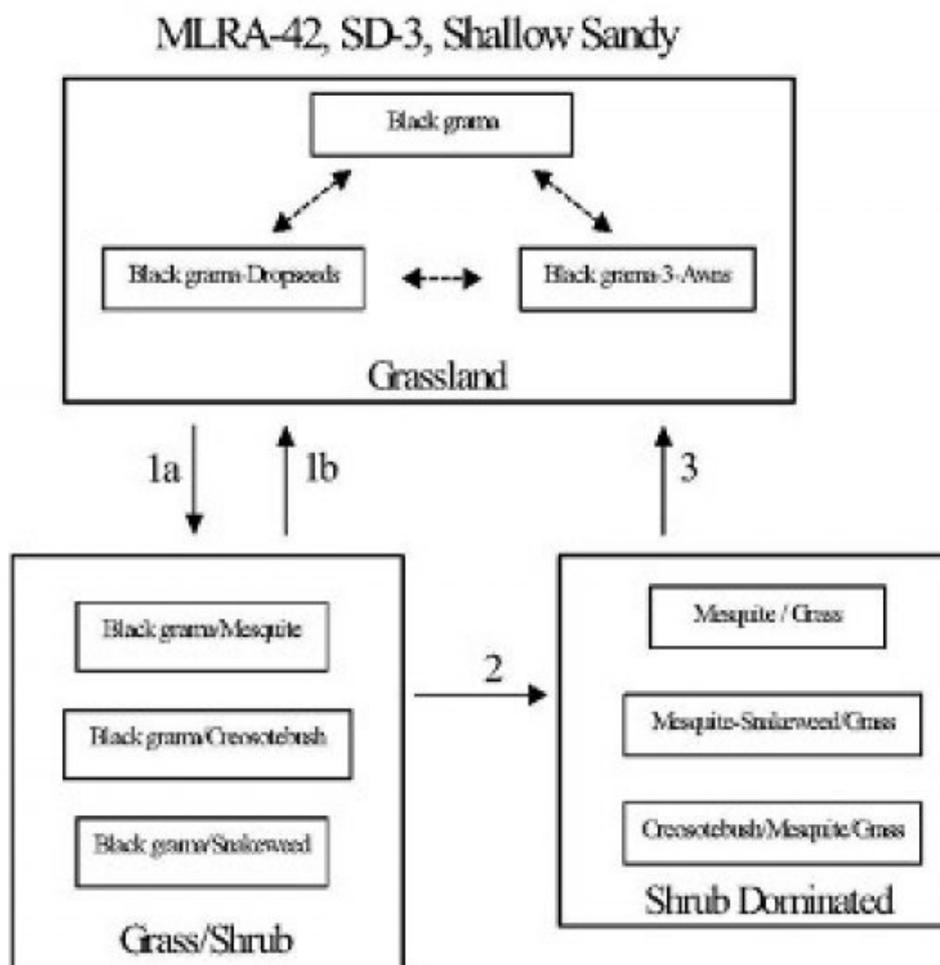
Ecological dynamics

Overview

The Shallow Sandy site occurs on upland plains, and tops of low ridges and mesas, associated with Sandy, Loamy Sand, and Shallow sites. Coarse to moderately coarse soil surface textures, shallow depth (<20 inches) to an indurated caliche layer (petrocalcic horizon), and an overwhelming dominance by black grama help to distinguish this site. The historic plant community of the Shallow Sandy site is a black grama dominated grassland sparsely dotted with shrubs. Shrubs, especially mesquite and creosotebush can increase or colonize due to the dispersal of shrub seeds by livestock or wildlife. This increase in mesquite and colonization of creosotebush may be enhanced by proximity to areas with existing high shrub densities. Fire suppression, and the loss of grass cover due to overgrazing or drought may facilitate the increase and encroachment of shrubs. Persistent loss of grass cover, competition for resources by shrubs, and periods of climate with increased winter precipitation and dry summers, may initiate the transition to a shrub-dominated state.

State and transition model

Plant Communities and Transitional Pathways (diagram)



1a. Seed dispersal, drought, overgrazing, fire suppression.

1b. Prescribed fire, brush control, prescribed grazing.

2. Persistent loss of grass cover, resource competition, increased winter precipitation.

3. Brush control, range seeding, prescribed grazing.

**State 1
Historic Climax Plant Community**

**Community 1.1
Historic Climax Plant Community**

Grassland: This site responds well to management and is resistant to state change, due to the shallow depth to petrocalcic horizon and sandy surface textures. The sandy surface textures allow rapid water infiltration and the petrocalcic horizon helps to keep water perched and available to shallow rooted grasses. Black grama is the dominant species in the historic plant community, averaging 50 to 60 percent of the total production for this site. Bush muhly, blue grama, and dropseeds are present as sub-dominants. Typically, yucca, javalinabush, range ratany, prickly pear, and mesquite are sparsely dotted across the landscape. Leatherweed croton, cutleaf

happlopappus, wooly groundsel, and threadleaf groundsel are common forbs. Continuous heavy grazing or extended periods of drought will cause a loss of grass cover characterized by a decrease in black grama, bush muhly, blue and sideoats grama, plains bristlegrass, and Arizona cottontop. Dropseeds and or threeawns may increase and become sub-dominant to black grama. Continued loss of grass cover in conjunction with dispersal of shrub seeds and fire suppression is believed to cause the transition to a state with increased amounts of shrubs (Grass/Shrub state). Diagnosis: Black grama is the dominant grass species. Grass cover uniformly distributed. Shrubs are a minor component averaging only two to five percent canopy cover. Litter cover is high (40-50 percent of area), and litter movement is limited to smaller size class litter and short distances (<. 5m). Other grasses that could appear on this site would include: six-weeks grama, fluffgrass, false-buffalograss, hairy grama, little bluestem, bristle panicum, cane bluestem, Indian ricegrass, tridens spp., and red lovegrass. Other woody plants include: pricklypear, cholla, fourwing saltbush, catclaw mimosa, winterfat, American tarbush and mesquite. Other forbs include: globemallow, verbena, desert holly, senna, plains blackfoot, trailing fleabane, fiddleneck, deerstongue, wooly Indianwheat, and locoweed.

Table 5. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Grass/Grasslike	474	652	830
Forb	78	107	136
Shrub/Vine	48	66	84
Total	600	825	1050

Table 6. Ground cover

Tree foliar cover	0%
Shrub/vine/liana foliar cover	0%
Grass/grasslike foliar cover	30-35%
Forb foliar cover	0%
Non-vascular plants	0%
Biological crusts	0%
Litter	40-50%
Surface fragments >0.25" and <=3"	0%
Surface fragments >3"	0%
Bedrock	0%
Water	0%
Bare ground	15-25%

Figure 5. Plant community growth curve (percent production by month). NM2802, R042XC002NM-Shallow Sandy-HCPC. SD-3 Shallow Sandy - 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
Grass/Shrub**

**Community 2.1
Grass/Shrub**

Grass/Shrub: This state is characterized by the notable presence of shrubs, especially mesquite, broom snakeweed, and/or creosotebush, however grasses remain as the dominant species. Black grama is the dominant

grass species. Threeawns and or dropseeds are sub-dominant. The susceptibility of the Shallow Sandy site to shrub encroachment may be higher when located adjacent to other sites with high densities of mesquite or creosotebush. Retrogression within this site is characterized by decreases in grass cover and increasing densities of shrubs. Diagnosis: Black grama remains as the dominant grass species. Grass cover varies in response to the amount of shrub increase, ranging from uniform to patchy. Shrubs are found at increased densities relative to the grassland state, especially mesquite, creosotebush, or broom snakeweed. Transition to Grass/Shrub (1a) Historically fire may have kept mesquite and other shrubs in check by completely killing some species and disrupting seed production cycles and suppressing the establishment of shrub seedlings in others. Fire suppression combined with seed dispersal by livestock and wildlife is believed to be the factors responsible for the establishment and increase in shrubs. 1, 3 Loss of grass cover due to overgrazing, prolonged periods of drought, or their combination, reduces fire fuel loads and increases the susceptibility of the site to shrub establishment. Key indicators of approach to transition: Increase in the relative abundance of dropseeds and threeawns Presence of shrub seedlings Loss of organic matter—evidenced by an increase in physical soil crusts 8 Transition back to Grassland (1b) Brush control is necessary to initiate the transition back to the grassland state. If adequate fuel loads remain, possibly the reintroduction of fire as a management tool will assist in the transition back, however, mixed results have been observed concerning the effects of fire on black grama grasslands.6 Prescribed grazing will help ensure adequate rest following brush control and will assist in the establishment and maintenance of grass cover capable of sustaining fire.

**State 3
Shrub Dominated**

**Community 3.1
Shrub Dominated**

Shrub-Dominated: Across the range of soil types included in the Shallow Sandy site, mesquite is typically the dominant shrub, but it does occur as a co-dominant or sub-dominant species with creosotebush or broom snakeweed. Mesquite tends to dominate when the Shallow Sandy site occurs as part of a complex or in association with Sandy or Loamy Sand sites. Creosotebush tends to dominate on Shallow Sandy sites that occur as part of, or adjacent to Shallow Sites. Broom snakeweed increases in response to heavy grazing, but tends to cycle in and out depending on timing of rainfall. However, once the site is dominated by shrubs and snakeweed becomes well established, it tends to remain as a major component in the shrub dominated state. Diagnosis: Mesquite, creosotebush, or snakeweed cover is high, exceeding that of grasses. Grass cover is patchy with large connected bare areas present. Black grama, threeawns, or dropseeds may be the dominant grass. Evidence of accelerated wind erosion in the form of pedestalling of plants, and soil deposition around shrub bases may be common. Transition to Shrub-Dominated (2) Persistent loss of grass cover and the resulting increased competition between shrubs and remaining grasses for dwindling resources (especially soil moisture) may drive this transition.5 Additionally periods of increased winter precipitation may facilitate periodic episodes of shrub expansion and establishment. 4 Key indicators of approach to transition: Increase in size and frequency of bare patches. Loss of grass cover in shrub interspaces. Increased signs of erosion, evidenced by pedestalling of plants, and soil and litter deposition on leeward side of plants. 7 Transition back to Grassland (3) Brush control is necessary to reduce competition from shrubs and reestablish grasses. Range seeding may be necessary if insufficient grasses remain, The benefits, and costs, will vary depending upon the degree of site degradation, and adequate precipitation following seeding.

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	Warm Season			413–495	
	black grama	BOER4	<i>Bouteloua eriopoda</i>	413–495	–
2	Warm Season			41–83	
	bush muhly	MUPO2	<i>Muhlenbergia porteri</i>	41–83	–
3	Warm Season			41–83	

	blue grama	BOGR2	<i>Bouteloua gracilis</i>	41-83	-
4	Warm Season			25-41	
	sideoats grama	BOCU	<i>Bouteloua curtipendula</i>	25-41	-
5	Warm Season			41-83	
	spike dropseed	SPCO4	<i>Sporobolus contractus</i>	41-83	-
	sand dropseed	SPCR	<i>Sporobolus cryptandrus</i>	41-83	-
	mesa dropseed	SPFL2	<i>Sporobolus flexuosus</i>	41-83	-
6	Warm Season			17-41	
	threeawn	ARIST	<i>Aristida</i>	17-41	-
7	Warm Season			41-83	
	Arizona cottontop	DICA8	<i>Digitaria californica</i>	41-83	-
	plains bristlegrass	SEVU2	<i>Setaria vulpiseta</i>	41-83	-
8	Warm Season			41-83	
	mat sandbur	CELO3	<i>Cenchrus longispinus</i>	41-83	-
	hooded windmill grass	CHCU2	<i>Chloris cucullata</i>	41-83	-
9	Other Perennial Grasses			25-41	
	Grass, perennial	2GP	<i>Grass, perennial</i>	25-41	-
Shrub/Vine					
10	Shrub			8-25	
	javelina bush	COER5	<i>Condalia ericoides</i>	8-25	-
11	Shrub			8-25	
	yucca	YUCCA	<i>Yucca</i>	8-25	-
12	Shrub			8-25	
	jointfir	EPHED	<i>Ephedra</i>	8-25	-
	littleleaf ratany	KRER	<i>Krameria erecta</i>	8-25	-
13	Shrub			8-25	
	featherplume	DAFO	<i>Dalea formosa</i>	8-25	-
14	Shrub			8-25	
	broom snakeweed	GUSA2	<i>Gutierrezia sarothrae</i>	8-25	-
15	Other Shrubs			25-41	
	Shrub (>.5m)	2SHRUB	<i>Shrub (>.5m)</i>	25-41	-
Forb					
16	Forb			17-41	
	leatherweed	CRPOP	<i>Croton pottsii var. pottsii</i>	17-41	-
	Goodding's tansyaster	MAPIG2	<i>Machaeranthera pinnatifida ssp. gooddingii var. gooddingii</i>	17-41	-
17	Forb			17-41	
	woolly groundsel	PACA15	<i>Packera cana</i>	17-41	-
	threadleaf ragwort	SEFLF	<i>Senecio flaccidus var. flaccidus</i>	17-41	-
18	Forb			8-25	
	whitest evening primrose	OEAL	<i>Oenothera albicaulis</i>	8-25	-
19	Other Forbs			8-25	
	Forb (herbaceous, not grass nor grass-like)	2FORB	<i>Forb (herbaceous, not grass nor grass-like)</i>	8-25	-

Animal community

This site provides habitats which support a resident animal community that is characterized by pronghorn antelope, swift fox, black-tailed jackrabbit, spotted ground squirrel, Ord's kangaroo rat, northern grasshopper mouse, coyote, horned lark, meadowlark, lark bunting, scaled quail, morning dove, side-blotched lizard, round-tailed horned lizard, marbled whiptail, prairie rattlesnake and ornate box turtle.

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
Jarag D
Simona D

Recreational uses

This site offers recreation for hiking, horseback riding, nature observation and photography, and quail and dove hunting. During years of abundant spring moisture, this site displays a riot of color from wildflowers during May and June. A few summer and fall flowers also occur.

Wood products

The natural potential plant community of this site affords little or no wood products. Where the site has been invaded by mesquite or cholla cactus the roots and stems of these plants provide attractive material for a variety of curiosities, such as lamps and small furniture.

Other products

This site is suitable for grazing by all kinds and classes of livestock during all seasons of the year. Because of the sandy textures and shallow profile, this site will respond rapidly to management. As this site deteriorates, plants such as black grama, bush muhly, blue and sideoats grama, plains bristlegrass and Arizona cottontop, will decrease and be replaced by plants such as threeawns, mesquite, creosote bush, and broom snakeweed. This also causes a decrease in ground cover, leaving the soil to blow. This site responds 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 2.5 – 3.5
75 – 51 3.2 – 4.6
50 – 26 4.5 – 7.5
25 – 0 7.6 +

Inventory data references

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

Other references

Literature References:

1. Brooks, M.L. and D.A. Pyke. 2001. Invasive plants and fire in the deserts of North America. Pages 1–14 in K.E.M. Galley and T.P. Wilson (eds.). Proceedings of the Invasive Species Workshop: the Role of Fire in the Control and Spread of Invasive Species.
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. Humphrey, R.R. 1974. Fire in the deserts and desert grassland of North America. In: Kozlowski, T. T.; Ahlgren, C. E., eds. Fire and ecosystems. New York: Academic Press: 365-400.
4. Moir, W.H., and J. A. Ludwig. 1991. Plant succession and changing land features in desert grasslands. P. 15-18. In P.F. Ffolliott and W.T. Swank (eds.) People and the temperate region: a summary of research from the United States Man and the Biosphere Program 1991. U.S. Dept. State, Publ No. 9839, Nat. Tech. Info. Serv., U.S. Dept. Commerce, Springfield, Illinois. 63 p.
5. Tiedemann, A. R. and J. O. Klemmedson. 1977. Effect of mesquite trees on vegetation and soils in the desert grassland. J. Range Manage. 30: 361-367.
6. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (2002, September). Fire Effects Information System, [Online]. Available: <http://www.fs.fed.us/database/feis/> [accessed 2/10/03].
7. U.S. Department of Agriculture, Natural Resources Conservation Service. 2001. Soil Quality Information Sheets. Rangeland Soil Quality—Wind Erosion. Rangeland Sheet 10 [Online]. Available: <http://www.statlab.iastate.edu/survey/SQI/range.html>
8. U.S. Department of Agriculture, Natural Resources Conservation Service. 2001. Soil Quality Information Sheets. Rangeland Soil Quality—Physical and Biological Soil Crusts. Rangeland Sheet 7 [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):**

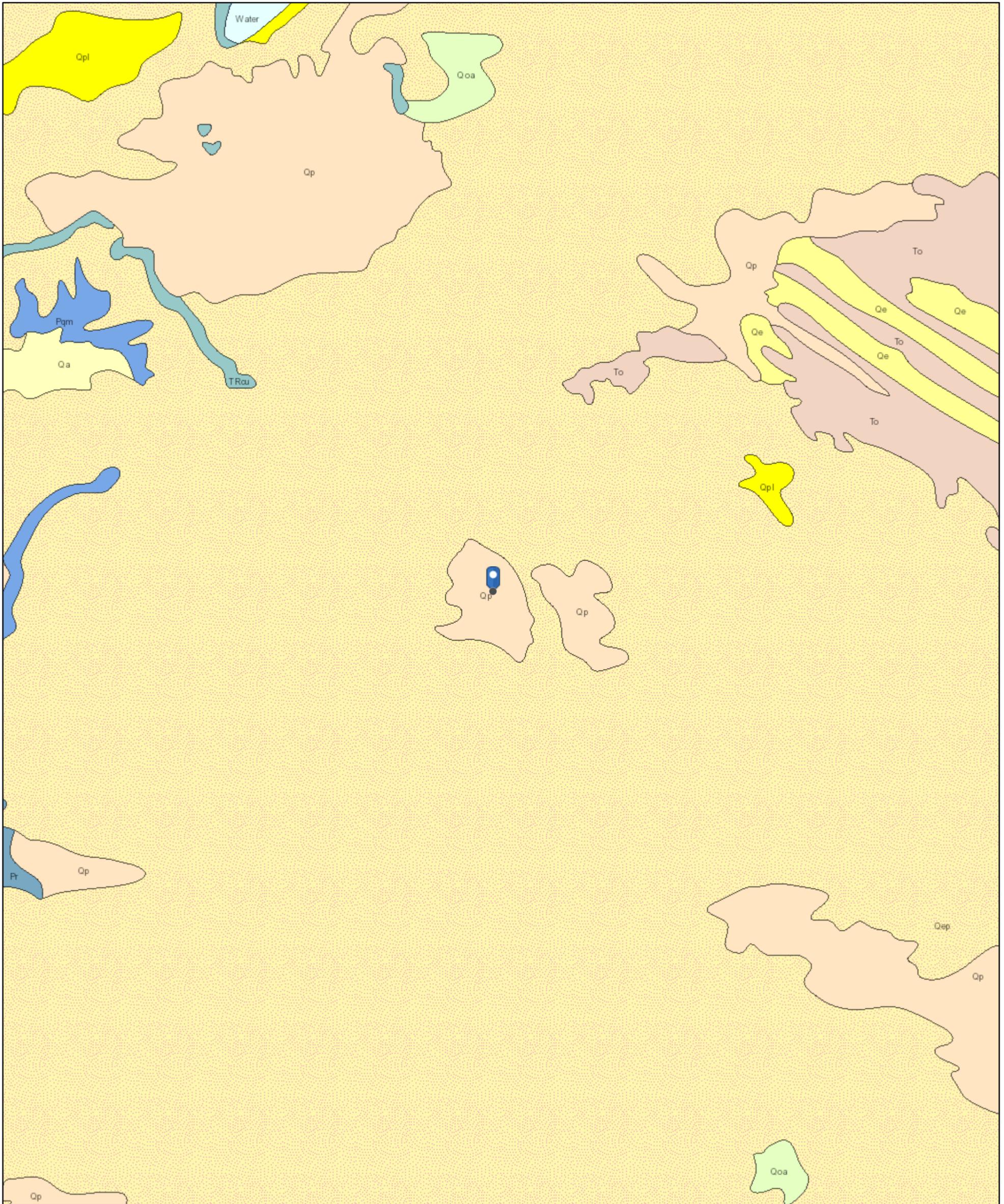
14. **Average percent litter cover (%) and depth (in):**

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:**

Nina Cortell Federal Com TB

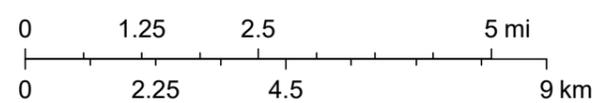


4/18/2023, 10:56:34 AM

Lithologic Units

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

1:144,448



Esri, NASA, NGA, USGS, NMBGMR, 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

ATTACHMENT 6



Dhugal Hanton <vertexresourcegroupusa@gmail.com>

nAPP2306051905 Nina Cortell Confirmation Sampling Notification

2 messages

Dhugal Hanton <vertexresourcegroupusa@gmail.com>

Mon, May 8, 2023 at 12:34 PM

To: "Enviro, OCD, EMNRD" <OCD.Enviro@emnrd.nm.gov>, "CFO_Spill, BLM_NM" <blm_nm_cfo_spill@blm.gov>

Cc: Clinton Talley <clinton.talley@matadorresources.com>

All,

Please accept this email as 48-hr notification that Vertex Resource Services has scheduled confirmatory sampling to be conducted at the Emperor for the following release:

nAPP2306051909 DOR: March 1, 2023

This work will be completed on behalf of Matador Production Company.

Starting on Thursday, May 11th and continuing through Friday May 12th, 2023, at approximately 8:30 a.m., Monica Peppin of Vertex will be onsite to conduct confirmation sampling for the above release.

I can be reached at 575-361-9880. If you need directions to the site, please do not hesitate to contact me. If you have any questions or concerns regarding this notification, please give me a call at 575-361-9880.

Thank you,
Monica

Monica Peppin, A.S.

Project Manager

Vertex Resource Services Inc.

3101 Boyd Drive,

Carlsbad, NM 88220

P 575.725.5001 Ext. 711

C 575.361.9880

F

www.vertex.ca

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Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>

Mon, May 8, 2023 at 3:03 PM

To: Dhugal Hanton <vertexresourcegroupusa@gmail.com>

Cc: "Bratcher, Michael, EMNRD" <mike.bratcher@emnrd.nm.gov>, "Nobui, Jennifer, EMNRD" <Jennifer.Nobui@emnrd.nm.gov>

Monica,

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

JH

Jocelyn Harimon • Environmental Specialist

Environmental Bureau

EMNRD - Oil Conservation Division

1220 South St. Francis Drive | Santa Fe, NM 87505

(505)469-2821 | Jocelyn.Harimon@emnrn.nm.gov

[http:// www.emnrn.nm.gov](http://www.emnrn.nm.gov)



From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>

Sent: Monday, May 8, 2023 12:35 PM

To: Enviro, OCD, EMNRD <OCD.Enviro@emnrn.nm.gov>; CFO_Spill, BLM_NM <blm_nm_cfo_spill@blm.gov>

Cc: Clinton Talley <clinton.talley@matadorresources.com>

Subject: [EXTERNAL] nAPP2306051905 Nina Cortell Confirmation Sampling Notification

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

[Quoted text hidden]

ATTACHMENT 7



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

April 12, 2023

Monica Peppin

Vertex Resources Services, Inc.

3101 Boyd Drive

Carlsbad, NM 88220

TEL: (505) 506-0040

FAX:

RE: Nina Cortell

OrderNo.: 2303F77

Dear Monica Peppin:

Hall Environmental Analysis Laboratory received 11 sample(s) on 4/1/2023 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,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written in a cursive style.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order **2303F77**

Date Reported: **4/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-01 0'

Project: Nina Cortell

Collection Date: 3/30/2023 10:00:00 AM

Lab ID: 2303F77-001

Matrix: SOIL

Received Date: 4/1/2023 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/8/2023 1:42:19 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/8/2023 1:42:19 AM
Surr: DNOP	98.9	69-147		%Rec	1	4/8/2023 1:42:19 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/8/2023 8:05:07 AM
Surr: BFB	97.6	37.7-212		%Rec	1	4/8/2023 8:05:07 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	4/8/2023 8:05:07 AM
Toluene	ND	0.048		mg/Kg	1	4/8/2023 8:05:07 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/8/2023 8:05:07 AM
Xylenes, Total	ND	0.096		mg/Kg	1	4/8/2023 8:05:07 AM
Surr: 4-Bromofluorobenzene	84.3	70-130		%Rec	1	4/8/2023 8:05:07 AM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	4400	150		mg/Kg	50	4/10/2023 1:26:22 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2303F77**

Date Reported: **4/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-02 0'

Project: Nina Cortell

Collection Date: 3/30/2023 10:10:00 AM

Lab ID: 2303F77-002

Matrix: SOIL

Received Date: 4/1/2023 8:50:00 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	4/8/2023 1:52:49 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/8/2023 1:52:49 AM
Surr: DNOP	79.5	69-147		%Rec	1	4/8/2023 1:52:49 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/8/2023 8:28:36 AM
Surr: BFB	95.4	37.7-212		%Rec	1	4/8/2023 8:28:36 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	4/8/2023 8:28:36 AM
Toluene	ND	0.050		mg/Kg	1	4/8/2023 8:28:36 AM
Ethylbenzene	ND	0.050		mg/Kg	1	4/8/2023 8:28:36 AM
Xylenes, Total	ND	0.10		mg/Kg	1	4/8/2023 8:28:36 AM
Surr: 4-Bromofluorobenzene	82.6	70-130		%Rec	1	4/8/2023 8:28:36 AM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	61	60		mg/Kg	20	4/7/2023 7:13:54 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2303F77**

Date Reported: **4/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-03 0'

Project: Nina Cortell

Collection Date: 3/30/2023 10:15:00 AM

Lab ID: 2303F77-003

Matrix: SOIL

Received Date: 4/1/2023 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/8/2023 2:03:21 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/8/2023 2:03:21 AM
Surr: DNOP	97.0	69-147		%Rec	1	4/8/2023 2:03:21 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/8/2023 8:52:15 AM
Surr: BFB	98.2	37.7-212		%Rec	1	4/8/2023 8:52:15 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	4/8/2023 8:52:15 AM
Toluene	ND	0.049		mg/Kg	1	4/8/2023 8:52:15 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/8/2023 8:52:15 AM
Xylenes, Total	ND	0.099		mg/Kg	1	4/8/2023 8:52:15 AM
Surr: 4-Bromofluorobenzene	84.3	70-130		%Rec	1	4/8/2023 8:52:15 AM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	12000	600		mg/Kg	200	4/10/2023 2:03:36 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2303F77**

Date Reported: **4/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-03 2'

Project: Nina Cortell

Collection Date: 3/30/2023 10:30:00 AM

Lab ID: 2303F77-004

Matrix: SOIL

Received Date: 4/1/2023 8:50:00 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	4/8/2023 2:13:53 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/8/2023 2:13:53 AM
Surr: DNOP	100	69-147		%Rec	1	4/8/2023 2:13:53 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/8/2023 9:15:50 AM
Surr: BFB	95.4	37.7-212		%Rec	1	4/8/2023 9:15:50 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	4/8/2023 9:15:50 AM
Toluene	ND	0.048		mg/Kg	1	4/8/2023 9:15:50 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/8/2023 9:15:50 AM
Xylenes, Total	ND	0.097		mg/Kg	1	4/8/2023 9:15:50 AM
Surr: 4-Bromofluorobenzene	81.9	70-130		%Rec	1	4/8/2023 9:15:50 AM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	65	60		mg/Kg	20	4/7/2023 8:28:20 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2303F77**

Date Reported: **4/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-04 0'

Project: Nina Cortell

Collection Date: 3/30/2023 10:40:00 AM

Lab ID: 2303F77-005

Matrix: SOIL

Received Date: 4/1/2023 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	4/8/2023 2:24:25 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	4/8/2023 2:24:25 AM
Surr: DNOP	117	69-147		%Rec	1	4/8/2023 2:24:25 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/8/2023 9:39:24 AM
Surr: BFB	95.1	37.7-212		%Rec	1	4/8/2023 9:39:24 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	4/8/2023 9:39:24 AM
Toluene	ND	0.048		mg/Kg	1	4/8/2023 9:39:24 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/8/2023 9:39:24 AM
Xylenes, Total	ND	0.096		mg/Kg	1	4/8/2023 9:39:24 AM
Surr: 4-Bromofluorobenzene	81.6	70-130		%Rec	1	4/8/2023 9:39:24 AM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	7500	300		mg/Kg	100	4/10/2023 2:16:01 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2303F77**

Date Reported: **4/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-04 2'

Project: Nina Cortell

Collection Date: 3/30/2023 10:50:00 AM

Lab ID: 2303F77-006

Matrix: SOIL

Received Date: 4/1/2023 8:50:00 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	4/8/2023 2:34:58 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/8/2023 2:34:58 AM
Surr: DNOP	89.9	69-147		%Rec	1	4/8/2023 2:34:58 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/8/2023 10:02:50 AM
Surr: BFB	98.4	37.7-212		%Rec	1	4/8/2023 10:02:50 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	4/8/2023 10:02:50 AM
Toluene	ND	0.049		mg/Kg	1	4/8/2023 10:02:50 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/8/2023 10:02:50 AM
Xylenes, Total	ND	0.098		mg/Kg	1	4/8/2023 10:02:50 AM
Surr: 4-Bromofluorobenzene	84.9	70-130		%Rec	1	4/8/2023 10:02:50 AM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	490	60		mg/Kg	20	4/7/2023 8:53:09 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2303F77**

Date Reported: **4/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-05 0'

Project: Nina Cortell

Collection Date: 3/30/2023 11:00:00 AM

Lab ID: 2303F77-007

Matrix: SOIL

Received Date: 4/1/2023 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	4/8/2023 2:45:42 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/8/2023 2:45:42 AM
Surr: DNOP	96.1	69-147		%Rec	1	4/8/2023 2:45:42 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/8/2023 10:26:17 AM
Surr: BFB	96.4	37.7-212		%Rec	1	4/8/2023 10:26:17 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	4/8/2023 10:26:17 AM
Toluene	ND	0.049		mg/Kg	1	4/8/2023 10:26:17 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/8/2023 10:26:17 AM
Xylenes, Total	ND	0.098		mg/Kg	1	4/8/2023 10:26:17 AM
Surr: 4-Bromofluorobenzene	82.7	70-130		%Rec	1	4/8/2023 10:26:17 AM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	12000	600		mg/Kg	200	4/10/2023 2:28:26 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2303F77**

Date Reported: **4/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-05 2'

Project: Nina Cortell

Collection Date: 3/30/2023 11:10:00 AM

Lab ID: 2303F77-008

Matrix: SOIL

Received Date: 4/1/2023 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/8/2023 2:56:24 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/8/2023 2:56:24 AM
Surr: DNOP	95.5	69-147		%Rec	1	4/8/2023 2:56:24 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/8/2023 10:49:46 AM
Surr: BFB	99.0	37.7-212		%Rec	1	4/8/2023 10:49:46 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	4/8/2023 10:49:46 AM
Toluene	ND	0.049		mg/Kg	1	4/8/2023 10:49:46 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/8/2023 10:49:46 AM
Xylenes, Total	ND	0.098		mg/Kg	1	4/8/2023 10:49:46 AM
Surr: 4-Bromofluorobenzene	84.0	70-130		%Rec	1	4/8/2023 10:49:46 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	100	60		mg/Kg	20	4/7/2023 9:12:21 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2303F77**

Date Reported: **4/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-05 3'

Project: Nina Cortell

Collection Date: 3/30/2023 11:20:00 AM

Lab ID: 2303F77-009

Matrix: SOIL

Received Date: 4/1/2023 8:50:00 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	4/8/2023 3:07:06 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/8/2023 3:07:06 AM
Surr: DNOP	95.9	69-147		%Rec	1	4/8/2023 3:07:06 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/8/2023 11:13:20 AM
Surr: BFB	96.9	37.7-212		%Rec	1	4/8/2023 11:13:20 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	4/8/2023 11:13:20 AM
Toluene	ND	0.050		mg/Kg	1	4/8/2023 11:13:20 AM
Ethylbenzene	ND	0.050		mg/Kg	1	4/8/2023 11:13:20 AM
Xylenes, Total	ND	0.10		mg/Kg	1	4/8/2023 11:13:20 AM
Surr: 4-Bromofluorobenzene	82.2	70-130		%Rec	1	4/8/2023 11:13:20 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	61	60		mg/Kg	20	4/7/2023 9:24:45 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2303F77**

Date Reported: **4/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-06 0'

Project: Nina Cortell

Collection Date: 3/30/2023 11:30:00 AM

Lab ID: 2303F77-010

Matrix: SOIL

Received Date: 4/1/2023 8:50:00 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	4/8/2023 3:17:45 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/8/2023 3:17:45 AM
Surr: DNOP	76.7	69-147		%Rec	1	4/8/2023 3:17:45 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/8/2023 11:36:55 AM
Surr: BFB	98.8	37.7-212		%Rec	1	4/8/2023 11:36:55 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	4/8/2023 11:36:55 AM
Toluene	ND	0.048		mg/Kg	1	4/8/2023 11:36:55 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/8/2023 11:36:55 AM
Xylenes, Total	ND	0.095		mg/Kg	1	4/8/2023 11:36:55 AM
Surr: 4-Bromofluorobenzene	84.4	70-130		%Rec	1	4/8/2023 11:36:55 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	170	60		mg/Kg	20	4/7/2023 9:37:10 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2303F77**

Date Reported: **4/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-07 0'

Project: Nina Cortell

Collection Date: 3/30/2023 11:40:00 AM

Lab ID: 2303F77-011

Matrix: SOIL

Received Date: 4/1/2023 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/10/2023 12:41:48 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/10/2023 12:41:48 PM
Surr: DNOP	71.5	69-147		%Rec	1	4/10/2023 12:41:48 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/8/2023 5:06:05 PM
Surr: BFB	95.7	37.7-212		%Rec	1	4/8/2023 5:06:05 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	4/8/2023 5:06:05 PM
Toluene	ND	0.049		mg/Kg	1	4/8/2023 5:06:05 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/8/2023 5:06:05 PM
Xylenes, Total	ND	0.097		mg/Kg	1	4/8/2023 5:06:05 PM
Surr: 4-Bromofluorobenzene	81.2	70-130		%Rec	1	4/8/2023 5:06:05 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	60	60		mg/Kg	20	4/7/2023 10:39:12 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 Quantitative 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#: 2303F77

12-Apr-23

Client: Vertex Resources Services, Inc.

Project: Nina Cortell

Sample ID: LCS-74205	SampType: ics		TestCode: EPA Method 300.0: Anions							
Client ID: LCSS	Batch ID: 74205		RunNo: 95882							
Prep Date: 4/7/2023	Analysis Date: 4/7/2023		SeqNo: 3471414	Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.0	90	110			

Sample ID: MB-74211	SampType: mblk		TestCode: EPA Method 300.0: Anions							
Client ID: PBS	Batch ID: 74211		RunNo: 95862							
Prep Date: 4/7/2023	Analysis Date: 4/7/2023		SeqNo: 3471550	Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-74211	SampType: ics		TestCode: EPA Method 300.0: Anions							
Client ID: LCSS	Batch ID: 74211		RunNo: 95862							
Prep Date: 4/7/2023	Analysis Date: 4/7/2023		SeqNo: 3471551	Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	96.9	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 Quantitative 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#: 2303F77

12-Apr-23

Client: Vertex Resources Services, Inc.

Project: Nina Cortell

Sample ID: LCS-74190	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 74190		RunNo: 95870							
Prep Date: 4/7/2023	Analysis Date: 4/7/2023		SeqNo: 3470921		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.9		5.000		98.1	69	147			

Sample ID: MB-74190	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 74190		RunNo: 95870							
Prep Date: 4/7/2023	Analysis Date: 4/7/2023		SeqNo: 3470922		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.2		10.00		92.0	69	147			

Sample ID: LCS-74172	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 74172		RunNo: 95870							
Prep Date: 4/6/2023	Analysis Date: 4/7/2023		SeqNo: 3471351		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	39	10	50.00	0	77.7	61.9	130			
Surr: DNOP	4.4		5.000		88.7	69	147			

Sample ID: LCS-74176	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 74176		RunNo: 95870							
Prep Date: 4/6/2023	Analysis Date: 4/7/2023		SeqNo: 3471354		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.7		5.000		113	69	147			

Sample ID: MB-74172	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 74172		RunNo: 95870							
Prep Date: 4/6/2023	Analysis Date: 4/7/2023		SeqNo: 3471358		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	8.6		10.00		85.7	69	147			

Sample ID: MB-74176	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 74176		RunNo: 95870							
Prep Date: 4/6/2023	Analysis Date: 4/7/2023		SeqNo: 3471361		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.3		10.00		92.6	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 Quantitative 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#: 2303F77

12-Apr-23

Client: Vertex Resources Services, Inc.

Project: Nina Cortell

Sample ID: LCS-74202	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 74202	RunNo: 95894								
Prep Date: 4/7/2023	Analysis Date: 4/10/2023	SeqNo: 3472132	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.5		5.000		90.2	69	147			

Sample ID: MB-74202	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 74202	RunNo: 95894								
Prep Date: 4/7/2023	Analysis Date: 4/10/2023	SeqNo: 3472133	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.7		10.00		87.2	69	147			

Sample ID: MB-74198	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 74198	RunNo: 95898								
Prep Date: 4/7/2023	Analysis Date: 4/10/2023	SeqNo: 3472268	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	8.3		10.00		83.4	69	147			

Sample ID: LCS-74198	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 74198	RunNo: 95898								
Prep Date: 4/7/2023	Analysis Date: 4/10/2023	SeqNo: 3472269	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	91.8	61.9	130			
Surr: DNOP	4.4		5.000		88.5	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 Quantitative 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#: 2303F77

12-Apr-23

Client: Vertex Resources Services, Inc.

Project: Nina Cortell

Sample ID: ics-74169	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 74169		RunNo: 95869							
Prep Date: 4/6/2023	Analysis Date: 4/8/2023		SeqNo: 3471788		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	93.0	70	130			
Surr: BFB	1800		1000		185	37.7	212			

Sample ID: ics-74179	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 74179		RunNo: 95869							
Prep Date: 4/6/2023	Analysis Date: 4/8/2023		SeqNo: 3471789		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	90.2	70	130			
Surr: BFB	1900		1000		185	37.7	212			

Sample ID: mb-74169	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 74169		RunNo: 95869							
Prep Date: 4/6/2023	Analysis Date: 4/8/2023		SeqNo: 3471790		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		98.0	37.7	212			

Sample ID: mb-74179	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 74179		RunNo: 95869							
Prep Date: 4/6/2023	Analysis Date: 4/8/2023		SeqNo: 3471791		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	970		1000		96.7	37.7	212			

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 Quantitative 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#: 2303F77

12-Apr-23

Client: Vertex Resources Services, Inc.

Project: Nina Cortell

Sample ID: LCS-74169	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 74169		RunNo: 95869							
Prep Date: 4/6/2023	Analysis Date: 4/8/2023		SeqNo: 3471852		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.84	0.025	1.000	0	84.5	80	120			
Toluene	0.86	0.050	1.000	0	86.1	80	120			
Ethylbenzene	0.85	0.050	1.000	0	85.0	80	120			
Xylenes, Total	2.5	0.10	3.000	0	83.9	80	120			
Surr: 4-Bromofluorobenzene	0.84		1.000		84.4	70	130			

Sample ID: mb-74169	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 74169		RunNo: 95869							
Prep Date: 4/6/2023	Analysis Date: 4/8/2023		SeqNo: 3471854		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	0.84		1.000		84.3	70	130			

Sample ID: LCS-74179	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 74179		RunNo: 95869							
Prep Date: 4/6/2023	Analysis Date: 4/8/2023		SeqNo: 3473502		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.025	1.000	0	85.0	80	120			
Toluene	0.87	0.050	1.000	0	86.6	80	120			
Ethylbenzene	0.85	0.050	1.000	0	85.0	80	120			
Xylenes, Total	2.5	0.10	3.000	0	84.5	80	120			
Surr: 4-Bromofluorobenzene	0.84		1.000		84.2	70	130			

Sample ID: mb-74179	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 74179		RunNo: 95869							
Prep Date: 4/6/2023	Analysis Date: 4/8/2023		SeqNo: 3473503		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	0.83		1.000		83.3	70	130			

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 Quantitative 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
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: Vertex Resources Services, Inc.

Work Order Number: 2303F77

RcptNo: 1

Received By: Cheyenne Cason 4/1/2023 8:50:00 AM

Handwritten signature

Completed By: Cheyenne Cason 4/1/2023 9:15:37 AM

Handwritten signature

Reviewed By: TMC 4/1/23

Chain of Custody

1. Is Chain of Custody complete? Yes [checked] No [] Not Present []

2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes [checked] No [] NA []

4. Were all samples received at a temperature of >0° C to 6.0°C Yes [checked] No [] NA []

5. Sample(s) in proper container(s)? Yes [checked] No []

6. Sufficient sample volume for indicated test(s)? Yes [checked] No []

7. Are samples (except VOA and ONG) properly preserved? Yes [checked] No []

8. Was preservative added to bottles? Yes [] No [checked] NA []

9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes [] No [] NA [checked]

10. Were any sample containers received broken? Yes [] No [checked]

11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes [checked] No []

12. Are matrices correctly identified on Chain of Custody? Yes [checked] No []

13. Is it clear what analyses were requested? Yes [checked] No []

14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes [checked] No []

of preserved bottles checked for pH: (<2 or >12 unless noted) Adjusted? Checked by: TMC 4/1/23

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes [] No [] NA [checked]

Person Notified: [] Date: [] By Whom: [] Via: [] eMail [] Phone [] Fax [] In Person [] Regarding: [] Client Instructions: []

16. Additional remarks:

17. Cooler Information

Table with 7 columns: Cooler No, Temp °C, Condition, Seal Intact, Seal No, Seal Date, Signed By. Row 1: 1, 2.6, Good, Not Present, Yogi, [], []

Chain-of-Custody Record

Client: Vertex

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: Az Compliance
 NELAC Other _____

EDD (Type) _____

Turn-Around Time:
 Standard Rush 5 day

Project Name:
Nina Cortell

Project #:
23E-01205

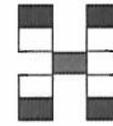
Project Manager:
Monica Peppin

Sampler: MJP

On Ice: Yes No Yes!

of Coolers: 1

Cooler Temp (including CF): 2.7 - 0.1 = 2.6 (°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.	(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)
3/30	10:00	Soil	BH23-01 0'	402	Ice	2303F77	✓	✓					✓			
	10:10		BH23-02 0'			002										
	10:15		BH23-03 0'			003										
	10:30		BH23-03 2'			004										
	10:40		BH23-04 0'			005										
	10:50		BH23-04 2'			006										
	11:00		BH23-05 0'			007										
	11:10		BH23-05 2'			008										
	11:20		BH23-05 3'			009										
	11:30		BH23-06 0'			010										
	11:40		BH23-07 0'			011										

Date: 3/31/23	Time: 10:30	Relinquished by:	Received by:	Via:	Date: 3/31/23	Time: 10:30	Remarks:
Date: 3/31/23	Time: 19:00	Relinquished by:	Received by:	Via:	Date: 4/11/23	Time: 08:50	Material

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



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

May 26, 2023

Monica Peppin

Vertex Resources Services, Inc.

3101 Boyd Drive

Carlsbad, NM 88220

TEL: (505) 506-0040

FAX

RE: Nina Cortell Federal Com TB

OrderNo.: 2305811

Dear Monica Peppin:

Hall Environmental Analysis Laboratory received 44 sample(s) on 5/16/2023 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,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a white background.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-01 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/11/2023 1:00:00 PM

Lab ID: 2305811-001

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/18/2023 7:17:20 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/18/2023 7:17:20 PM
Surr: DNOP	98.4	69-147		%Rec	1	5/18/2023 7:17:20 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/23/2023 10:59:00 AM
Surr: BFB	93.4	15-244		%Rec	1	5/23/2023 10:59:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	5/23/2023 10:59:00 AM
Toluene	ND	0.049		mg/Kg	1	5/23/2023 10:59:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	5/23/2023 10:59:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	5/23/2023 10:59:00 AM
Surr: 4-Bromofluorobenzene	84.4	39.1-146		%Rec	1	5/23/2023 10:59:00 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	140	60		mg/Kg	20	5/20/2023 6:41:10 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-02 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/11/2023 1:05:00 PM

Lab ID: 2305811-002

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	12	10		mg/Kg	1	5/18/2023 7:28:07 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/18/2023 7:28:07 PM
Surr: DNOP	98.6	69-147		%Rec	1	5/18/2023 7:28:07 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/23/2023 11:20:00 AM
Surr: BFB	85.2	15-244		%Rec	1	5/23/2023 11:20:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.025		mg/Kg	1	5/23/2023 11:20:00 AM
Toluene	ND	0.049		mg/Kg	1	5/23/2023 11:20:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	5/23/2023 11:20:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	5/23/2023 11:20:00 AM
Surr: 4-Bromofluorobenzene	83.5	39.1-146		%Rec	1	5/23/2023 11:20:00 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	170	59		mg/Kg	20	5/20/2023 7:18:24 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-03 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/11/2023 1:10:00 PM

Lab ID: 2305811-003

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	5/18/2023 7:38:50 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/18/2023 7:38:50 PM
Surr: DNOP	100	69-147		%Rec	1	5/18/2023 7:38:50 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/23/2023 11:42:00 AM
Surr: BFB	94.8	15-244		%Rec	1	5/23/2023 11:42:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	5/23/2023 11:42:00 AM
Toluene	ND	0.048		mg/Kg	1	5/23/2023 11:42:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	5/23/2023 11:42:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	5/23/2023 11:42:00 AM
Surr: 4-Bromofluorobenzene	84.2	39.1-146		%Rec	1	5/23/2023 11:42:00 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	59		mg/Kg	20	5/20/2023 7:30:49 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-04 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/11/2023 1:15:00 PM

Lab ID: 2305811-004

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/18/2023 7:49:34 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/18/2023 7:49:34 PM
Surr: DNOP	101	69-147		%Rec	1	5/18/2023 7:49:34 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/23/2023 12:04:00 PM
Surr: BFB	89.4	15-244		%Rec	1	5/23/2023 12:04:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	5/23/2023 12:04:00 PM
Toluene	ND	0.048		mg/Kg	1	5/23/2023 12:04:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	5/23/2023 12:04:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	5/23/2023 12:04:00 PM
Surr: 4-Bromofluorobenzene	84.9	39.1-146		%Rec	1	5/23/2023 12:04:00 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	130	60		mg/Kg	20	5/20/2023 7:43:14 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-05 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/11/2023 1:20:00 PM

Lab ID: 2305811-005

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/18/2023 8:10:58 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/18/2023 8:10:58 PM
Surr: DNOP	101	69-147		%Rec	1	5/18/2023 8:10:58 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/23/2023 12:25:00 PM
Surr: BFB	90.2	15-244		%Rec	1	5/23/2023 12:25:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.025		mg/Kg	1	5/23/2023 12:25:00 PM
Toluene	ND	0.050		mg/Kg	1	5/23/2023 12:25:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/23/2023 12:25:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	5/23/2023 12:25:00 PM
Surr: 4-Bromofluorobenzene	86.2	39.1-146		%Rec	1	5/23/2023 12:25:00 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	120	60		mg/Kg	20	5/20/2023 7:55:38 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-06 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/11/2023 1:25:00 PM

Lab ID: 2305811-006

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

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	5/18/2023 8:21:41 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/18/2023 8:21:41 PM
Surr: DNOP	101	69-147		%Rec	1	5/18/2023 8:21:41 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/23/2023 12:47:00 PM
Surr: BFB	94.2	15-244		%Rec	1	5/23/2023 12:47:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	5/23/2023 12:47:00 PM
Toluene	ND	0.048		mg/Kg	1	5/23/2023 12:47:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	5/23/2023 12:47:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	5/23/2023 12:47:00 PM
Surr: 4-Bromofluorobenzene	86.3	39.1-146		%Rec	1	5/23/2023 12:47:00 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	88	60		mg/Kg	20	5/20/2023 8:08:02 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-07 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/11/2023 1:30:00 PM

Lab ID: 2305811-007

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

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	5/18/2023 8:32:24 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/18/2023 8:32:24 PM
Surr: DNOP	102	69-147		%Rec	1	5/18/2023 8:32:24 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/23/2023 1:09:00 PM
Surr: BFB	90.9	15-244		%Rec	1	5/23/2023 1:09:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	5/23/2023 1:09:00 PM
Toluene	ND	0.047		mg/Kg	1	5/23/2023 1:09:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	5/23/2023 1:09:00 PM
Xylenes, Total	ND	0.094		mg/Kg	1	5/23/2023 1:09:00 PM
Surr: 4-Bromofluorobenzene	84.0	39.1-146		%Rec	1	5/23/2023 1:09:00 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	75	59		mg/Kg	20	5/20/2023 8:20:27 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order 2305811

Date Reported: 5/26/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-08 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/11/2023 1:35:00 PM

Lab ID: 2305811-008

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

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	5/18/2023 8:43:07 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/18/2023 8:43:07 PM
Surr: DNOP	107	69-147		%Rec	1	5/18/2023 8:43:07 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/23/2023 1:30:00 PM
Surr: BFB	89.1	15-244		%Rec	1	5/23/2023 1:30:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	5/23/2023 1:30:00 PM
Toluene	ND	0.049		mg/Kg	1	5/23/2023 1:30:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	5/23/2023 1:30:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	5/23/2023 1:30:00 PM
Surr: 4-Bromofluorobenzene	84.6	39.1-146		%Rec	1	5/23/2023 1:30:00 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	68	60		mg/Kg	20	5/20/2023 8:57:40 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-09 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/11/2023 1:40:00 PM

Lab ID: 2305811-009

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

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	5/18/2023 8:53:51 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/18/2023 8:53:51 PM
Surr: DNOP	106	69-147		%Rec	1	5/18/2023 8:53:51 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/23/2023 1:52:00 PM
Surr: BFB	89.8	15-244		%Rec	1	5/23/2023 1:52:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	5/23/2023 1:52:00 PM
Toluene	ND	0.047		mg/Kg	1	5/23/2023 1:52:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	5/23/2023 1:52:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	5/23/2023 1:52:00 PM
Surr: 4-Bromofluorobenzene	86.1	39.1-146		%Rec	1	5/23/2023 1:52:00 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	100	60		mg/Kg	20	5/20/2023 9:10:04 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-10 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/11/2023 1:45:00 PM

Lab ID: 2305811-010

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	11	9.2		mg/Kg	1	5/18/2023 9:04:36 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/18/2023 9:04:36 PM
Surr: DNOP	94.4	69-147		%Rec	1	5/18/2023 9:04:36 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/23/2023 2:35:00 PM
Surr: BFB	91.0	15-244		%Rec	1	5/23/2023 2:35:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.025		mg/Kg	1	5/23/2023 2:35:00 PM
Toluene	ND	0.050		mg/Kg	1	5/23/2023 2:35:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/23/2023 2:35:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	5/23/2023 2:35:00 PM
Surr: 4-Bromofluorobenzene	86.5	39.1-146		%Rec	1	5/23/2023 2:35:00 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	120	60		mg/Kg	20	5/20/2023 9:22:29 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-11 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/11/2023 1:50:00 PM

Lab ID: 2305811-011

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	5/18/2023 9:15:22 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/18/2023 9:15:22 PM
Surr: DNOP	92.8	69-147		%Rec	1	5/18/2023 9:15:22 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/23/2023 2:57:00 PM
Surr: BFB	89.5	15-244		%Rec	1	5/23/2023 2:57:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	5/23/2023 2:57:00 PM
Toluene	ND	0.047		mg/Kg	1	5/23/2023 2:57:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	5/23/2023 2:57:00 PM
Xylenes, Total	ND	0.094		mg/Kg	1	5/23/2023 2:57:00 PM
Surr: 4-Bromofluorobenzene	85.8	39.1-146		%Rec	1	5/23/2023 2:57:00 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	84	61		mg/Kg	20	5/20/2023 9:34:53 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-12 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/11/2023 1:55:00 PM

Lab ID: 2305811-012

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/18/2023 9:26:09 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/18/2023 9:26:09 PM
Surr: DNOP	93.1	69-147		%Rec	1	5/18/2023 9:26:09 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/23/2023 3:19:00 PM
Surr: BFB	97.6	15-244		%Rec	1	5/23/2023 3:19:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.025		mg/Kg	1	5/23/2023 3:19:00 PM
Toluene	ND	0.050		mg/Kg	1	5/23/2023 3:19:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/23/2023 3:19:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	5/23/2023 3:19:00 PM
Surr: 4-Bromofluorobenzene	89.3	39.1-146		%Rec	1	5/23/2023 3:19:00 PM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	110	60		mg/Kg	20	5/22/2023 10:40:36 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-13 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/11/2023 2:00:00 PM

Lab ID: 2305811-013

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	15	10		mg/Kg	1	5/18/2023 9:36:57 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/18/2023 9:36:57 PM
Surr: DNOP	94.0	69-147		%Rec	1	5/18/2023 9:36:57 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/23/2023 3:40:00 PM
Surr: BFB	93.4	15-244		%Rec	1	5/23/2023 3:40:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.025		mg/Kg	1	5/23/2023 3:40:00 PM
Toluene	ND	0.049		mg/Kg	1	5/23/2023 3:40:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	5/23/2023 3:40:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	5/23/2023 3:40:00 PM
Surr: 4-Bromofluorobenzene	86.5	39.1-146		%Rec	1	5/23/2023 3:40:00 PM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	130	60		mg/Kg	20	5/22/2023 11:17:49 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-14 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/11/2023 2:05:00 PM

Lab ID: 2305811-014

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	12	9.3		mg/Kg	1	5/18/2023 9:47:45 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/18/2023 9:47:45 PM
Surr: DNOP	96.6	69-147		%Rec	1	5/18/2023 9:47:45 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/23/2023 4:02:00 PM
Surr: BFB	91.0	15-244		%Rec	1	5/23/2023 4:02:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	5/23/2023 4:02:00 PM
Toluene	ND	0.048		mg/Kg	1	5/23/2023 4:02:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	5/23/2023 4:02:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	5/23/2023 4:02:00 PM
Surr: 4-Bromofluorobenzene	85.8	39.1-146		%Rec	1	5/23/2023 4:02:00 PM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	170	59		mg/Kg	20	5/22/2023 11:55:03 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-15 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/11/2023 2:10:00 PM

Lab ID: 2305811-015

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	33	9.6		mg/Kg	1	5/18/2023 9:58:35 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/18/2023 9:58:35 PM
Surr: DNOP	94.3	69-147		%Rec	1	5/18/2023 9:58:35 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/23/2023 4:24:00 PM
Surr: BFB	94.4	15-244		%Rec	1	5/23/2023 4:24:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	5/23/2023 4:24:00 PM
Toluene	ND	0.048		mg/Kg	1	5/23/2023 4:24:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	5/23/2023 4:24:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	5/23/2023 4:24:00 PM
Surr: 4-Bromofluorobenzene	85.6	39.1-146		%Rec	1	5/23/2023 4:24:00 PM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	260	60		mg/Kg	20	5/22/2023 12:32:17 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-16 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/11/2023 2:15:00 PM

Lab ID: 2305811-016

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	23	9.9		mg/Kg	1	5/18/2023 10:09:26 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/18/2023 10:09:26 PM
Surr: DNOP	100	69-147		%Rec	1	5/18/2023 10:09:26 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/23/2023 4:46:00 PM
Surr: BFB	93.4	15-244		%Rec	1	5/23/2023 4:46:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.025		mg/Kg	1	5/23/2023 4:46:00 PM
Toluene	ND	0.050		mg/Kg	1	5/23/2023 4:46:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/23/2023 4:46:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	5/23/2023 4:46:00 PM
Surr: 4-Bromofluorobenzene	87.2	39.1-146		%Rec	1	5/23/2023 4:46:00 PM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	160	60		mg/Kg	20	5/22/2023 12:44:41 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-17 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/11/2023 2:20:00 PM

Lab ID: 2305811-017

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	16	9.9		mg/Kg	1	5/18/2023 10:52:52 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/18/2023 10:52:52 PM
Surr: DNOP	97.7	69-147		%Rec	1	5/18/2023 10:52:52 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/22/2023 12:15:45 PM
Surr: BFB	77.1	15-244		%Rec	1	5/22/2023 12:15:45 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	5/22/2023 12:15:45 PM
Toluene	ND	0.049		mg/Kg	1	5/22/2023 12:15:45 PM
Ethylbenzene	ND	0.049		mg/Kg	1	5/22/2023 12:15:45 PM
Xylenes, Total	ND	0.097		mg/Kg	1	5/22/2023 12:15:45 PM
Surr: 4-Bromofluorobenzene	97.0	39.1-146		%Rec	1	5/22/2023 12:15:45 PM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	190	60		mg/Kg	20	5/22/2023 12:57:06 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-18 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/11/2023 2:25:00 PM

Lab ID: 2305811-018

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	23	8.9		mg/Kg	1	5/18/2023 11:25:53 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	5/18/2023 11:25:53 PM
Surr: DNOP	89.5	69-147		%Rec	1	5/18/2023 11:25:53 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/22/2023 12:39:05 PM
Surr: BFB	82.4	15-244		%Rec	1	5/22/2023 12:39:05 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	5/22/2023 12:39:05 PM
Toluene	ND	0.049		mg/Kg	1	5/22/2023 12:39:05 PM
Ethylbenzene	ND	0.049		mg/Kg	1	5/22/2023 12:39:05 PM
Xylenes, Total	ND	0.097		mg/Kg	1	5/22/2023 12:39:05 PM
Surr: 4-Bromofluorobenzene	98.5	39.1-146		%Rec	1	5/22/2023 12:39:05 PM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	220	60		mg/Kg	20	5/22/2023 1:09:31 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-19 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/11/2023 2:30:00 PM

Lab ID: 2305811-019

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	15	8.8		mg/Kg	1	5/18/2023 11:36:51 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	5/18/2023 11:36:51 PM
Surr: DNOP	90.7	69-147		%Rec	1	5/18/2023 11:36:51 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/22/2023 1:02:33 PM
Surr: BFB	79.0	15-244		%Rec	1	5/22/2023 1:02:33 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	5/22/2023 1:02:33 PM
Toluene	ND	0.048		mg/Kg	1	5/22/2023 1:02:33 PM
Ethylbenzene	ND	0.048		mg/Kg	1	5/22/2023 1:02:33 PM
Xylenes, Total	ND	0.096		mg/Kg	1	5/22/2023 1:02:33 PM
Surr: 4-Bromofluorobenzene	97.7	39.1-146		%Rec	1	5/22/2023 1:02:33 PM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	160	59		mg/Kg	20	5/22/2023 1:21:55 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-20 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/11/2023 2:35:00 PM

Lab ID: 2305811-020

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	40	9.7		mg/Kg	1	5/18/2023 11:47:48 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/18/2023 11:47:48 PM
Surr: DNOP	91.1	69-147		%Rec	1	5/18/2023 11:47:48 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/22/2023 1:25:56 PM
Surr: BFB	85.2	15-244		%Rec	1	5/22/2023 1:25:56 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	5/22/2023 1:25:56 PM
Toluene	ND	0.050		mg/Kg	1	5/22/2023 1:25:56 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/22/2023 1:25:56 PM
Xylenes, Total	ND	0.099		mg/Kg	1	5/22/2023 1:25:56 PM
Surr: 4-Bromofluorobenzene	98.7	39.1-146		%Rec	1	5/22/2023 1:25:56 PM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	260	60		mg/Kg	20	5/22/2023 1:34:20 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-21 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/11/2023 2:40:00 PM

Lab ID: 2305811-021

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	37	9.3		mg/Kg	1	5/18/2023 11:58:44 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/18/2023 11:58:44 PM
Surr: DNOP	89.6	69-147		%Rec	1	5/18/2023 11:58:44 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/22/2023 1:49:20 PM
Surr: BFB	87.1	15-244		%Rec	1	5/22/2023 1:49:20 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	5/22/2023 1:49:20 PM
Toluene	ND	0.049		mg/Kg	1	5/22/2023 1:49:20 PM
Ethylbenzene	ND	0.049		mg/Kg	1	5/22/2023 1:49:20 PM
Xylenes, Total	ND	0.097		mg/Kg	1	5/22/2023 1:49:20 PM
Surr: 4-Bromofluorobenzene	98.1	39.1-146		%Rec	1	5/22/2023 1:49:20 PM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	140	60		mg/Kg	20	5/22/2023 1:46:45 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-22 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/11/2023 2:45:00 PM

Lab ID: 2305811-022

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	13	9.0		mg/Kg	1	5/19/2023 12:09:39 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	5/19/2023 12:09:39 AM
Surr: DNOP	90.9	69-147		%Rec	1	5/19/2023 12:09:39 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/22/2023 2:12:46 PM
Surr: BFB	90.7	15-244		%Rec	1	5/22/2023 2:12:46 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	5/22/2023 2:12:46 PM
Toluene	ND	0.049		mg/Kg	1	5/22/2023 2:12:46 PM
Ethylbenzene	ND	0.049		mg/Kg	1	5/22/2023 2:12:46 PM
Xylenes, Total	ND	0.098		mg/Kg	1	5/22/2023 2:12:46 PM
Surr: 4-Bromofluorobenzene	99.6	39.1-146		%Rec	1	5/22/2023 2:12:46 PM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	150	60		mg/Kg	20	5/22/2023 1:59:10 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-23 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/11/2023 2:50:00 PM

Lab ID: 2305811-023

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	41	8.6		mg/Kg	1	5/19/2023 12:20:33 AM
Motor Oil Range Organics (MRO)	48	43		mg/Kg	1	5/19/2023 12:20:33 AM
Surr: DNOP	91.0	69-147		%Rec	1	5/19/2023 12:20:33 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/22/2023 2:36:20 PM
Surr: BFB	76.3	15-244		%Rec	1	5/22/2023 2:36:20 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	5/22/2023 2:36:20 PM
Toluene	ND	0.048		mg/Kg	1	5/22/2023 2:36:20 PM
Ethylbenzene	ND	0.048		mg/Kg	1	5/22/2023 2:36:20 PM
Xylenes, Total	ND	0.096		mg/Kg	1	5/22/2023 2:36:20 PM
Surr: 4-Bromofluorobenzene	96.0	39.1-146		%Rec	1	5/22/2023 2:36:20 PM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	290	60		mg/Kg	20	5/22/2023 2:11:35 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-24 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/11/2023 2:55:00 PM

Lab ID: 2305811-024

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	31	8.9		mg/Kg	1	5/19/2023 12:31:25 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	5/19/2023 12:31:25 AM
Surr: DNOP	93.2	69-147		%Rec	1	5/19/2023 12:31:25 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/22/2023 2:59:52 PM
Surr: BFB	86.9	15-244		%Rec	1	5/22/2023 2:59:52 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	5/22/2023 2:59:52 PM
Toluene	ND	0.048		mg/Kg	1	5/22/2023 2:59:52 PM
Ethylbenzene	ND	0.048		mg/Kg	1	5/22/2023 2:59:52 PM
Xylenes, Total	ND	0.097		mg/Kg	1	5/22/2023 2:59:52 PM
Surr: 4-Bromofluorobenzene	98.3	39.1-146		%Rec	1	5/22/2023 2:59:52 PM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	310	60		mg/Kg	20	5/22/2023 2:23:59 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-25 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/12/2023 11:00:00 AM

Lab ID: 2305811-025

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	23	9.1		mg/Kg	1	5/19/2023 12:52:55 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	5/19/2023 12:52:55 AM
Surr: DNOP	92.2	69-147		%Rec	1	5/19/2023 12:52:55 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/22/2023 3:23:22 PM
Surr: BFB	96.5	15-244		%Rec	1	5/22/2023 3:23:22 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	5/22/2023 3:23:22 PM
Toluene	ND	0.048		mg/Kg	1	5/22/2023 3:23:22 PM
Ethylbenzene	ND	0.048		mg/Kg	1	5/22/2023 3:23:22 PM
Xylenes, Total	ND	0.097		mg/Kg	1	5/22/2023 3:23:22 PM
Surr: 4-Bromofluorobenzene	101	39.1-146		%Rec	1	5/22/2023 3:23:22 PM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	230	60		mg/Kg	20	5/22/2023 3:01:13 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-26 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/12/2023 11:05:00 AM

Lab ID: 2305811-026

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	5/19/2023 1:03:45 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/19/2023 1:03:45 AM
Surr: DNOP	87.8	69-147		%Rec	1	5/19/2023 1:03:45 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/22/2023 3:46:50 PM
Surr: BFB	90.5	15-244		%Rec	1	5/22/2023 3:46:50 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	5/22/2023 3:46:50 PM
Toluene	ND	0.050		mg/Kg	1	5/22/2023 3:46:50 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/22/2023 3:46:50 PM
Xylenes, Total	ND	0.099		mg/Kg	1	5/22/2023 3:46:50 PM
Surr: 4-Bromofluorobenzene	99.0	39.1-146		%Rec	1	5/22/2023 3:46:50 PM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	ND	60		mg/Kg	20	5/22/2023 3:13:38 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-27 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/12/2023 11:10:00 AM

Lab ID: 2305811-027

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	5/19/2023 1:14:34 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	5/19/2023 1:14:34 AM
Surr: DNOP	89.3	69-147		%Rec	1	5/19/2023 1:14:34 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/22/2023 4:33:44 PM
Surr: BFB	87.2	15-244		%Rec	1	5/22/2023 4:33:44 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	5/22/2023 4:33:44 PM
Toluene	ND	0.049		mg/Kg	1	5/22/2023 4:33:44 PM
Ethylbenzene	ND	0.049		mg/Kg	1	5/22/2023 4:33:44 PM
Xylenes, Total	ND	0.097		mg/Kg	1	5/22/2023 4:33:44 PM
Surr: 4-Bromofluorobenzene	99.0	39.1-146		%Rec	1	5/22/2023 4:33:44 PM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	120	60		mg/Kg	20	5/22/2023 3:26:03 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-28 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/12/2023 11:15:00 AM

Lab ID: 2305811-028

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	12	9.4		mg/Kg	1	5/19/2023 1:25:22 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/19/2023 1:25:22 AM
Surr: DNOP	93.0	69-147		%Rec	1	5/19/2023 1:25:22 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/22/2023 4:57:09 PM
Surr: BFB	75.3	15-244		%Rec	1	5/22/2023 4:57:09 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	5/22/2023 4:57:09 PM
Toluene	ND	0.049		mg/Kg	1	5/22/2023 4:57:09 PM
Ethylbenzene	ND	0.049		mg/Kg	1	5/22/2023 4:57:09 PM
Xylenes, Total	ND	0.098		mg/Kg	1	5/22/2023 4:57:09 PM
Surr: 4-Bromofluorobenzene	95.2	39.1-146		%Rec	1	5/22/2023 4:57:09 PM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	150	60		mg/Kg	20	5/22/2023 3:38:28 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-29 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/12/2023 11:20:00 AM

Lab ID: 2305811-029

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

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	5/19/2023 1:36:10 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/19/2023 1:36:10 AM
Surr: DNOP	93.7	69-147		%Rec	1	5/19/2023 1:36:10 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/22/2023 5:20:35 PM
Surr: BFB	78.1	15-244		%Rec	1	5/22/2023 5:20:35 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	5/22/2023 5:20:35 PM
Toluene	ND	0.048		mg/Kg	1	5/22/2023 5:20:35 PM
Ethylbenzene	ND	0.048		mg/Kg	1	5/22/2023 5:20:35 PM
Xylenes, Total	ND	0.096		mg/Kg	1	5/22/2023 5:20:35 PM
Surr: 4-Bromofluorobenzene	95.8	39.1-146		%Rec	1	5/22/2023 5:20:35 PM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	ND	60		mg/Kg	20	5/22/2023 3:50:52 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-30 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/12/2023 11:25:00 AM

Lab ID: 2305811-030

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	47	10		mg/Kg	1	5/19/2023 1:46:55 AM
Motor Oil Range Organics (MRO)	51	50		mg/Kg	1	5/19/2023 1:46:55 AM
Surr: DNOP	94.6	69-147		%Rec	1	5/19/2023 1:46:55 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/22/2023 5:43:58 PM
Surr: BFB	70.8	15-244		%Rec	1	5/22/2023 5:43:58 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	5/22/2023 5:43:58 PM
Toluene	ND	0.050		mg/Kg	1	5/22/2023 5:43:58 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/22/2023 5:43:58 PM
Xylenes, Total	ND	0.10		mg/Kg	1	5/22/2023 5:43:58 PM
Surr: 4-Bromofluorobenzene	94.4	39.1-146		%Rec	1	5/22/2023 5:43:58 PM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	300	60		mg/Kg	20	5/22/2023 4:03:16 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-31 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/12/2023 11:30:00 AM

Lab ID: 2305811-031

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	25	9.3		mg/Kg	1	5/19/2023 1:57:40 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/19/2023 1:57:40 AM
Surr: DNOP	72.5	69-147		%Rec	1	5/19/2023 1:57:40 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/22/2023 6:07:19 PM
Surr: BFB	83.2	15-244		%Rec	1	5/22/2023 6:07:19 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	5/22/2023 6:07:19 PM
Toluene	ND	0.048		mg/Kg	1	5/22/2023 6:07:19 PM
Ethylbenzene	ND	0.048		mg/Kg	1	5/22/2023 6:07:19 PM
Xylenes, Total	ND	0.096		mg/Kg	1	5/22/2023 6:07:19 PM
Surr: 4-Bromofluorobenzene	97.6	39.1-146		%Rec	1	5/22/2023 6:07:19 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	290	60		mg/Kg	20	5/22/2023 11:33:39 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-32 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/12/2023 11:35:00 AM

Lab ID: 2305811-032

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	35	9.0		mg/Kg	1	5/19/2023 2:08:23 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	5/19/2023 2:08:23 AM
Surr: DNOP	78.4	69-147		%Rec	1	5/19/2023 2:08:23 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/22/2023 6:30:38 PM
Surr: BFB	79.8	15-244		%Rec	1	5/22/2023 6:30:38 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	5/22/2023 6:30:38 PM
Toluene	ND	0.048		mg/Kg	1	5/22/2023 6:30:38 PM
Ethylbenzene	ND	0.048		mg/Kg	1	5/22/2023 6:30:38 PM
Xylenes, Total	ND	0.096		mg/Kg	1	5/22/2023 6:30:38 PM
Surr: 4-Bromofluorobenzene	97.6	39.1-146		%Rec	1	5/22/2023 6:30:38 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	380	60		mg/Kg	20	5/22/2023 12:10:52 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-33 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/12/2023 11:40:00 AM

Lab ID: 2305811-033

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	23	9.5		mg/Kg	1	5/19/2023 2:19:03 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/19/2023 2:19:03 AM
Surr: DNOP	83.6	69-147		%Rec	1	5/19/2023 2:19:03 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/22/2023 6:53:58 PM
Surr: BFB	74.6	15-244		%Rec	1	5/22/2023 6:53:58 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	5/22/2023 6:53:58 PM
Toluene	ND	0.049		mg/Kg	1	5/22/2023 6:53:58 PM
Ethylbenzene	ND	0.049		mg/Kg	1	5/22/2023 6:53:58 PM
Xylenes, Total	ND	0.097		mg/Kg	1	5/22/2023 6:53:58 PM
Surr: 4-Bromofluorobenzene	96.4	39.1-146		%Rec	1	5/22/2023 6:53:58 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	310	60		mg/Kg	20	5/22/2023 12:48:05 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-34 1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/12/2023 11:45:00 AM

Lab ID: 2305811-034

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	24	9.6		mg/Kg	1	5/19/2023 2:29:42 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/19/2023 2:29:42 AM
Surr: DNOP	78.4	69-147		%Rec	1	5/19/2023 2:29:42 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/22/2023 7:17:21 PM
Surr: BFB	71.4	15-244		%Rec	1	5/22/2023 7:17:21 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	5/22/2023 7:17:21 PM
Toluene	ND	0.048		mg/Kg	1	5/22/2023 7:17:21 PM
Ethylbenzene	ND	0.048		mg/Kg	1	5/22/2023 7:17:21 PM
Xylenes, Total	ND	0.095		mg/Kg	1	5/22/2023 7:17:21 PM
Surr: 4-Bromofluorobenzene	94.2	39.1-146		%Rec	1	5/22/2023 7:17:21 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	300	60		mg/Kg	20	5/22/2023 1:00:30 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS23-01 0-1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/12/2023 12:00:00 PM

Lab ID: 2305811-035

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	5/19/2023 2:40:19 AM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	5/19/2023 2:40:19 AM
Surr: DNOP	76.9	69-147		%Rec	1	5/19/2023 2:40:19 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/22/2023 7:40:43 PM
Surr: BFB	80.2	15-244		%Rec	1	5/22/2023 7:40:43 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	5/22/2023 7:40:43 PM
Toluene	ND	0.050		mg/Kg	1	5/22/2023 7:40:43 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/22/2023 7:40:43 PM
Xylenes, Total	ND	0.099		mg/Kg	1	5/22/2023 7:40:43 PM
Surr: 4-Bromofluorobenzene	96.9	39.1-146		%Rec	1	5/22/2023 7:40:43 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	120	60		mg/Kg	20	5/22/2023 1:37:43 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS23-02 0-1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/12/2023 12:05:00 PM

Lab ID: 2305811-036

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	16	9.3		mg/Kg	1	5/19/2023 2:50:56 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/19/2023 2:50:56 AM
Surr: DNOP	83.4	69-147		%Rec	1	5/19/2023 2:50:56 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/22/2023 8:04:16 PM
Surr: BFB	78.3	15-244		%Rec	1	5/22/2023 8:04:16 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	5/22/2023 8:04:16 PM
Toluene	ND	0.049		mg/Kg	1	5/22/2023 8:04:16 PM
Ethylbenzene	ND	0.049		mg/Kg	1	5/22/2023 8:04:16 PM
Xylenes, Total	ND	0.099		mg/Kg	1	5/22/2023 8:04:16 PM
Surr: 4-Bromofluorobenzene	96.2	39.1-146		%Rec	1	5/22/2023 8:04:16 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	160	60		mg/Kg	20	5/22/2023 1:50:08 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS23-03 0-1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/12/2023 12:10:00 PM

Lab ID: 2305811-037

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/19/2023 2:29:59 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/19/2023 2:29:59 AM
Surr: DNOP	95.7	69-147		%Rec	1	5/19/2023 2:29:59 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/23/2023 2:17:41 AM
Surr: BFB	73.0	15-244		%Rec	1	5/23/2023 2:17:41 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	5/23/2023 2:17:41 AM
Toluene	ND	0.049		mg/Kg	1	5/23/2023 2:17:41 AM
Ethylbenzene	ND	0.049		mg/Kg	1	5/23/2023 2:17:41 AM
Xylenes, Total	ND	0.099		mg/Kg	1	5/23/2023 2:17:41 AM
Surr: 4-Bromofluorobenzene	95.0	39.1-146		%Rec	1	5/23/2023 2:17:41 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	62	60		mg/Kg	20	5/22/2023 2:02:33 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS23-04 0-1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/12/2023 12:15:00 PM

Lab ID: 2305811-038

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

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	5/19/2023 2:53:37 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/19/2023 2:53:37 AM
Surr: DNOP	95.5	69-147		%Rec	1	5/19/2023 2:53:37 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/23/2023 2:40:56 AM
Surr: BFB	79.6	15-244		%Rec	1	5/23/2023 2:40:56 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	5/23/2023 2:40:56 AM
Toluene	ND	0.049		mg/Kg	1	5/23/2023 2:40:56 AM
Ethylbenzene	ND	0.049		mg/Kg	1	5/23/2023 2:40:56 AM
Xylenes, Total	ND	0.098		mg/Kg	1	5/23/2023 2:40:56 AM
Surr: 4-Bromofluorobenzene	96.7	39.1-146		%Rec	1	5/23/2023 2:40:56 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	110	60		mg/Kg	20	5/22/2023 2:14:58 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS23-05 0-1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/12/2023 12:20:00 PM

Lab ID: 2305811-039

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/19/2023 3:17:17 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/19/2023 3:17:17 AM
Surr: DNOP	96.6	69-147		%Rec	1	5/19/2023 3:17:17 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/23/2023 3:04:15 AM
Surr: BFB	69.1	15-244		%Rec	1	5/23/2023 3:04:15 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	5/23/2023 3:04:15 AM
Toluene	ND	0.048		mg/Kg	1	5/23/2023 3:04:15 AM
Ethylbenzene	ND	0.048		mg/Kg	1	5/23/2023 3:04:15 AM
Xylenes, Total	ND	0.097		mg/Kg	1	5/23/2023 3:04:15 AM
Surr: 4-Bromofluorobenzene	93.3	39.1-146		%Rec	1	5/23/2023 3:04:15 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	140	61		mg/Kg	20	5/22/2023 2:27:23 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS23-06 0-1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/12/2023 12:25:00 PM

Lab ID: 2305811-040

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	5/19/2023 4:28:14 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/19/2023 4:28:14 AM
Surr: DNOP	96.8	69-147		%Rec	1	5/19/2023 4:28:14 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/23/2023 3:27:50 AM
Surr: BFB	72.6	15-244		%Rec	1	5/23/2023 3:27:50 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	5/23/2023 3:27:50 AM
Toluene	ND	0.048		mg/Kg	1	5/23/2023 3:27:50 AM
Ethylbenzene	ND	0.048		mg/Kg	1	5/23/2023 3:27:50 AM
Xylenes, Total	ND	0.097		mg/Kg	1	5/23/2023 3:27:50 AM
Surr: 4-Bromofluorobenzene	95.2	39.1-146		%Rec	1	5/23/2023 3:27:50 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	110	60		mg/Kg	20	5/22/2023 2:39:48 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS23-07 0-1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/12/2023 12:30:00 PM

Lab ID: 2305811-041

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

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	5/19/2023 4:51:52 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/19/2023 4:51:52 AM
Surr: DNOP	96.3	69-147		%Rec	1	5/19/2023 4:51:52 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/23/2023 4:14:47 AM
Surr: BFB	59.0	15-244		%Rec	1	5/23/2023 4:14:47 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	5/23/2023 4:14:47 AM
Toluene	ND	0.047		mg/Kg	1	5/23/2023 4:14:47 AM
Ethylbenzene	ND	0.047		mg/Kg	1	5/23/2023 4:14:47 AM
Xylenes, Total	ND	0.095		mg/Kg	1	5/23/2023 4:14:47 AM
Surr: 4-Bromofluorobenzene	90.7	39.1-146		%Rec	1	5/23/2023 4:14:47 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	110	60		mg/Kg	20	5/22/2023 2:52:12 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS23-08 0-1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/12/2023 12:35:00 PM

Lab ID: 2305811-042

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/19/2023 5:15:29 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/19/2023 5:15:29 AM
Surr: DNOP	95.8	69-147		%Rec	1	5/19/2023 5:15:29 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/23/2023 4:38:16 AM
Surr: BFB	72.9	15-244		%Rec	1	5/23/2023 4:38:16 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	5/23/2023 4:38:16 AM
Toluene	ND	0.050		mg/Kg	1	5/23/2023 4:38:16 AM
Ethylbenzene	ND	0.050		mg/Kg	1	5/23/2023 4:38:16 AM
Xylenes, Total	ND	0.10		mg/Kg	1	5/23/2023 4:38:16 AM
Surr: 4-Bromofluorobenzene	95.1	39.1-146		%Rec	1	5/23/2023 4:38:16 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	95	60		mg/Kg	20	5/22/2023 3:04:37 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS23-09 0-1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/12/2023 12:40:00 PM

Lab ID: 2305811-043

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

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	5/19/2023 5:39:10 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/19/2023 5:39:10 AM
Surr: DNOP	95.7	69-147		%Rec	1	5/19/2023 5:39:10 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/23/2023 5:01:44 AM
Surr: BFB	72.7	15-244		%Rec	1	5/23/2023 5:01:44 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	5/23/2023 5:01:44 AM
Toluene	ND	0.048		mg/Kg	1	5/23/2023 5:01:44 AM
Ethylbenzene	ND	0.048		mg/Kg	1	5/23/2023 5:01:44 AM
Xylenes, Total	ND	0.097		mg/Kg	1	5/23/2023 5:01:44 AM
Surr: 4-Bromofluorobenzene	95.2	39.1-146		%Rec	1	5/23/2023 5:01:44 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	5/22/2023 3:17:02 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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2305811**

Date Reported: **5/26/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS23-10 0-1'

Project: Nina Cortell Federal Com TB

Collection Date: 5/12/2023 12:45:00 PM

Lab ID: 2305811-044

Matrix: SOIL

Received Date: 5/16/2023 4:10:00 PM

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	5/19/2023 6:02:50 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/19/2023 6:02:50 AM
Surr: DNOP	93.7	69-147		%Rec	1	5/19/2023 6:02:50 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/23/2023 5:25:14 AM
Surr: BFB	73.7	15-244		%Rec	1	5/23/2023 5:25:14 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	5/23/2023 5:25:14 AM
Toluene	ND	0.049		mg/Kg	1	5/23/2023 5:25:14 AM
Ethylbenzene	ND	0.049		mg/Kg	1	5/23/2023 5:25:14 AM
Xylenes, Total	ND	0.098		mg/Kg	1	5/23/2023 5:25:14 AM
Surr: 4-Bromofluorobenzene	95.0	39.1-146		%Rec	1	5/23/2023 5:25:14 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	79	60		mg/Kg	20	5/22/2023 3:29:26 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 Quantitative 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#: 2305811

26-May-23

Client: Vertex Resources Services, Inc.

Project: Nina Cortell Federal Com TB

Sample ID: MB-75076	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 75076	RunNo: 96914								
Prep Date: 5/20/2023	Analysis Date: 5/20/2023	SeqNo: 3515840	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-75076	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 75076	RunNo: 96914								
Prep Date: 5/20/2023	Analysis Date: 5/20/2023	SeqNo: 3515841	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.1	90	110			

Sample ID: MB-75085	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 75085	RunNo: 96943								
Prep Date: 5/22/2023	Analysis Date: 5/22/2023	SeqNo: 3517097	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-75085	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 75085	RunNo: 96943								
Prep Date: 5/22/2023	Analysis Date: 5/22/2023	SeqNo: 3517098	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.8	90	110			

Sample ID: MB-75083	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 75083	RunNo: 96913								
Prep Date: 5/22/2023	Analysis Date: 5/22/2023	SeqNo: 3517231	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-75083	SampType: LCS	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 75083	RunNo: 96913								
Prep Date: 5/22/2023	Analysis Date: 5/22/2023	SeqNo: 3517232	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.3	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 Quantitative 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#: 2305811

26-May-23

Client: Vertex Resources Services, Inc.

Project: Nina Cortell Federal Com TB

Sample ID: 2305811-017AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: BS23-17 1'	Batch ID: 75035	RunNo: 96864								
Prep Date: 5/18/2023	Analysis Date: 5/18/2023	SeqNo: 3513497	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	9.5	47.53	16.02	69.2	54.2	135			
Surr: DNOP	4.2		4.753		87.9	69	147			

Sample ID: 2305811-017AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: BS23-17 1'	Batch ID: 75035	RunNo: 96864								
Prep Date: 5/18/2023	Analysis Date: 5/18/2023	SeqNo: 3513498	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	9.3	46.47	16.02	75.3	54.2	135	4.19	29.2	
Surr: DNOP	4.0		4.647		85.8	69	147	0	0	

Sample ID: LCS-75011	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 75011	RunNo: 96864								
Prep Date: 5/17/2023	Analysis Date: 5/18/2023	SeqNo: 3513540	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.6		5.000		92.6	69	147			

Sample ID: LCS-75017	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 75017	RunNo: 96864								
Prep Date: 5/17/2023	Analysis Date: 5/18/2023	SeqNo: 3513541	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.2		5.000		84.3	69	147			

Sample ID: LCS-75032	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 75032	RunNo: 96864								
Prep Date: 5/18/2023	Analysis Date: 5/18/2023	SeqNo: 3513542	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	86.9	61.9	130			
Surr: DNOP	4.1		5.000		82.2	69	147			

Sample ID: LCS-75035	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 75035	RunNo: 96864								
Prep Date: 5/18/2023	Analysis Date: 5/18/2023	SeqNo: 3513543	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	88.0	61.9	130			
Surr: DNOP	4.4		5.000		88.0	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 Quantitative 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#: 2305811

26-May-23

Client: Vertex Resources Services, Inc.

Project: Nina Cortell Federal Com TB

Sample ID: MB-75011	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 75011	RunNo: 96864								
Prep Date: 5/17/2023	Analysis Date: 5/18/2023	SeqNo: 3513544	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.3		10.00		92.9	69	147			

Sample ID: MB-75017	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 75017	RunNo: 96864								
Prep Date: 5/17/2023	Analysis Date: 5/18/2023	SeqNo: 3513545	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.3		10.00		93.3	69	147			

Sample ID: MB-75032	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 75032	RunNo: 96864								
Prep Date: 5/18/2023	Analysis Date: 5/18/2023	SeqNo: 3513546	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	9.0		10.00		90.2	69	147			

Sample ID: MB-75035	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 75035	RunNo: 96864								
Prep Date: 5/18/2023	Analysis Date: 5/18/2023	SeqNo: 3513547	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	9.4		10.00		94.0	69	147			

Sample ID: MB-75039	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 75039	RunNo: 96866								
Prep Date: 5/18/2023	Analysis Date: 5/19/2023	SeqNo: 3513779	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		91.5	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 Quantitative 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#: 2305811

26-May-23

Client: Vertex Resources Services, Inc.

Project: Nina Cortell Federal Com TB

Sample ID: LCS-75039	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 75039		RunNo: 96866							
Prep Date: 5/18/2023	Analysis Date: 5/19/2023		SeqNo: 3513780		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	86.7	61.9	130			
Surr: DNOP	4.0		5.000		80.7	69	147			

Sample ID: 2305811-039AMS	SampType: MS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: WS23-05 0-1'	Batch ID: 75039		RunNo: 96866							
Prep Date: 5/18/2023	Analysis Date: 5/19/2023		SeqNo: 3513784		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	9.3	46.60	0	90.2	54.2	135			
Surr: DNOP	3.8		4.660		82.4	69	147			

Sample ID: 2305811-039AMSD	SampType: MSD		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: WS23-05 0-1'	Batch ID: 75039		RunNo: 96866							
Prep Date: 5/18/2023	Analysis Date: 5/19/2023		SeqNo: 3513785		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	9.9	49.36	0	89.6	54.2	135	5.09	29.2	
Surr: DNOP	4.2		4.936		84.2	69	147	0	0	

Sample ID: LCS-75018	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 75018		RunNo: 96925							
Prep Date: 5/17/2023	Analysis Date: 5/22/2023		SeqNo: 3517131		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.3		5.000		106	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 Quantitative 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#: 2305811

26-May-23

Client: Vertex Resources Services, Inc.

Project: Nina Cortell Federal Com TB

Sample ID: ics-75010	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 75010		RunNo: 96929							
Prep Date: 5/17/2023	Analysis Date: 5/22/2023		SeqNo: 3516443		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	92.2	70	130			
Surr: BFB	4800		1000		480	15	244			S

Sample ID: mb-75010	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 75010		RunNo: 96929							
Prep Date: 5/17/2023	Analysis Date: 5/22/2023		SeqNo: 3516444		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	820		1000		82.0	15	244			

Sample ID: 2305811-017ams	SampType: MS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: BS23-17 1'	Batch ID: 75010		RunNo: 96929							
Prep Date: 5/17/2023	Analysis Date: 5/22/2023		SeqNo: 3516764		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.8	24.08	0	87.1	70	130			
Surr: BFB	4800		963.4		499	15	244			S

Sample ID: 2305811-017amsd	SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: BS23-17 1'	Batch ID: 75010		RunNo: 96929							
Prep Date: 5/17/2023	Analysis Date: 5/22/2023		SeqNo: 3516765		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	5.0	24.85	0	77.5	70	130	8.49	20	
Surr: BFB	4800		994.0		482	15	244	0	0	S

Sample ID: ics-75036	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 75036		RunNo: 96929							
Prep Date: 5/18/2023	Analysis Date: 5/22/2023		SeqNo: 3516894		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	85.5	70	130			
Surr: BFB	4700		1000		468	15	244			S

Sample ID: mb-75036	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 75036		RunNo: 96929							
Prep Date: 5/18/2023	Analysis Date: 5/22/2023		SeqNo: 3516896		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)										
Surr: BFB										

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 Quantitative 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#: 2305811

26-May-23

Client: Vertex Resources Services, Inc.

Project: Nina Cortell Federal Com TB

Sample ID: mb-75036	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 75036	RunNo: 96929								
Prep Date: 5/18/2023	Analysis Date: 5/22/2023	SeqNo: 3516896	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	740		1000		74.4	15	244			

Sample ID: mb-75008	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 75008	RunNo: 96924								
Prep Date: 5/17/2023	Analysis Date: 5/22/2023	SeqNo: 3516999	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	900		1000		89.9	15	244			

Sample ID: lcs-75008	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 75008	RunNo: 96924								
Prep Date: 5/17/2023	Analysis Date: 5/22/2023	SeqNo: 3517000	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	87.1	70	130			
Surr: BFB	1900		1000		190	15	244			

Sample ID: 2305811-037AMS	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: WS23-03 0-1'	Batch ID: 75036	RunNo: 96929								
Prep Date: 5/18/2023	Analysis Date: 5/23/2023	SeqNo: 3517083	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	4.9	24.68	0	76.9	70	130			
Surr: BFB	4600		987.2		467	15	244			S

Sample ID: 2305811-037AMSD	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: WS23-03 0-1'	Batch ID: 75036	RunNo: 96929								
Prep Date: 5/18/2023	Analysis Date: 5/23/2023	SeqNo: 3517084	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	5.0	24.80	0	79.9	70	130	4.27	20	
Surr: BFB	4400		992.1		445	15	244	0	0	S

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 Quantitative 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#: 2305811

26-May-23

Client: Vertex Resources Services, Inc.

Project: Nina Cortell Federal Com TB

Sample ID: LCS-75010	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 75010	RunNo: 96929								
Prep Date: 5/17/2023	Analysis Date: 5/22/2023	SeqNo: 3516454	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	91.0	70	130			
Toluene	0.93	0.050	1.000	0	92.8	70	130			
Ethylbenzene	0.94	0.050	1.000	0	94.4	70	130			
Xylenes, Total	2.8	0.10	3.000	0	94.6	70	130			
Surr: 4-Bromofluorobenzene	1.0		1.000		100	39.1	146			

Sample ID: mb-75010	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 75010	RunNo: 96929								
Prep Date: 5/17/2023	Analysis Date: 5/22/2023	SeqNo: 3516455	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	0.99		1.000		98.9	39.1	146			

Sample ID: 2305811-018ams	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: BS23-18 1'	Batch ID: 75010	RunNo: 96929								
Prep Date: 5/17/2023	Analysis Date: 5/22/2023	SeqNo: 3516766	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.024	0.9506	0	90.4	70	130			
Toluene	0.89	0.048	0.9506	0	94.0	70	130			
Ethylbenzene	0.91	0.048	0.9506	0	95.5	70	130			
Xylenes, Total	2.7	0.095	2.852	0	96.0	70	130			
Surr: 4-Bromofluorobenzene	0.95		0.9506		99.8	39.1	146			

Sample ID: 2305811-018amsd	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: BS23-18 1'	Batch ID: 75010	RunNo: 96929								
Prep Date: 5/17/2023	Analysis Date: 5/22/2023	SeqNo: 3516767	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.024	0.9506	0	96.0	70	130	6.07	20	
Toluene	0.93	0.048	0.9506	0	97.8	70	130	3.96	20	
Ethylbenzene	0.94	0.048	0.9506	0	98.9	70	130	3.52	20	
Xylenes, Total	2.8	0.095	2.852	0	98.9	70	130	2.94	20	
Surr: 4-Bromofluorobenzene	0.95		0.9506		99.6	39.1	146	0	0	

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 Quantitative 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#: 2305811

26-May-23

Client: Vertex Resources Services, Inc.

Project: Nina Cortell Federal Com TB

Sample ID: LCS-75036	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 75036	RunNo: 96929								
Prep Date: 5/18/2023	Analysis Date: 5/22/2023	SeqNo: 3516968	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.025	1.000	0	87.5	70	130			
Toluene	0.89	0.050	1.000	0	89.2	70	130			
Ethylbenzene	0.91	0.050	1.000	0	90.7	70	130			
Xylenes, Total	2.7	0.10	3.000	0	90.4	70	130			
Surr: 4-Bromofluorobenzene	0.98		1.000		98.0	39.1	146			

Sample ID: mb-75036	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 75036	RunNo: 96929								
Prep Date: 5/18/2023	Analysis Date: 5/22/2023	SeqNo: 3516969	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	0.95		1.000		95.3	39.1	146			

Sample ID: mb-75008	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 75008	RunNo: 96924								
Prep Date: 5/17/2023	Analysis Date: 5/22/2023	SeqNo: 3517006	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	0.87		1.000		87.0	39.1	146			

Sample ID: lcs-75008	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 75008	RunNo: 96924								
Prep Date: 5/17/2023	Analysis Date: 5/22/2023	SeqNo: 3517007	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	91.2	70	130			
Toluene	0.91	0.050	1.000	0	90.6	70	130			
Ethylbenzene	0.89	0.050	1.000	0	88.7	70	130			
Xylenes, Total	2.6	0.10	3.000	0	88.1	70	130			
Surr: 4-Bromofluorobenzene	0.88		1.000		88.1	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 Quantitative 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#: 2305811

26-May-23

Client: Vertex Resources Services, Inc.

Project: Nina Cortell Federal Com TB

Sample ID: 2305811-038AMS	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: WS23-04 0-1'	Batch ID: 75036	RunNo: 96929								
Prep Date: 5/18/2023	Analysis Date: 5/23/2023	SeqNo: 3517085	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.025	0.9881	0	84.0	70	130			
Toluene	0.89	0.049	0.9881	0	89.6	70	130			
Ethylbenzene	0.91	0.049	0.9881	0	91.7	70	130			
Xylenes, Total	2.7	0.099	2.964	0	90.8	70	130			
Surr: 4-Bromofluorobenzene	0.96		0.9881		97.2	39.1	146			

Sample ID: 2305811-037AMSD	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: WS23-03 0-1'	Batch ID: 75036	RunNo: 96929								
Prep Date: 5/18/2023	Analysis Date: 5/23/2023	SeqNo: 3517086	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.025	0.9921	0	86.6	70	130	3.40	20	
Toluene	0.88	0.050	0.9921	0	88.8	70	130	0.512	20	
Ethylbenzene	0.88	0.050	0.9921	0	89.2	70	130	2.40	20	
Xylenes, Total	2.7	0.099	2.976	0	90.0	70	130	0.481	20	
Surr: 4-Bromofluorobenzene	0.96		0.9921		96.5	39.1	146	0	0	

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 Quantitative 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
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: Vertex Resources Services, Inc. Work Order Number: 2305811 RcptNo: 1

Received By: Juan Rojas 5/16/2023 4:10:00 PM *Juan Rojas*
Completed By: Cheyenne Cason 5/16/2023 4:32:35 PM *Cason*
Reviewed By: *MC 5/17/23*

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? Yes No
(Note discrepancies on chain of custody)
- 12. Are matrices correctly identified on Chain of Custody? Yes No
- 13. Is it clear what analyses were requested? Yes No
- 14. Were all holding times able to be met? Yes No
(If no, notify customer for authorization.)

of preserved bottles checked for pH: _____
(<2 or >12 unless noted)
Adjusted? _____
Checked by: *MC 5/17/23*

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: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.0	Good	Not Present	Yogi		
2	0.5	Good	Not Present	Yogi		

Chain-of-Custody Record

Client: Vertex

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: Az Compliance
 NELAC Other

EDD (Type)

Turn-Around Time:
 Standard Rush 5 Day

Project Name:
Nina Cortull Federal ContB

Project #:
03E-01205

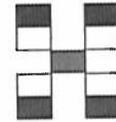
Project Manager:
Monica Peppin

Sampler: MJP

On Ice: Yes No

of Coolers: 2

Cooler Temp (including CF): 2.9 to 3.0°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.	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	C, F, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
5/11	1:00	Soil	B523-01	402	Ice	230581	✓	✓					✓			
	1:05		-02													
	1:10		-03													
	1:15		-04													
	1:20		-05													
	1:25		-06													
	1:30		-07													
	1:35		-08													
	1:40		-09													
	1:45		-10													
	1:50		-11													
	1:55		-12													

Date: 5/11 Time: 1:00 Relinquished by: [Signature] Received by: [Signature] Via: 5/12/23 Date Time: 1:00 Remarks:

Date: 5/15/23 Time: 1:00 Relinquished by: [Signature] Received by: [Signature] Via: courier Date Time: 5/16/23 16:10 Remarks: Matador

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly noted on the analytical report.

Chain-of-Custody Record

Client: Vertex

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: Az Compliance
 NELAC Other

EDD (Type)

Turn-Around Time:
 Standard Rush 9 Day

Project Name:
Nina Cortell Federal Com TB

Project #:
23E-01205

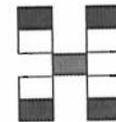
Project Manager:
Monica Peppin

Sampler: MSV

On Ice: Yes No

of Coolers: 2

Cooler Temp (including CF): 2.9 + 0.1 = 3.0 (°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.	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)	
5/11	2:00	Soil	BS23-13	1'	4 oz	Ice	013										
	2:05		-14	1'			014										
	2:10		-15	1'			015										
	2:15		-16	1'			016										
	2:20		-17	1'			017										
	2:25		-18	1'			018										
	2:30		-19	1'			019										
	2:35		-20	1'			020										
	2:40		-21	1'			021										
	2:45		-22	1'			022 022										
	2:50		-23	1'			023										
	2:55		-24	1'			024										

Date: 5/11 Time: 1900 Relinquished by: [Signature]

Date: 5/12/23 Time: 1430 Received by: [Signature] Via: _____

Date: 5/16/23 Time: 16:10 Relinquished by: [Signature] Received by: [Signature] Via: _____

Remarks:
Matador

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Vertac

Mailing Address: in 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 5 days

Project Name:
Nina Cortelli Federal Com TB

Project #:
23E-01205

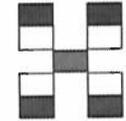
Project Manager:
Monica Peppin

Sampler: MJP

On Ice: Yes No

of Coolers: 2 409i

Cooler Temp (including CF): 2.9 to 1 = 3.0 (°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.	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	F, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
5/12	11:00	Soil	BS23-25 1'	402	ice	025	✓	✓					✓			
	11:05		26 1'			026										
	11:10		27 1'			027										
	11:15		28 1'			028										
	11:20		29 1'			029										
	11:25		30 1'			030										
	11:30		31 1'			031										
	11:35		32 1'			032										
	11:40		33 1'			033										
	11:45		34 1'			034										
	12:00		WS23-01 0-1			035										
	12:05		02 0-1			036										

Date: _____ Time: _____ Relinquished by: [Signature]

Date: 5/12/23 Time: 14:20 Received by: [Signature] Via: _____

Date: 5/15/23 Time: 16:10 Relinquished by: [Signature] Received by: [Signature] Via: _____

Remarks:
Matched or

Chain-of-Custody Record

Client: Vertex

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: Az Compliance
 NELAC Other

EDD (Type)

Turn-Around Time:
 Standard Rush 5 Day

Project Name:
Nina Cortell Federal Com TB

Project #:
23E-01205

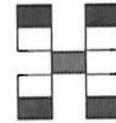
Project Manager:
Monica Peppin

Sampler: mjp

On Ice: Yes No

of Coolers: 2 9095

Cooler Temp (including CF): 2.970 = 3.0 (°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.	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)
5/12	12:10	5011	WS23-03 0-1	402	ice	2305811	✓	✓					✓			
	12:15		-04 0-1													
	12:20		-05 0-1													
	12:25		-06 0-1													
	12:30		-07 0-1													
	12:35		-08 0-1													
	12:40		-09 0-1													
	12:45		-10 0-1													

Date: 5/12/23 Time: 1900 Relinquished by: [Signature]

Date: 5/12/23 Time: 1030 Received by: [Signature] Via:

Date: 5/16/23 Time: 16:10 Relinquished by: [Signature]

Date: 5/16/23 Time: 16:10 Received by: [Signature] Via: Remarks: Montador

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District I
 1625 N. French Dr., Hobbs, NM 88240
 Phone:(575) 393-6161 Fax:(575) 393-0720

District II
 811 S. First St., Artesia, NM 88210
 Phone:(575) 748-1283 Fax:(575) 748-9720

District III
 1000 Rio Brazos Rd., Aztec, NM 87410
 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV
 1220 S. St Francis Dr., Santa Fe, NM 87505
 Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 225173

CONDITIONS

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 225173
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvelez	None	9/5/2023