General Information

NMOCD District:	District 1 – Hobbs	Incident ID:	nAPP2315236756
Landowner:	Federal	RP Reference:	N/A
Client:	Select Energy	Site Location:	Margarita Pony Riser
Date:	September 5, 2023	Project #:	23E-04266
Client Contact:	Timsan Bricker	Phone #:	575.200.7551
Vertex PM:	Chance Dixon	Phone #:	575.988.1472

Objective

The objective of the environmental remediation work plan is to identify exceedances found during the site assessment and characterization activity and propose an appropriate remediation technique to address the release at Margarita Pony Riser. The incident occurred when a lay-flat line was run over by a vehicle, causing a rupture. Approximately 300 barrels (bbls) of produced water were released and approximately 140 bbls were recovered. The area where the malfunction took place was in a right-of-way. Areas of environmental concern identified and delineated include the Flow Line Rupture Area. All applicable research as it pertains to closure criteria selection is presented in Attachment 4. The current closure criteria for the site is determined to be associated with the following constituent concentration limits as presented in Table 1.

Table 1. Closure Criteria for Soils Impacted by a Release

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, GRO – gas range organics, DRO – diesel range organics, MRO – motor oil range organics
BTEX – benzene, toluene, ethylbenzene and xylenes

Site Assessment/Characterization

Site characterization was completed on August 17, 2023. A total of 11 sample points were established and samples collected for field screening. Samples at the deepest vertical distance below closure criteria were submitted to the laboratory for analysis. In total, eight samples were submitted to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico, for analysis. The sample locations are presented on Figure 1 (Attachment 2). Laboratory analysis results have been compared to the above-noted closure criteria and the results from the characterization activity are presented in Attachment 3. Exceedances are identified in the table as bold with a green background. A total of 35 samples were collected for analysis in the release area. 11 sample points were established with exceedances to closure criteria found at sample points BH23-01, BH23-02, BH23-04, BH23-05, and BH23-07.

Proposed Remedial Activities

The site does not currently have accurate data to depict depth to groundwater. The depth to groundwater will be determined by drilling a borehole permitted by the New Mexico Office of the State Engineer (NMOSE) within a 0.5-mile radius of the site. The borehole will be advanced to 55 feet bgs to determine if groundwater is present at that depth. The plan for drilling the borehole is designed to loosen the current closure criteria to NMOCD's 51-100 feet reclamation criteria with the top four feet meeting the strictest standards. If no

groundwater is detected at 55 feet bgs, closure criteria for the site will then be associated with the following constituent concentration limits as presented in Table 2.

Table 1. Closure Criteria for Soils to Remediation & Reclamation Standards

	Constituent	Limit
0-4 feet bgs (19.15.29.13)	Chloride	600 mg/kg
	TPH (GRO+DRO+MRO)	100 mg/kg
DTGW 51-100 feet (19.15.29.12)	Chloride	10,000 mg/kg
	TPH (GRO+DRO+MRO)	2,500 mg/kg
	GRO+DRO	1,000 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

TDS – total dissolved solids

TPH – total petroleum hydrocarbons, GRO – gas range organics, DRO – diesel range organics, MRO – motor oil range organics

BTEX – benzene, toluene, ethylbenzene and xylenes

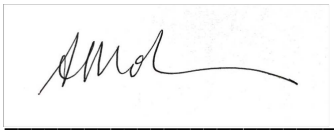
If groundwater is detected before the borehole reaches 50 feet bgs, the excavation will assume NMOCD's strictest closure criteria for the base and walls at all depths.

Areas identified with contaminant concentrations above closure criteria will be remediated through excavation. Mechanical excavation equipment will be used to complete the excavation in these areas and hand excavation will be utilized in areas where mechanical excavation would be deemed unsafe. Laboratory results from the site assessment/characterization have been referenced to estimate both the vertical and horizontal limits of the impacts and the volume of soil to be removed. The soil will be excavated to the extent of the known impact above the New Mexico Oil Conservation Division's (NMOCD's) reclamation closure criteria for areas where depth to groundwater is between 51 and 100 feet with the top four feet meeting the strictest standards as per 19.15.29.13 NMAC. Field screening will be utilized to confirm the removal of contaminated soil below the applicable closure criteria. Contaminated soils will be stored on a 30mil liner prior to disposal at an approved facility. Once excavation is complete, confirmatory samples will be collected and laboratory analysis completed to confirm closure criteria guidelines are met. Excavations will be backfilled with clean soil sourced locally.

Confirmatory samples will be collected as per NMOCD guidance and submitted for laboratory analysis of all applicable parameters. The estimated volume to be excavated is 2,000 cubic yards.

Sample Point	Excavation Depth	Remediation Method
BH23-01	4'	Backhoe
BH23-02	3'	Backhoe
BH23-03	1’	Backhoe
BH23-04	4'	Backhoe/Handcrew
BH23-05	4'	Backhoe /Handcrew
BH23-06	1’	Backhoe/Handcrew
BH23-07	4'	Backhoe

Should you have any questions or concerns, please do not hesitate to contact Chance Dixon at 575.988.1472 or cdixon@vertex.ca.



Angela Mohle, B.Sc., B.A.
ENVIRONMENTAL TECHNICIAN, REPORTING

September 1, 2023
Date

Chance Dixon

Chance Dixon, B.Sc.
PROJECT MANAGER, REPORT REVIEW

September 5, 2023
Date

Attachments

Attachment 1. NMOCD C-141 Report
Attachment 2. Figures
Attachment 3. Tables
Attachment 4. Closure Criteria Research

ATTACHMENT 1

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	nAPP2315236756
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party SELECT ENERGY SERVICES, LLC	OGRID 289068
Contact Name TIMSAN BRICKER	Contact Telephone 575-200-7551
Contact email tbricker@selectenergy.com	Incident # *(assigned by OCD)* nAPP2315236756
Contact mailing address 1502 E GREENE ST CARLSBAD NM 88220	

Location of Release Source

Latitude 32.582094 Longitude -103.64105
(NAD 83 in decimal degrees to 5 decimal places)

Site Name MARGARITA PONY RISER	Site Type PRODUCED WATER
Date Release Discovered 06/01/2023	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
D	11	20E	33S	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)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 300	Volume Recovered (bbls) 140
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release
LAYFLAT WAS RAN OVER BY VEHICLE AND SPLIT, SPILLING INTO R-O-W NEAR LOCATION.

Incident ID	nAPP2315236756
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?	<50 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2315236756
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: Timsan Bricker Title: Environmental Coordinator

Signature: Timsan Bricker Date: 9/1/2023

email: TBricker@selectwater.com Telephone: 575-200-7551

OCD Only

Received by: Shelly Wells Date: 9/14/2023

Incident ID	nAPP2315236756
District RP	
Facility ID	
Application ID	

Remediation Plan

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

- [X] Detailed description of proposed remediation technique
- [X] Scaled sitemap with GPS coordinates showing delineation points
- [X] Estimated volume of material to be remediated
- [X] Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- [X] 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: Timsan Bricker Title: Environmental Coordinator

Signature: [signature] Date: 9/1/2023

email: TBricker@selectwater.com Telephone: 575-200-7551

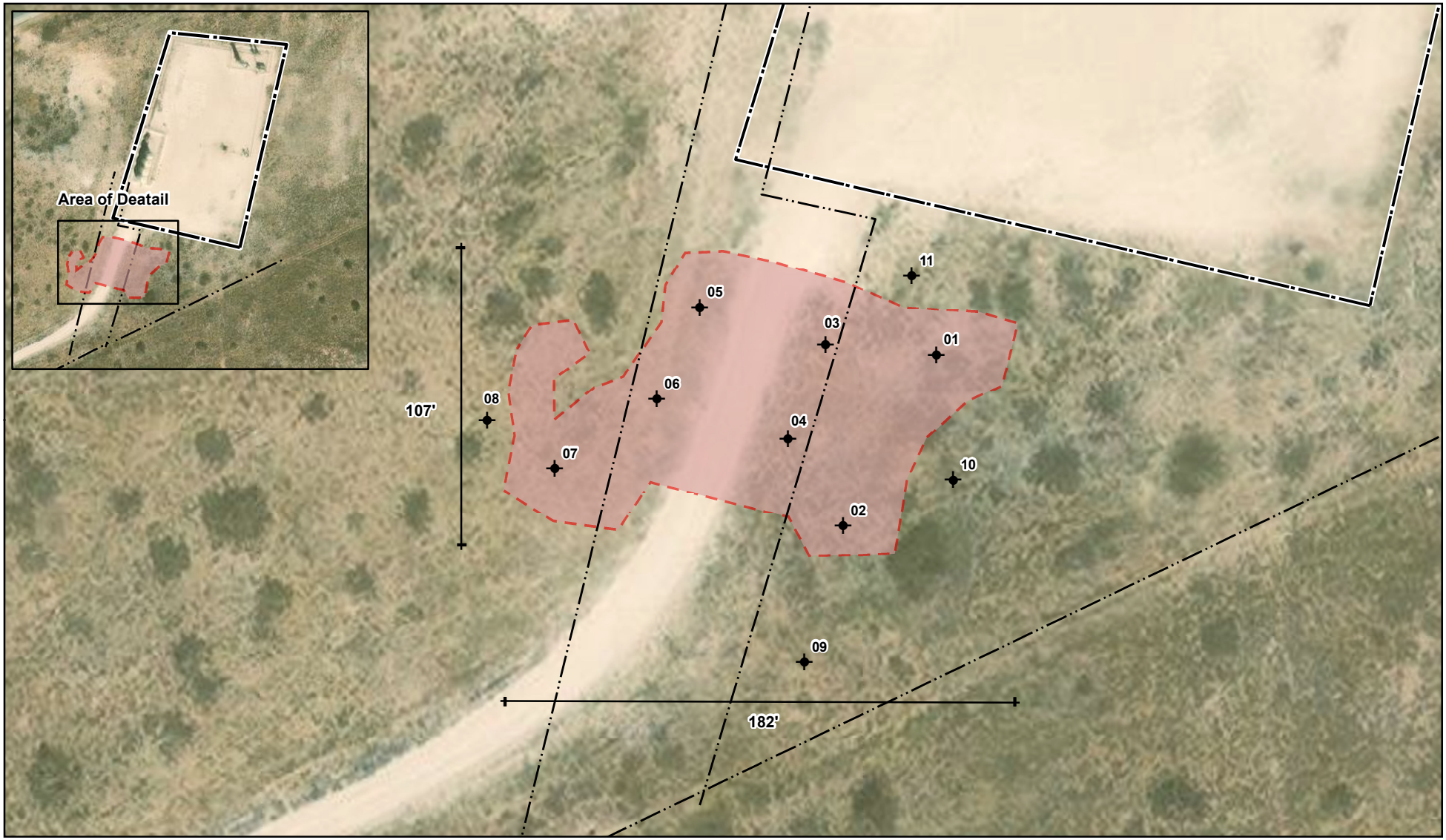
OCD Only

Received by: Shelly Wells Date: 9/14/2023

- [ ] Approved
- [ ] Approved with Attached Conditions of Approval
- [ ] Denied
- [ ] Deferral Approved

Signature: Nelson Velez Date: 01/12/2024

ATTACHMENT 2



Borehole (Prefixed by "BH23-") — Gas Line — Approximate Lease Boudary — Approximate Release Area (~11,868 sq.ft.)

VERTEX

0 10 20 40 ft

Map Center:
Lat/Long: 32.582075, -103.641045

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

N

Characterization Schematic
Margarita Pony Riser

FIGURE:
1

SELECT ENERGY SERVICES

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

Note: Georeferenced image from Esri, 2022. Approximate lease boundary from imagery by Vertex Professional Services Ltd. (Vertex), 2023. Site features from GPS by Vertex, 2023.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECT S\Select Energy\2023\23E-04266 - Margarita Pony Riser\US_Figure 1 Characterization Schematic (23E-04266).mxd

ATTACHMENT 3

Client Name: Select Water
Site Name: Margarita Pony Riser
NMOCD Tracking #: n/a
Project #: 23E-04266
Lab Reports: 2307E41, 2308004, 2308A34

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

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
						Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BH23-01	2	2023-07-28	-	78	1,887	ND	ND	ND	ND	ND	ND	ND	**1,700**
	4	2023-08-16	-	104	1,000	ND	ND	ND	ND	ND	ND	ND	**780**
	6	2023-08-16	-	106	1,350	-	-	-	-	-	-	-	-
	8	2023-08-16	-	77	1,725	-	-	-	-	-	-	-	-
	10	2023-08-16	-	64	500	ND	ND	ND	ND	ND	ND	ND	500
BH23-02	2	2023-07-28	-	52	1,876	ND	ND	ND	ND	ND	ND	ND	**1600**
	4	2023-08-17	-	68	150	-	-	-	-	-	-	-	-
	6	2023-08-17	-	73	200	ND	ND	ND	ND	ND	ND	ND	ND
BH23-03	2	2023-07-28	-	18	0	ND	ND	ND	ND	ND	ND	ND	ND
BH23-04	2	2023-07-28	-	1,163	12,537	ND	ND	ND	18	ND	18	18	**15000**
	4	2023-08-17	-	68	150	ND	ND	ND	ND	ND	ND	ND	ND
BH23-05	2	2023-07-28	-	99	6,783	ND	ND	ND	ND	ND	ND	ND	**5300**
	4	2023-08-17	-	99	4,900	-	-	-	-	-	-	-	-
	6	2023-08-17	-	-	4,875	ND	ND	ND	ND	ND	ND	ND	**4000**
	8	2023-08-17	-	-	1,737	-	-	-	-	-	-	-	-
	10	2023-08-17	-	-	1,125	-	-	-	-	-	-	-	-
	12	2023-08-17	-	53	223	ND	ND	ND	ND	ND	ND	ND	ND
BH23-06	2	2023-07-28	-	42	0	ND	ND	ND	ND	ND	ND	ND	93
BH23-07	2	2023-07-28	-	119	8,275	ND	ND	ND	ND	ND	ND	ND	**8500**
	4	2023-08-17	-	78	188	ND	ND	ND	ND	ND	ND	ND	ND
BH23-08	2	2023-07-28	-	7	0	ND	ND	ND	ND	ND	ND	ND	ND
BH23-09	2	2023-07-28	-	10	0	ND	ND	ND	ND	ND	ND	ND	ND
BH23-10	2	2023-07-28	-	17	0	ND	ND	ND	ND	ND	ND	ND	ND
BH23-11	2	2023-07-28	-	5	0	ND	ND	ND	ND	ND	ND	ND	ND

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

ATTACHMENT 4

Table 1. Closure Criteria Worksheet			
Site Name: Margarita Pony Riser			
Spill Coordinates: 32.582094, -103.64105		X: 627547.60	Y: 3605774.03
Table 1. Closure Criteria Determination			
Site Specific Conditions		Value	Unit
1	Depth to Groundwater	**<50**	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	10,138	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	6,547	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	54,384	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**	8,290	feet
	ii) Within 1000 feet of any fresh water well or spring		feet
6	Within incorporated municipal boundaries or within a defined municipal fresh water field covered under a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978 as amended, unless the municipality specifically approves	No	(Y/N)
7	Within 300 feet of a wetland	15,893	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
9	Within an unstable area (Karst Map)	Low	
10	Within a 100-year Floodplain	1,000	year
11	Soil Type	Tonuco loamy fine sand, 0 to 3 percent slopes	
12	Ecological Classification		
13	Geology	Eolian and Piedmont Deposits	
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	<50'	

New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Twn	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
CP 01865 POD2		CP	LE	3	1	3	02	20S	33E	627454	3607733	1961	105	0	105
CP 01865 POD1		CP	LE	4	3	2	02	20S	33E	628390	3608155	2526	105	0	105
CP 00653 POD1		CP	LE		4	4	04	20S	33E	625573	3607367*	2536	60		
CP 00798 POD1		CP	LE	2	1	1	24	20S	33E	629348	3603892*	2604	850		

Average Depth to Water: **0 feet**
Minimum Depth: **0 feet**
Maximum Depth: **0 feet**

Record Count: 4

UTMNAD83 Radius Search (in meters):

Easting (X): 627547 **Northing (Y):** 3605774 **Radius:** 3000

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

7/26/23 11:22 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER

New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

(acre ft per annum)

(R=POD has been replaced and no longer serves this file, C=the file is closed)

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Well Tag	Code	Grant	Source	q 64	q 16	q 4	Sec	Twn	Rng	X	Y	Distance
CP 01865	CP	MON	0	JOHN FARRELL PG	LE	CP 01865 POD2	NA				3	1	3	02	20S	33E	627454	3607733	1961
					LE	CP 01865 POD1					4	3	2	02	20S	33E	628390	3608155	2526
CP 00653	CP	PLS	2	MARK SMITH	LE	CP 00653 POD1				Shallow		4	4	04	20S	33E	625573	3607367*	2537
CP 00798	CP	PLS	3	DANIEL C BERRY	LE	CP 00798 POD1					2	1	1	24	20S	33E	629348	3603892*	2604
CP 00748	CP	PRO	0	GRACE DRILLING CO.	LE	CP 00748 POD1				Shallow			2	01	20S	33E	630197	3608428*	3750
CP 00750	CP	PRO	0	TXO PROD.	LE	CP 00750 POD1						3	4	07	20S	34E	631639	3605834*	4091
CP 01151	CP	PRO	0	CAZA OPERATING LLC	LE	CP 01151 POD1								32	22S	36E	627036	3601186	4616
CP 00317	CP	PRO	0	PAN AMERICAN PET. CORPORATION	LE	CP 00317				Shallow	3	4	3	05	20S	33E	623054	3607235*	4725

Record Count: 8

UTMNAD83 Radius Search (in meters):

Easting (X): 627547.6 **Northing (Y):** 3605774 **Radius:** 5000

Sorted by: Distance

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

New Mexico Office of the State Engineer

Point of Diversion Summary

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

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
NA	CP 01865 POD2	3	1	3	02	20S	33E	627454	3607733

Driller License: 1753 **Driller Company:** VANGUARD WELL RESOURCES, LLC

Driller Name: FRIESSEN, JACOBOIEL.NER

Drill Start Date:	02/08/2021	**Drill Finish Date:**	02/08/2021	**Plug Date:**	
Log File Date:	07/22/2021	**PCW Rcv Date:**		**Source:**	
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	0 GPM
Casing Size:	2.00	**Depth Well:**	105 feet	**Depth Water:**	0 feet

National Water Information System: Web Interface

USGS Water Resources

Data Category: Site Information | Geographic Area: United States | GO

Click to hideNews Bulletins

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

USGS 323534103411601 20S.33E.05.34321

Available data for this site SUMMARY OF ALL AVAILABLE DATA | GO

Well Site

DESCRIPTION:

Latitude 32°35'47.4", Longitude 103°41'17.9" NAD83
Lea County, New Mexico , Hydrologic Unit 13060011
Well depth: 680 feet
Land surface altitude: 3,551 feet above NAVD88.
Well completed in "Other aquifers" (N9999OTHER) national aquifer.
Well completed in "Santa Rosa Sandstone" (231SNRS) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1968-03-19	2023-02-10	11
Revisions	Unavailable (site:0) (timeseries:0)		

Additional Data Sources	Begin Date	End Date	Count

OPERATION:

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

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Questions or Comments
Automated retrievals
Help
Data Tips
Explanation of terms
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U.S. Department of the Interior | U.S. Geological Survey

Title: NWIS Site Information for USA: Site Inventory
URL: https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=323534103411601

Page Contact Information: New Mexico Water Data Support Team
Page Last Modified: 2023-07-26 13:13:39 EDT
0.67 0.66 vaww02

Nearest USGS Point of Diversion

Write a description for your map.

U.S. Fish and Wildlife Service
National Wetlands Inventory

Margarita Pony Riser Nearest Watercourse

July 26, 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.

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

U.S. Fish and Wildlife Service
National Wetlands Inventory

Margarita Pony Riser Pond 1.24 Miles

July 26, 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.

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

Nearest Residence

Write a description for your map.

New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: CP 00653 **Subbasin:** CP **Cross Reference:** -

Primary Purpose: PLS NON 72-12-1 LIVESTOCK WATERING

Primary Status: DCL DECLARATION

Total Acres: 0 **Subfile:** - **Header:** -

Total Diversion: 2 **Cause/Case:** -

Owner: MARK SMITH

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	546874	DCL	1982-11-17	DCL	PRC	CP 00653	T	0	2	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q 64	Q16	Q4	Sec	Tws	Rng	X	Y	Other Location Desc
CP 00653 POD1		Shallow	4	4		04	20S	33E	625573	3607367*	

***An (*) after northing value indicates UTM location was derived from PLSS - see Help**

Priority Summary

Priority	Status	Acres	Diversion	Pod Number	
12/31/1920	DCL	0	2	CP 00653 POD1	Shallow

Place of Use

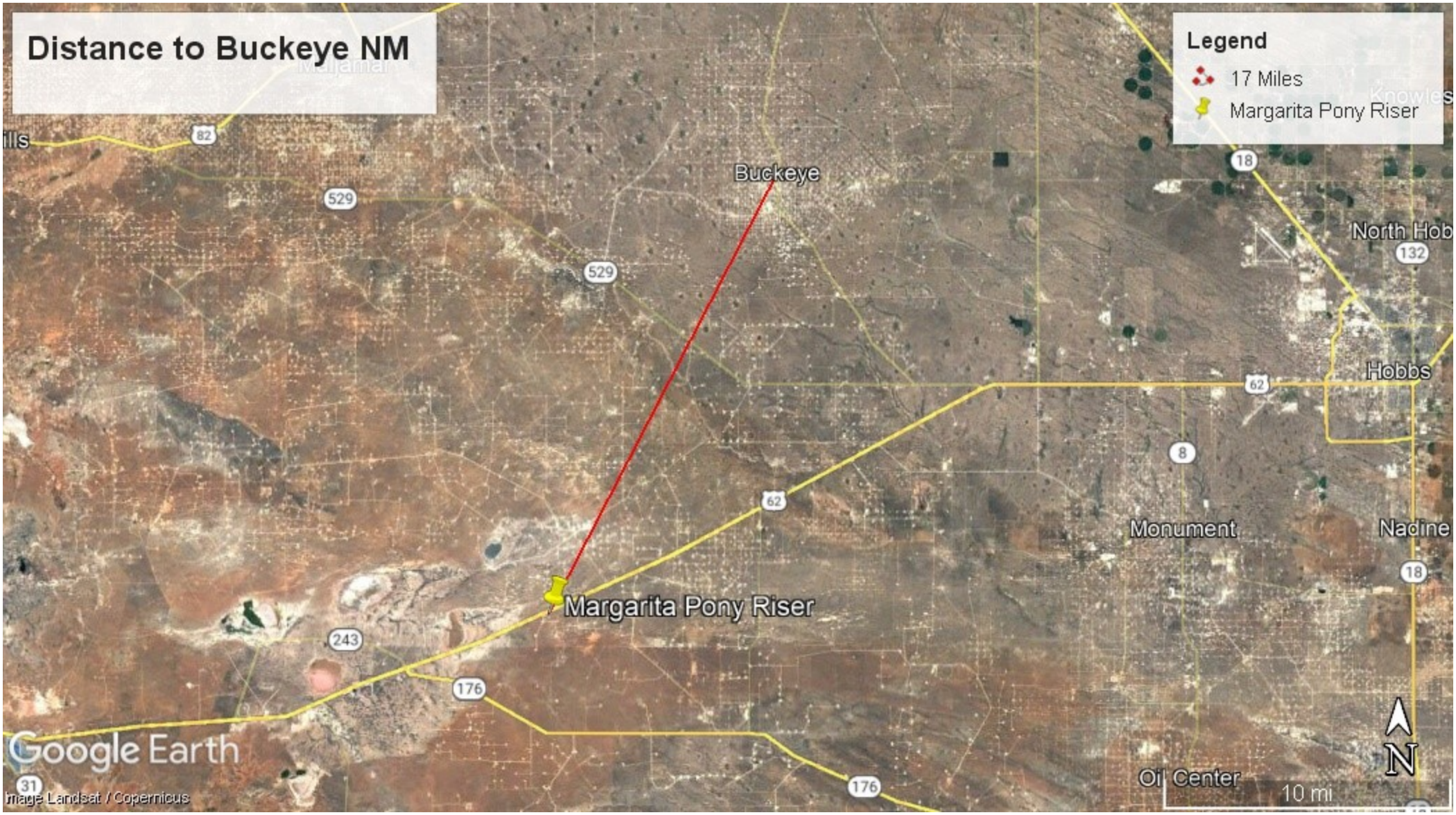
Q 256	Q 64	Q16	Q4	Sec	Tws	Rng	Acres	Diversion	CU	Use	Priority	Status	Other Location Desc
							0	2		PLS	12/31/1920	DCL	NO PLACE OF USE GIVEN

Source

Acres	Diversion	CU	Use	Priority	Source	Description
0	2		PLS	12/31/1920	GW	

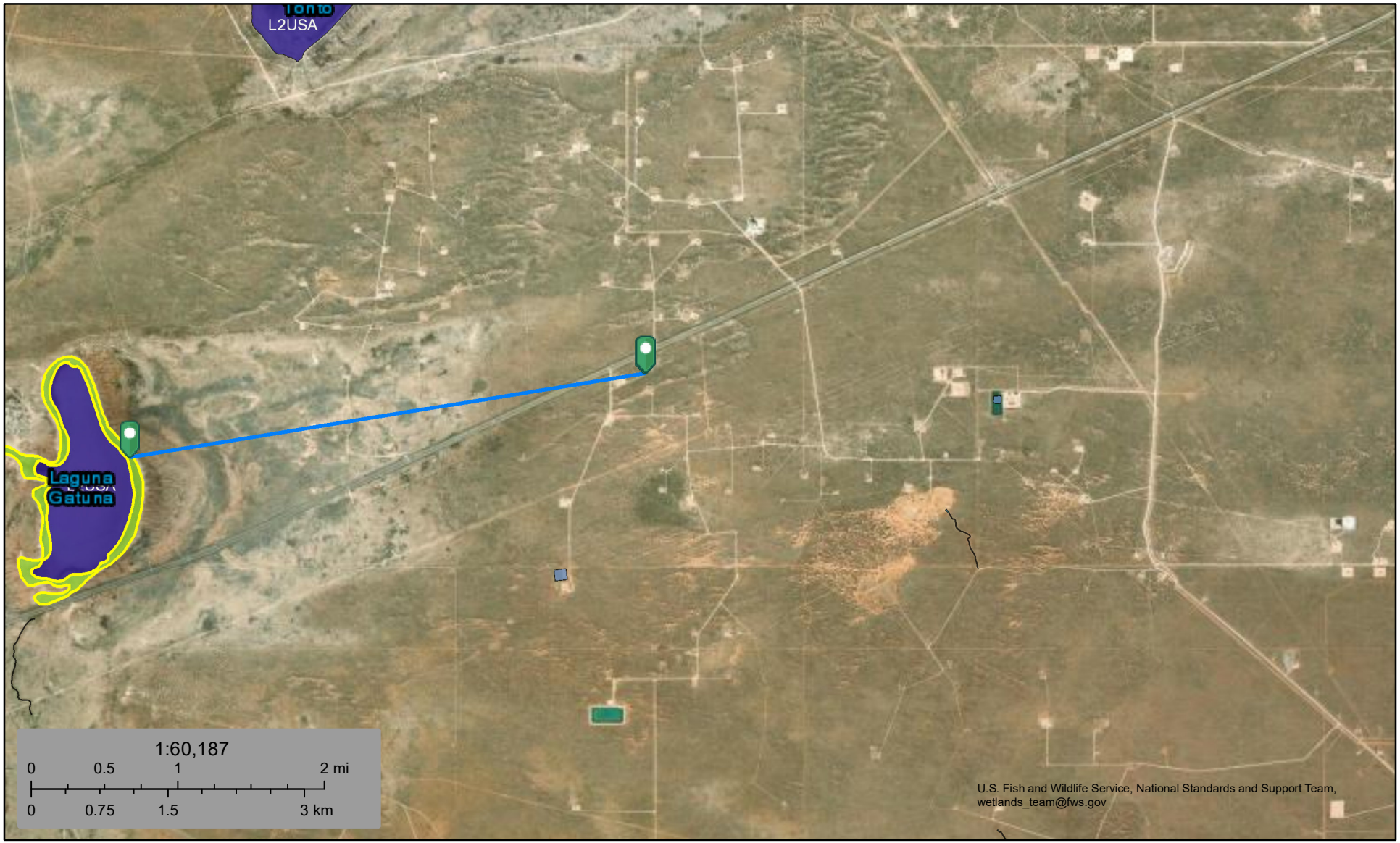
7/26/23 1:05 PM

WATER RIGHT
SUMMARY


Distance to Buckeye NM
Legend
17 Miles
Margarita Pony Riser
Buckeye
Margarita Pony Riser
Hobbs
North Hob
Monument
Nadine
Oil Center
82
529
62
18
132
8
243
176
31
Google Earth
Image Landsat / Copernicus
10 mi
N

U.S. Fish and Wildlife Service
National Wetlands Inventory

Margarita Pony Riser Wetland



July 24, 2023

Wetlands

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

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National Wetlands Inventory (NWI)
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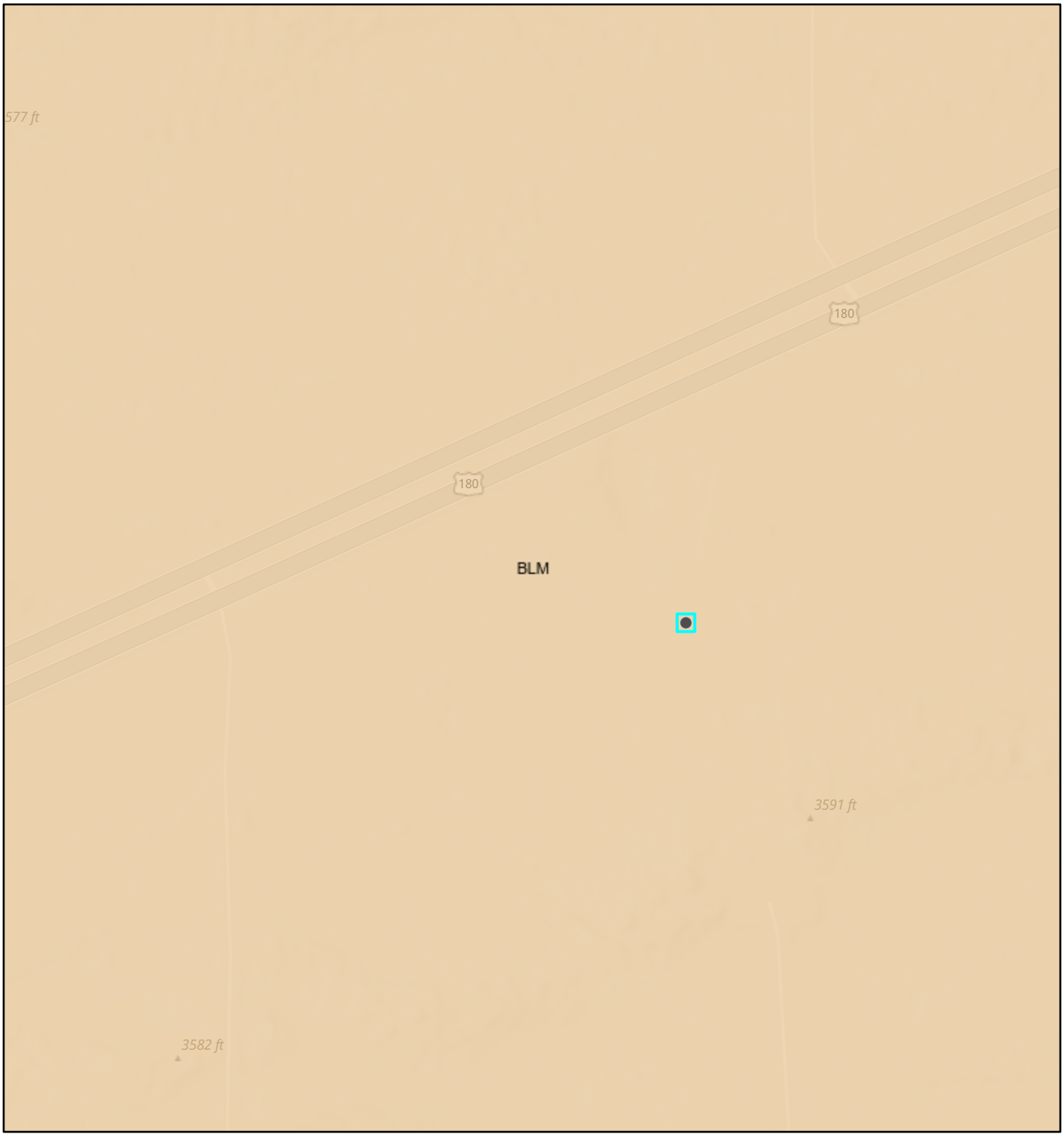
Coal Mines in New Mexico



7/24/2023, 5:09:17 PM

1:4,514

0 0.03 0.07 0.13 mi

0 0.05 0.1 0.2 km

Mineral Ownership

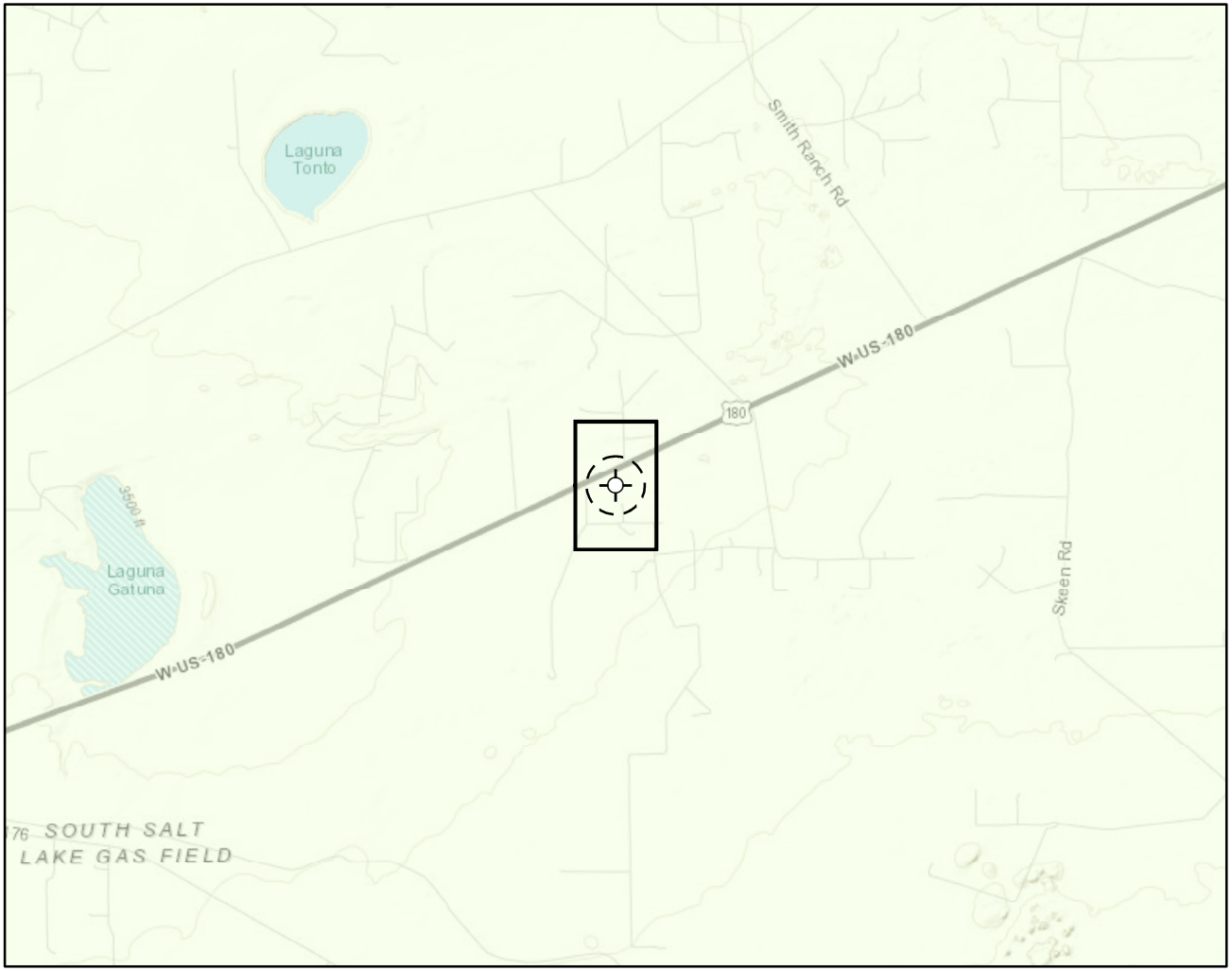
A-All minerals are owned by U.S.

Land Ownership

BLM

U.S. BLM, NM Coal Mine Reclamation Program, NM EMNRD, Esri Community Maps Contributors, New Mexico State University, Texas Parks & Wildlife, © OpenStreetMap, Microsoft, CONANP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US

EMNRD MMD GIS Coordinator



Karst Potential

- Critical
- High
- Medium
- Low

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

Overview Map

0 0.25 0.5 1 mi

Detail Map

0 150 300 600 ft

VERTEX

Map Center:
Lat/Long: 32.582094, -103.641050

NAD 1983 UTM Zone 13N
Date: Jul 28/23

N

Karst Potential Map
Margarita Pony Riser

FIGURE:
X

SELECT ENERGY SERVICES

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 2022; Overview Map: ESRI World Topographic. Karst potential data sourced from Rosswell Field Office, Bureau of Land Management, 2020 or United States Department of the Interior, Bureau of Land Management. (2018). Karst Potential.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Select Energy\2023\23E-04266 - Margarita Pony Riser\Figure x Karst Potential Map (23E-04266).mxd

National Flood Hazard Layer FIRMette

FEMA

103°38'47"W 32°35'11"N

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

1:6,000

103°38'9"W 32°34'40"N

Basemap Imagery Source: USGS National Map 2023

Legend

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

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

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

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

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

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

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

N

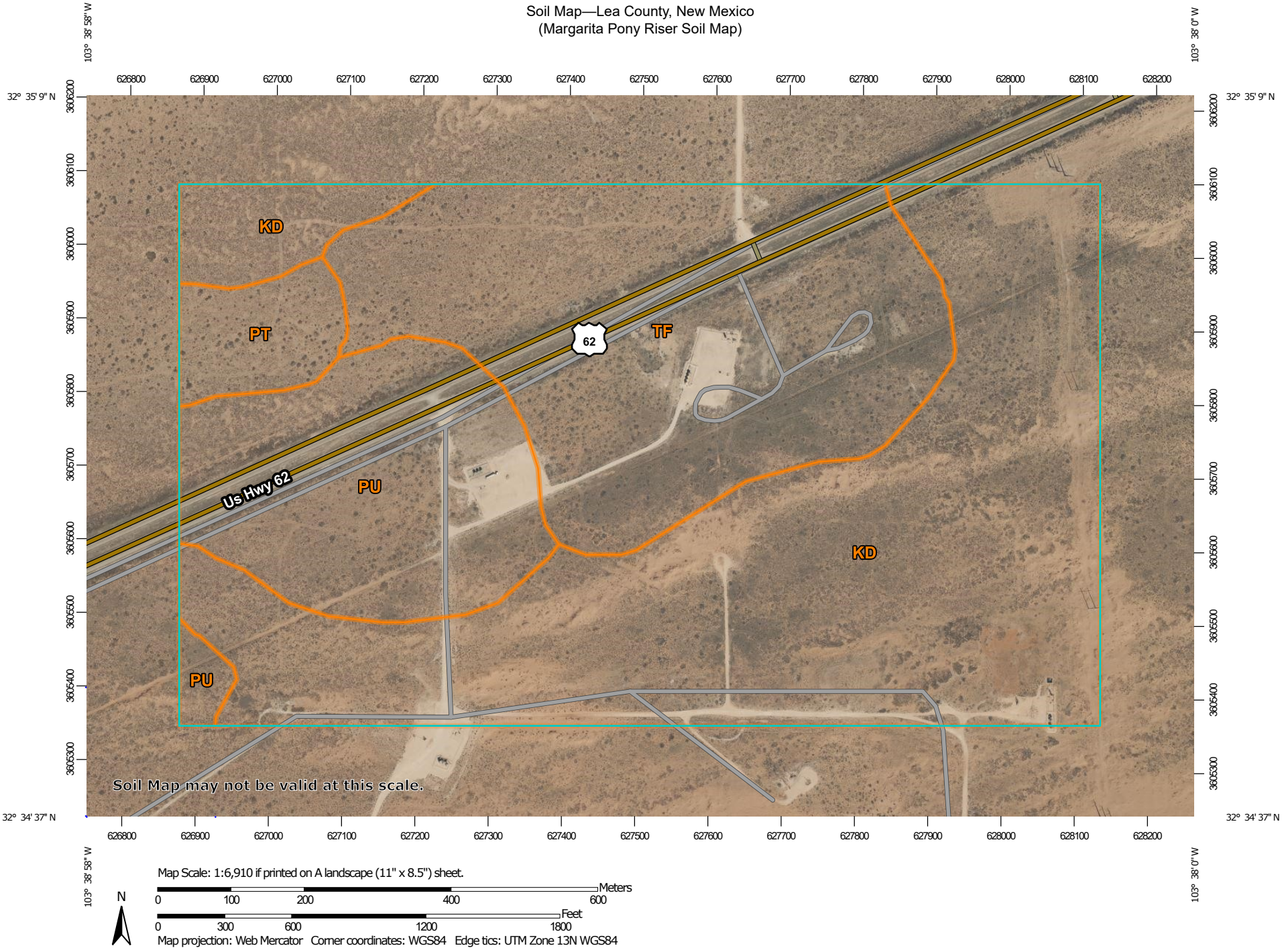
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 7/24/2023 at 5:38 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

Soil Map—Lea County, New Mexico
(Margarita Pony Riser Soil Map)



Soil Map—Lea County, New Mexico
(Margarita Pony Riser Soil Map)

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
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- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
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- Other
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- Streams and Canals

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- US Routes
- Major Roads
- Local Roads

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- Aerial Photography

MAP INFORMATION

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

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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)

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Survey Area Data: Version 19, Sep 8, 2022

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

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Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
KD	Kermit-Palomas fine sands, 0 to 12 percent slopes	110.9	48.3%
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PU	Pyote and Maljamar fine sands	39.0	17.0%
TF	Tonuco loamy fine sand, 0 to 3 percent slopes	71.2	31.0%
Totals for Area of Interest		**229.5**	**100.0%**

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Lea County, New Mexico

July 24, 2023

Preface

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

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

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

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

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

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

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Contents

How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

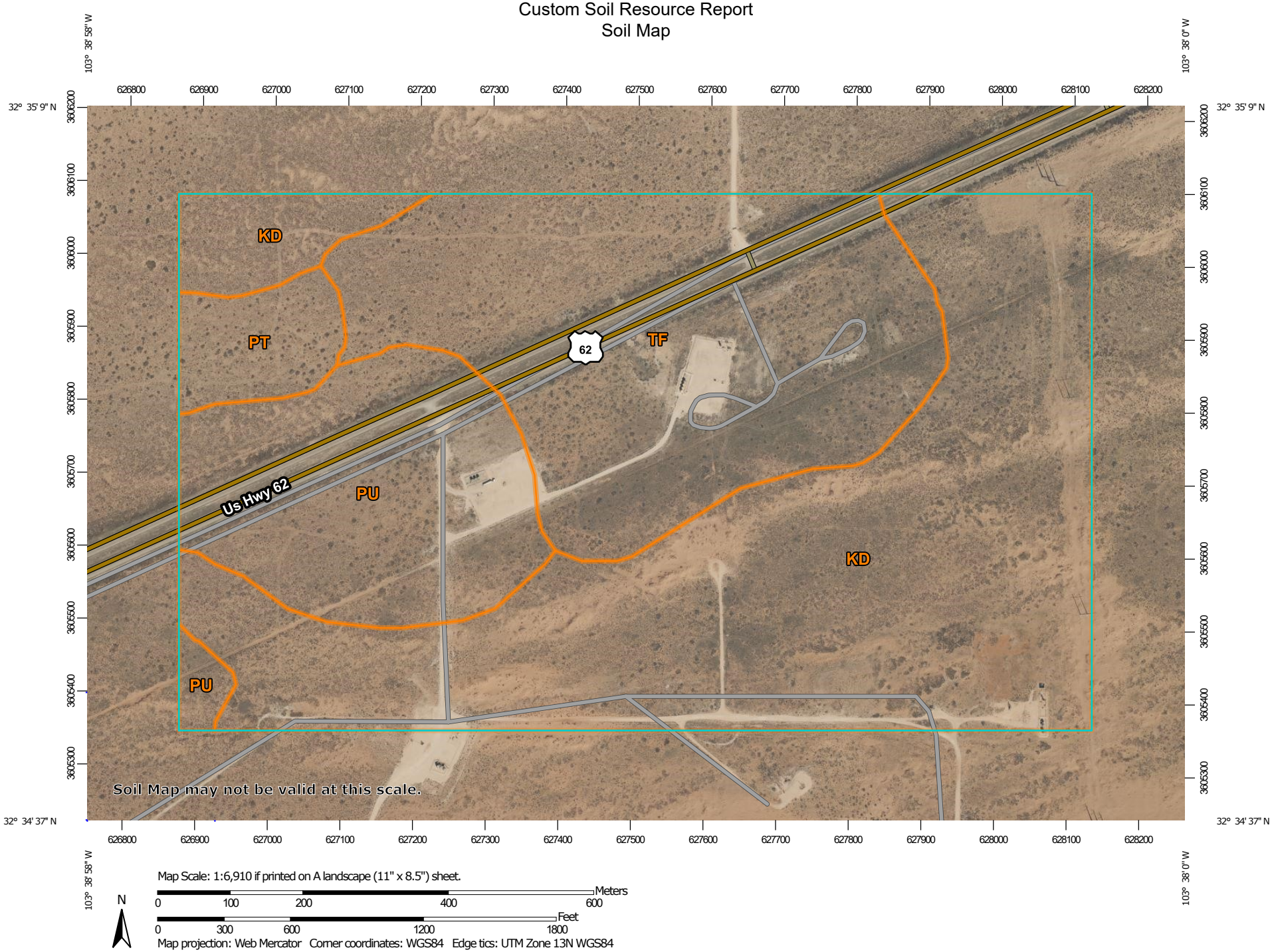
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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

Soil Map

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

Custom Soil Resource Report
Soil Map



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Map Unit Descriptions

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

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

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

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

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

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

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

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

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

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

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

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

Lea County, New Mexico

KD—Kermit-Palomas fine sands, 0 to 12 percent slopes

Map Unit Setting

National map unit symbol: dmpv
Elevation: 3,000 to 4,400 feet
Mean annual precipitation: 10 to 12 inches
Mean annual air temperature: 60 to 62 degrees F
Frost-free period: 190 to 205 days
Farmland classification: Not prime farmland

Map Unit Composition

Kermit and similar soils: 70 percent
Palomas and similar soils: 20 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kermit

Setting

Landform: Dunes
Landform position (two-dimensional): Shoulder, backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave, linear, convex
Across-slope shape: Convex
Parent material: Calcareous sandy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 8 inches: fine sand
C - 8 to 60 inches: fine sand

Properties and qualities

Slope: 3 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Very high (20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R070BD005NM - Deep Sand
Hydric soil rating: No

Description of Palomas

Setting

Landform: Dunes

Landform position (two-dimensional): Shoulder, backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear, concave
Across-slope shape: Convex
Parent material: Alluvium derived from sandstone

Typical profile

A - 0 to 16 inches: fine sand
Bt - 16 to 60 inches: sandy clay loam
Bk - 60 to 66 inches: sandy loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 50 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: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

Minor Components

Pyote

Percent of map unit: 4 percent
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

Maljamar

Percent of map unit: 4 percent
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

Palomas

Percent of map unit: 1 percent
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

Dune land

Percent of map unit: 1 percent
Hydric soil rating: No

PT—Pyote loamy fine sand

Map Unit Setting

National map unit symbol: dmqp
Elevation: 3,000 to 3,900 feet
Mean annual precipitation: 10 to 12 inches
Mean annual air temperature: 60 to 62 degrees F
Frost-free period: 190 to 200 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

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

Description of Pyote

Setting

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

Typical profile

A - 0 to 25 inches: loamy fine sand
Bt - 25 to 60 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 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: Low (about 5.3 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Ecological site: R070BD003NM - Loamy Sand

Hydric soil rating: No

Minor Components

Maljamar

Percent of map unit: 8 percent
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

Palomas

Percent of map unit: 7 percent
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

PU—Pyote and Maljamar fine sands

Map Unit Setting

National map unit symbol: dmqq
Elevation: 3,000 to 3,900 feet
Mean annual precipitation: 10 to 12 inches
Mean annual air temperature: 60 to 62 degrees F
Frost-free period: 190 to 205 days
Farmland classification: Not prime farmland

Map Unit Composition

Pyote and similar soils: 46 percent
Maljamar and similar soils: 44 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pyote

Setting

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

Typical profile

A - 0 to 30 inches: fine sand
Bt - 30 to 60 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches

Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 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: Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

Description of Maljamar

Setting

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

Typical profile

A - 0 to 24 inches: fine sand
Bt - 24 to 50 inches: sandy clay loam
Bkm - 50 to 60 inches: cemented material

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 40 to 60 inches to petrocalcic
Drainage class: Well drained
Runoff class: Very low
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: 5 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: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

Minor Components

Kermit

Percent of map unit: 10 percent
Ecological site: R070BC022NM - Sandhills

Hydric soil rating: No

TF—Tonuco loamy fine sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2tw3c
Elevation: 3,280 to 4,460 feet
Mean annual precipitation: 10 to 16 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 180 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Tonuco and similar soils: 70 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tonuco

Setting

Landform: Ridges, plains
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Rise
Down-slope shape: Convex, linear
Across-slope shape: Linear
Parent material: Sandy eolian deposits

Typical profile

A - 0 to 12 inches: loamy fine sand
Bw - 12 to 17 inches: loamy sand
Bkkm - 17 to 39 inches: cemented material

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 12 to 20 inches to petrocalcic
Drainage class: Excessively 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: 2 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 1.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: R077DY048TX - Shallow 12-17" PZ
Hydric soil rating: No

Minor Components

Simona

Percent of map unit: 15 percent
Landform: Ridges, plains
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Rise
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: R070BD002NM - Shallow Sandy
Hydric soil rating: No

Berino

Percent of map unit: 10 percent
Landform: Ridges, plains
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Rise
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

Cacique

Percent of map unit: 5 percent
Landform: Ridges, plains
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Rise
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: R070BD004NM - Sandy
Hydric soil rating: No

Soil Information for All Uses

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

Soil Qualities and Features

This folder contains tabular reports that present various soil qualities and features. The reports (tables) include all selected map units and components for each map unit. Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Soil Features (Margarita Pony Riser)

This table gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage, or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected

initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, saturated hydraulic conductivity (Ksat), content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low*, *moderate*, or *high.* It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Soil Features–Lea County, New Mexico									
Map symbol and soil name	Restrictive Layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		Low-RV-High	*Range*		*Low-High*	*Low-High*			
		In	*In*		*In*	*In*			
KD—Kermit-Palomas fine sands, 0 to 12 percent slopes									
Kermit		—	—		—	—	None	Low	Low
Palomas		—	—		—	—	None	Moderate	Low
PT—Pyote loamy fine sand									
Pyote		—	—		—	—	None	Low	Low
PU—Pyote and Maljamar fine sands									
Pyote		—	—		—	—	None	Low	Low
Maljamar	Petrocalcic	40-50-60	4-10	Indurated	—	—	None	Moderate	Low
TF—Tonuco loamy fine sand, 0 to 3 percent slopes									
Tonuco	Petrocalcic	12-17-20	20-28	Indurated	0	0	None	Moderate	Low

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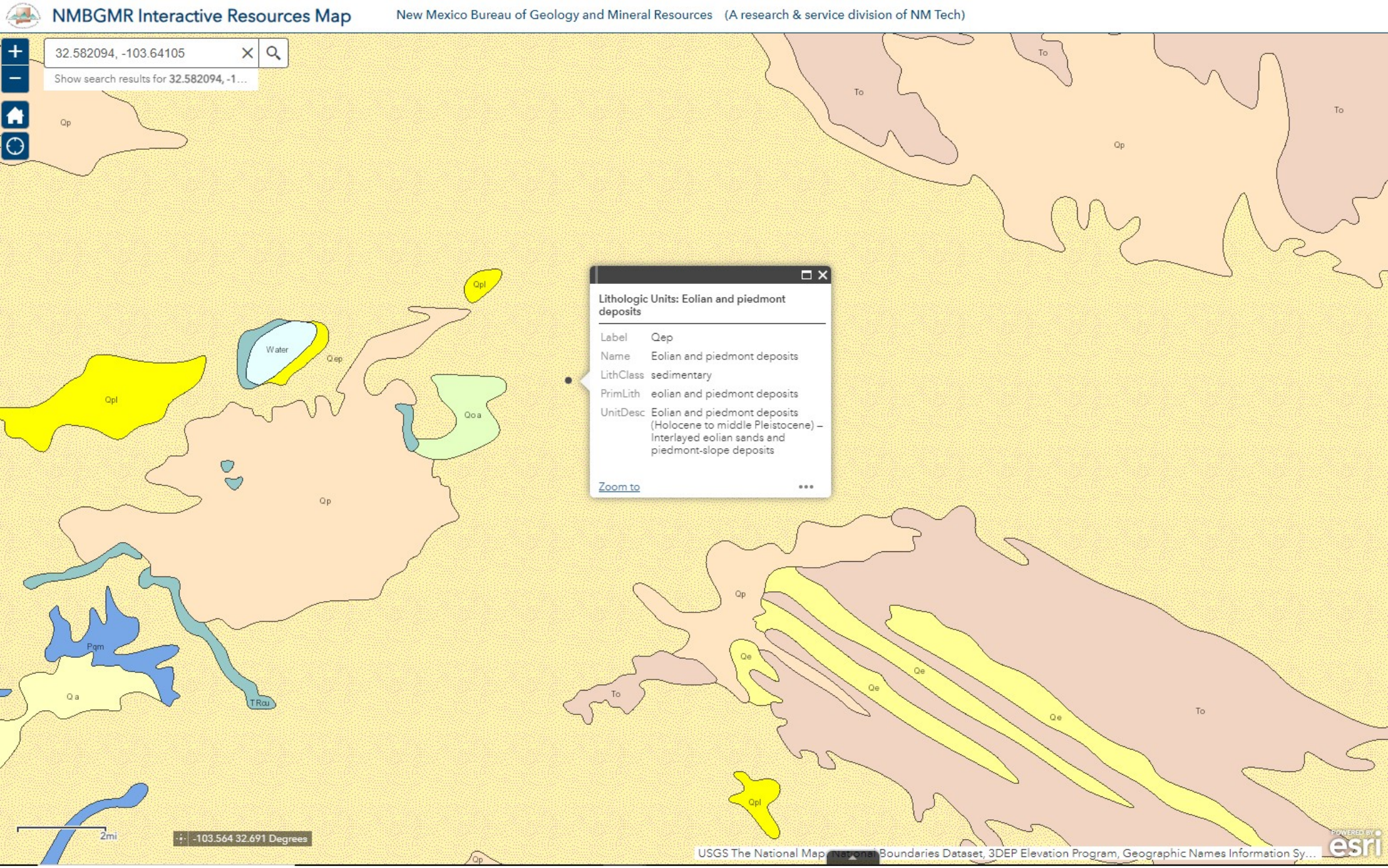
NMBGMR Interactive Resources Map
New Mexico Bureau of Geology and Mineral Resources (A research & service division of NM Tech)
32.582094, -103.64105
Show search results for 32.582094, -1...
Lithologic Units: Eolian and piedmont deposits
Label Qep
Name Eolian and piedmont deposits
LithClass sedimentary
PrimLith eolian and piedmont deposits
UnitDesc Eolian and piedmont deposits (Holocene to middle Pleistocene) – Interlayed eolian sands and piedmont-slope deposits
Zoom to
Water
Qep
Qpl
Qoa
Qp
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Pqm
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TRqu
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-103.564 32.691 Degrees
USGS The National Map, National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information Sy...
esri

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

August 08, 2023

Chance Dixon

Vertex Resources Services, Inc.
3101 Boyd Drive
Carlsbad, NM 88220
TEL: (505) 506-0040
FAX:

RE: Margarita Pony Riser OrderNo.: 2307E41

Dear Chance Dixon:

Hall Environmental Analysis Laboratory received 5 sample(s) on 7/29/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2307E41**
Date Reported: **8/8/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-03 2'
Project: Margarita Pony Riser
Collection Date: 7/27/2023 10:10:00 AM
Lab ID: 2307E41-001 **Matrix:** SOIL **Received Date:** 7/29/2023 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/2/2023 11:25:37 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/2/2023 11:25:37 PM
Surr: DNOP	79.3	69-147		%Rec	1	8/2/2023 11:25:37 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/4/2023 12:20:21 PM
Surr: BFB	92.2	15-244		%Rec	1	8/4/2023 12:20:21 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	8/4/2023 12:20:21 PM
Toluene	ND	0.049		mg/Kg	1	8/4/2023 12:20:21 PM
Ethylbenzene	ND	0.049		mg/Kg	1	8/4/2023 12:20:21 PM
Xylenes, Total	ND	0.098		mg/Kg	1	8/4/2023 12:20:21 PM
Surr: 4-Bromofluorobenzene	106	39.1-146		%Rec	1	8/4/2023 12:20:21 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	ND	60		mg/Kg	20	8/4/2023 1:44:02 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2307E41**
Date Reported: **8/8/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-08 2'
Project: Margarita Pony Riser
Collection Date: 7/27/2023 10:15:00 AM
Lab ID: 2307E41-002 **Matrix:** SOIL **Received Date:** 7/29/2023 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/2/2023 11:36:45 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/2/2023 11:36:45 PM
Surr: DNOP	77.3	69-147		%Rec	1	8/2/2023 11:36:45 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/4/2023 12:43:58 PM
Surr: BFB	92.8	15-244		%Rec	1	8/4/2023 12:43:58 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	8/4/2023 12:43:58 PM
Toluene	ND	0.047		mg/Kg	1	8/4/2023 12:43:58 PM
Ethylbenzene	ND	0.047		mg/Kg	1	8/4/2023 12:43:58 PM
Xylenes, Total	ND	0.094		mg/Kg	1	8/4/2023 12:43:58 PM
Surr: 4-Bromofluorobenzene	110	39.1-146		%Rec	1	8/4/2023 12:43:58 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	ND	60		mg/Kg	20	8/4/2023 2:21:16 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2307E41**
Date Reported: **8/8/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-09 2'
Project: Margarita Pony Riser **Collection Date:** 7/27/2023 10:20:00 AM
Lab ID: 2307E41-003 **Matrix:** SOIL **Received Date:** 7/29/2023 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/2/2023 11:48:00 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/2/2023 11:48:00 PM
Surr: DNOP	81.6	69-147		%Rec	1	8/2/2023 11:48:00 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/4/2023 1:07:37 PM
Surr: BFB	93.1	15-244		%Rec	1	8/4/2023 1:07:37 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	8/4/2023 1:07:37 PM
Toluene	ND	0.048		mg/Kg	1	8/4/2023 1:07:37 PM
Ethylbenzene	ND	0.048		mg/Kg	1	8/4/2023 1:07:37 PM
Xylenes, Total	ND	0.097		mg/Kg	1	8/4/2023 1:07:37 PM
Surr: 4-Bromofluorobenzene	109	39.1-146		%Rec	1	8/4/2023 1:07:37 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	ND	60		mg/Kg	20	8/4/2023 2:58:29 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2307E41**
Date Reported: **8/8/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-10 2'
Project: Margarita Pony Riser **Collection Date:** 7/27/2023 10:25:00 AM
Lab ID: 2307E41-004 **Matrix:** SOIL **Received Date:** 7/29/2023 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/2/2023 11:59:07 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/2/2023 11:59:07 PM
Surr: DNOP	83.3	69-147		%Rec	1	8/2/2023 11:59:07 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/4/2023 1:31:23 PM
Surr: BFB	93.0	15-244		%Rec	1	8/4/2023 1:31:23 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	8/4/2023 1:31:23 PM
Toluene	ND	0.049		mg/Kg	1	8/4/2023 1:31:23 PM
Ethylbenzene	ND	0.049		mg/Kg	1	8/4/2023 1:31:23 PM
Xylenes, Total	ND	0.097		mg/Kg	1	8/4/2023 1:31:23 PM
Surr: 4-Bromofluorobenzene	108	39.1-146		%Rec	1	8/4/2023 1:31:23 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	ND	60		mg/Kg	20	8/4/2023 3:10:54 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2307E41**
Date Reported: **8/8/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-11 2'
Project: Margarita Pony Riser **Collection Date:** 7/27/2023 10:30:00 AM
Lab ID: 2307E41-005 **Matrix:** SOIL **Received Date:** 7/29/2023 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/3/2023 12:10:19 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/3/2023 12:10:19 AM
Surr: DNOP	83.1	69-147		%Rec	1	8/3/2023 12:10:19 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/4/2023 1:55:07 PM
Surr: BFB	96.5	15-244		%Rec	1	8/4/2023 1:55:07 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	8/4/2023 1:55:07 PM
Toluene	ND	0.046		mg/Kg	1	8/4/2023 1:55:07 PM
Ethylbenzene	ND	0.046		mg/Kg	1	8/4/2023 1:55:07 PM
Xylenes, Total	ND	0.093		mg/Kg	1	8/4/2023 1:55:07 PM
Surr: 4-Bromofluorobenzene	111	39.1-146		%Rec	1	8/4/2023 1:55:07 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	ND	60		mg/Kg	20	8/4/2023 3:23:19 PM

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2307E41**

08-Aug-23

Client: Vertex Resources Services, Inc.

Project: Margarita Pony Riser

Sample ID: **MB-76680**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **76680**	RunNo: **98753**
Prep Date: **8/4/2023**	Analysis Date: **8/4/2023**	SeqNo: **3597028** Units: **mg/Kg**

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

Sample ID: **LCS-76680**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **76680**	RunNo: **98753**
Prep Date: **8/4/2023**	Analysis Date: **8/4/2023**	SeqNo: **3597029** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.7	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2307E41**

08-Aug-23

Client: Vertex Resources Services, Inc.

Project: Margarita Pony Riser

Sample ID: **2307E41-005AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH23-11 2'** Batch ID: **76614** RunNo: **98662**
Prep Date: **8/1/2023** Analysis Date: **8/3/2023** SeqNo: **3595108** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.7	48.40	0	92.8	54.2	135			
Surr: DNOP	3.6		4.840		74.9	69	147			

Sample ID: **2307E41-005AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH23-11 2'** Batch ID: **76614** RunNo: **98662**
Prep Date: **8/1/2023** Analysis Date: **8/3/2023** SeqNo: **3595109** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	9.3	46.25	0	102	54.2	135	4.87	29.2	
Surr: DNOP	3.7		4.625		80.6	69	147	0	0	

Sample ID: **LCS-76614** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **76614** RunNo: **98662**
Prep Date: **8/1/2023** Analysis Date: **8/2/2023** SeqNo: **3595125** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	10	50.00	0	107	61.9	130			
Surr: DNOP	5.0		5.000		99.8	69	147			

Sample ID: **MB-76614** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **76614** RunNo: **98662**
Prep Date: **8/1/2023** Analysis Date: **8/2/2023** SeqNo: **3595128** 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	8.8		10.00		87.9	69	147			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2307E41**

08-Aug-23

Client: Vertex Resources Services, Inc.

Project: Margarita Pony Riser

Sample ID: **lcs-76610**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **76610**	RunNo: **98709**
Prep Date: **8/1/2023**	Analysis Date: **8/3/2023**	SeqNo: **3596060** 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	83.5	70	130			
Surr: BFB	1900		1000		189	15	244			

Sample ID: **MB-76610**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **76610**	RunNo: **98709**
Prep Date: **8/1/2023**	Analysis Date: **8/3/2023**	SeqNo: **3596061** 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	940		1000		93.9	15	244			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2307E41**

08-Aug-23

Client: Vertex Resources Services, Inc.

Project: Margarita Pony Riser

Sample ID: **LCS-76610** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **76610** RunNo: **98709**

Prep Date: **8/1/2023** Analysis Date: **8/3/2023** SeqNo: **3596083** 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	70	130			
Toluene	0.90	0.050	1.000	0	89.6	70	130			
Ethylbenzene	0.94	0.050	1.000	0	94.2	70	130			
Xylenes, Total	2.9	0.10	3.000	0	95.6	70	130			
Surr: 4-Bromofluorobenzene	1.1		1.000		107	39.1	146			

Sample ID: **MB-76610** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBS** Batch ID: **76610** RunNo: **98709**

Prep Date: **8/1/2023** Analysis Date: **8/3/2023** SeqNo: **3596084** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		111	39.1	146			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Vertex Resources Services, Inc.

Work Order Number: 2307E41

RcptNo: 1

Received By: Juan Rojas 7/29/2023 7:15:00 AM

Completed By: Juan Rojas 7/29/2023 8:05:53 AM

Reviewed By: JR 7/29/23

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
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? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: 7/29/23 TMC

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	5.0	Good	No	Morty		

Chain-of-Custody Record

Client: Chance Dixon
Select Energy (Vertex)

Mailing Address: On File

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☒ Rush 5 DAY

Project Name: Margarita Pony Riser

Project #: 23E-04266

Project Manager: Chance Dixon

Sampler: Hunter Klein

On Ice: ☒ Yes ☐ No

# of Coolers: 1 Marty

Cooler Temp(including CF): 5.1-0.1=5.0 (°C)

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2307E411
7/27/23	10:00	Soil	BH23-01 2'	4oz	Ice	
	10:05		BH23-02 2'			-001
	10:10		BH23-03 2'			-002
	10:15		BH23-04 2'			-003
	10:20		BH23-05 2'			-004
	10:25		BH23-10 2'			-005
↓	10:30	↓	BH23-11 2	↓	↓	

Analysis Request

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)
X	X					X			
X	X					X			
X	X					X			
X	X					X			
X	X					X			
X	X					X			
X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
7/27/23	15:00	Hunter Klein			7/28/23	845
7/28/23	900			courier	7/29/23	7:15

Remarks:

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

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

August 14, 2023

Chance Dixon

Vertex Resources Services, Inc.
3101 Boyd Drive
Carlsbad, NM 88220
TEL: (505) 506-0040
FAX:

RE: Margarita Pony Riser OrderNo.: 2308004

Dear Chance Dixon:

Hall Environmental Analysis Laboratory received 6 sample(s) on 8/1/2023 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,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2308004**
Date Reported: **8/14/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-01 2'
Project: Margarita Pony Riser **Collection Date:** 7/27/2023 10:00:00 AM
Lab ID: 2308004-001 **Matrix:** SOIL **Received Date:** 8/1/2023 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	8/3/2023 2:44:15 AM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	8/3/2023 2:44:15 AM
Surr: DNOP	78.8	69-147		%Rec	1	8/3/2023 2:44:15 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/4/2023 9:52:00 PM
Surr: BFB	100	15-244		%Rec	1	8/4/2023 9:52:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	8/4/2023 9:52:00 PM
Toluene	ND	0.047		mg/Kg	1	8/4/2023 9:52:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	8/4/2023 9:52:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	8/4/2023 9:52:00 PM
Surr: 4-Bromofluorobenzene	96.0	39.1-146		%Rec	1	8/4/2023 9:52:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	1700	60		mg/Kg	20	8/4/2023 8:21:10 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308004**
Date Reported: **8/14/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-02 2'
Project: Margarita Pony Riser **Collection Date:** 7/27/2023 10:05:00 AM
Lab ID: 2308004-002 **Matrix:** SOIL **Received Date:** 8/1/2023 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/3/2023 2:55:12 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/3/2023 2:55:12 AM
Surr: DNOP	83.9	69-147		%Rec	1	8/3/2023 2:55:12 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/4/2023 10:13:00 PM
Surr: BFB	97.3	15-244		%Rec	1	8/4/2023 10:13:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.023		mg/Kg	1	8/4/2023 10:13:00 PM
Toluene	ND	0.047		mg/Kg	1	8/4/2023 10:13:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	8/4/2023 10:13:00 PM
Xylenes, Total	ND	0.094		mg/Kg	1	8/4/2023 10:13:00 PM
Surr: 4-Bromofluorobenzene	93.9	39.1-146		%Rec	1	8/4/2023 10:13:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	1600	60		mg/Kg	20	8/4/2023 9:23:14 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308004**
Date Reported: **8/14/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-04 2'
Project: Margarita Pony Riser **Collection Date:** 7/28/2023 8:00:00 AM
Lab ID: 2308004-003 **Matrix:** SOIL **Received Date:** 8/1/2023 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	18	9.2		mg/Kg	1	8/3/2023 3:17:04 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/3/2023 3:17:04 AM
Surr: DNOP	82.8	69-147		%Rec	1	8/3/2023 3:17:04 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/4/2023 10:35:00 PM
Surr: BFB	95.3	15-244		%Rec	1	8/4/2023 10:35:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.025		mg/Kg	1	8/4/2023 10:35:00 PM
Toluene	ND	0.049		mg/Kg	1	8/4/2023 10:35:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	8/4/2023 10:35:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	8/4/2023 10:35:00 PM
Surr: 4-Bromofluorobenzene	92.4	39.1-146		%Rec	1	8/4/2023 10:35:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	15000	600		mg/Kg	200	8/9/2023 10:41:14 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2308004**
Date Reported: **8/14/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-05 2'
Project: Margarita Pony Riser **Collection Date:** 7/28/2023 8:05:00 AM
Lab ID: 2308004-004 **Matrix:** SOIL **Received Date:** 8/1/2023 7:25:00 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	8/3/2023 3:28:07 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/3/2023 3:28:07 AM
Surr: DNOP	103	69-147		%Rec	1	8/3/2023 3:28:07 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/4/2023 10:57:00 PM
Surr: BFB	96.4	15-244		%Rec	1	8/4/2023 10:57:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.025		mg/Kg	1	8/4/2023 10:57:00 PM
Toluene	ND	0.049		mg/Kg	1	8/4/2023 10:57:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	8/4/2023 10:57:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	8/4/2023 10:57:00 PM
Surr: 4-Bromofluorobenzene	95.1	39.1-146		%Rec	1	8/4/2023 10:57:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	5300	300		mg/Kg	100	8/9/2023 10:53:39 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308004**
Date Reported: **8/14/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-06 2'
Project: Margarita Pony Riser **Collection Date:** 7/28/2023 8:10:00 AM
Lab ID: 2308004-005 **Matrix:** SOIL **Received Date:** 8/1/2023 7:25:00 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	8/3/2023 3:39:03 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/3/2023 3:39:03 AM
Surr: DNOP	86.5	69-147		%Rec	1	8/3/2023 3:39:03 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/4/2023 11:19:00 PM
Surr: BFB	97.1	15-244		%Rec	1	8/4/2023 11:19:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	8/4/2023 11:19:00 PM
Toluene	ND	0.048		mg/Kg	1	8/4/2023 11:19:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	8/4/2023 11:19:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	8/4/2023 11:19:00 PM
Surr: 4-Bromofluorobenzene	93.8	39.1-146		%Rec	1	8/4/2023 11:19:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	93	60		mg/Kg	20	8/4/2023 10:25:18 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308004**
Date Reported: **8/14/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-07 2'
Project: Margarita Pony Riser **Collection Date:** 7/28/2023 8:15:00 AM
Lab ID: 2308004-006 **Matrix:** SOIL **Received Date:** 8/1/2023 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/3/2023 3:49:56 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/3/2023 3:49:56 AM
Surr: DNOP	89.3	69-147		%Rec	1	8/3/2023 3:49:56 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/4/2023 11:40:00 PM
Surr: BFB	96.5	15-244		%Rec	1	8/4/2023 11:40:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	8/4/2023 11:40:00 PM
Toluene	ND	0.049		mg/Kg	1	8/4/2023 11:40:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	8/4/2023 11:40:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	8/4/2023 11:40:00 PM
Surr: 4-Bromofluorobenzene	92.5	39.1-146		%Rec	1	8/4/2023 11:40:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	8500	300		mg/Kg	100	8/9/2023 11:06:04 AM

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308004**

14-Aug-23

Client: Vertex Resources Services, Inc.

Project: Margarita Pony Riser

Sample ID: **MB-76688**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **76688**	RunNo: **98753**
Prep Date: **8/4/2023**	Analysis Date: **8/4/2023**	SeqNo: **3597058** Units: **mg/Kg**

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

Sample ID: **LCS-76688**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **76688**	RunNo: **98753**
Prep Date: **8/4/2023**	Analysis Date: **8/4/2023**	SeqNo: **3597059** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.0	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308004**

14-Aug-23

Client: Vertex Resources Services, Inc.

Project: Margarita Pony Riser

Sample ID: **LCS-76629**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **76629**	RunNo: **98662**
Prep Date: **8/2/2023**	Analysis Date: **8/3/2023**	SeqNo: **3595126** 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	92.0	61.9	130			
Surr: DNOP	3.7		5.000		74.9	69	147			

Sample ID: **MB-76629**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **76629**	RunNo: **98662**
Prep Date: **8/2/2023**	Analysis Date: **8/3/2023**	SeqNo: **3595129** 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	11		10.00		110	69	147			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308004**

14-Aug-23

Client: Vertex Resources Services, Inc.

Project: Margarita Pony Riser

Sample ID: **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **G98759**	RunNo: **98759**
Prep Date:	Analysis Date: **8/4/2023**	SeqNo: **3597280** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	2100		1000		210	15	244			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **G98759**	RunNo: **98759**
Prep Date:	Analysis Date: **8/4/2023**	SeqNo: **3597281** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		103	15	244			

Sample ID: **lcs-76623**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **76623**	RunNo: **98759**
Prep Date: **8/2/2023**	Analysis Date: **8/4/2023**	SeqNo: **3597289** 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	87.7	70	130			
Surr: BFB	2100		1000		206	15	244			

Sample ID: **mb-76623**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **76623**	RunNo: **98759**
Prep Date: **8/2/2023**	Analysis Date: **8/4/2023**	SeqNo: **3597290** 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		98.2	15	244			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308004**

14-Aug-23

Client: Vertex Resources Services, Inc.

Project: Margarita Pony Riser

Sample ID: **100ng btex lcs** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **R98759** RunNo: **98759**
Prep Date: Analysis Date: **8/4/2023** SeqNo: **3597337** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.99		1.000		98.7	39.1	146			

Sample ID: **mb** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **R98759** RunNo: **98759**
Prep Date: Analysis Date: **8/4/2023** SeqNo: **3597338** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.98		1.000		98.0	39.1	146			

Sample ID: **lcs-76623** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **76623** RunNo: **98759**
Prep Date: **8/2/2023** Analysis Date: **8/4/2023** SeqNo: **3597346** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.72	0.025	1.000	0	71.8	70	130			
Toluene	0.76	0.050	1.000	0	75.8	70	130			
Ethylbenzene	0.81	0.050	1.000	0	81.0	70	130			
Xylenes, Total	2.5	0.10	3.000	0	81.7	70	130			
Surr: 4-Bromofluorobenzene	0.99		1.000		98.8	39.1	146			

Sample ID: **mb-76623** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **76623** RunNo: **98759**
Prep Date: **8/2/2023** Analysis Date: **8/4/2023** SeqNo: **3597347** 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			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Vertex Resources Services, Inc.

Work Order Number: 2308004

RcptNo: 1

Received By: Juan Rojas 8/1/2023 7:25:00 AM

Completed By: Tracy Casarrubias 8/1/2023 7:57:46 AM

Reviewed By: TMC 8/1/23

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified: Date:

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

Regarding:

Client Instructions: Mailing address,phone number and Email/Fax are missing on COC- TMC 8/1/23

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.2	Good	Yes	Morty		

Chain-of-Custody Record

Client: Select Energy

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:
Margarita Pony Riser

Project #:
23E-04266

Project Manager:
Chance Dixon

Sampler: Hunter Klein

On Ice: ☒ Yes ☐ No

# of Coolers: 1 Mighty

Cooler Temp(including CF): 3.4-0.2=3.2(°C)

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2308004	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)
7/27/23	10:00	Soil	BH23-01 2'	4oz	Ice	001	X	X					X			
7/27/23	10:05		BH23-02 2'			002	X	X					X			
7/28/23	8:00		BH23-04 2'			003	X	X					X			
7/28/23	8:05		BH23-05 2'			004	X	X					X			
7/28/23	8:10		BH23-06 2'			005	X	X					X			
7/28/23	8:15	↓	BH23-07 2'	↓	↓	006	X	X					X			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
7/28/23	11:30	Hunter Klein			7/31/23	815
7/28/23	1900				7/31/23	7:25

Remarks:
cc: cdixon@vertex.ca
& analytical@vertex.ca

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

August 23, 2023

Chance Dixon

Vertex Resources Services, Inc.
3101 Boyd Drive
Carlsbad, NM 88220
TEL: (505) 506-0040
FAX:

RE: Margarita Pony Riser OrderNo.: 2308A34

Dear Chance Dixon:

Hall Environmental Analysis Laboratory received 2 sample(s) on 8/18/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2308A34**
Date Reported: **8/23/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-01@4'
Project: Margarita Pony Riser
Collection Date: 8/15/2023 2:00:00 PM
Lab ID: 2308A34-001 **Matrix:** SOIL **Received Date:** 8/18/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/22/2023 2:53:52 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/22/2023 2:53:52 AM
Surr: DNOP	111	69-147		%Rec	1	8/22/2023 2:53:52 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/22/2023 12:18:00 AM
Surr: BFB	97.5	15-244		%Rec	1	8/22/2023 12:18:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.023		mg/Kg	1	8/22/2023 12:18:00 AM
Toluene	ND	0.046		mg/Kg	1	8/22/2023 12:18:00 AM
Ethylbenzene	ND	0.046		mg/Kg	1	8/22/2023 12:18:00 AM
Xylenes, Total	ND	0.092		mg/Kg	1	8/22/2023 12:18:00 AM
Surr: 4-Bromofluorobenzene	93.3	39.1-146		%Rec	1	8/22/2023 12:18:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	780	60		mg/Kg	20	8/21/2023 11:30:40 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308A34**
Date Reported: **8/23/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-01@10'
Project: Margarita Pony Riser
Collection Date: 8/16/2023 11:40:00 AM
Lab ID: 2308A34-002 **Matrix:** SOIL
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/22/2023 3:14:19 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/22/2023 3:14:19 AM
Surr: DNOP	112	69-147		%Rec	1	8/22/2023 3:14:19 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/22/2023 12:40:00 AM
Surr: BFB	95.6	15-244		%Rec	1	8/22/2023 12:40:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	8/22/2023 12:40:00 AM
Toluene	ND	0.047		mg/Kg	1	8/22/2023 12:40:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	8/22/2023 12:40:00 AM
Xylenes, Total	ND	0.094		mg/Kg	1	8/22/2023 12:40:00 AM
Surr: 4-Bromofluorobenzene	90.7	39.1-146		%Rec	1	8/22/2023 12:40:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	500	60		mg/Kg	20	8/21/2023 11:43:04 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A34**

23-Aug-23

Client: Vertex Resources Services, Inc.

Project: Margarita Pony Riser

Sample ID: **MB-76967**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **76967**	RunNo: **99107**
Prep Date: **8/21/2023**	Analysis Date: **8/21/2023**	SeqNo: **3613354** Units: **mg/Kg**

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

Sample ID: **LCS-76967**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **76967**	RunNo: **99107**
Prep Date: **8/21/2023**	Analysis Date: **8/21/2023**	SeqNo: **3613355** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.7	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A34**

23-Aug-23

Client: Vertex Resources Services, Inc.

Project: Margarita Pony Riser

Sample ID: **MB-76961**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **76961**	RunNo: **99104**
Prep Date: **8/21/2023**	Analysis Date: **8/21/2023**	SeqNo: **3612364** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.3		10.00		82.5	69	147			

Sample ID: **LCS-76961**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **76961**	RunNo: **99104**
Prep Date: **8/21/2023**	Analysis Date: **8/21/2023**	SeqNo: **3612365** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.0		5.000		80.7	69	147			

Sample ID: **MB-76949**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **76949**	RunNo: **99104**
Prep Date: **8/18/2023**	Analysis Date: **8/21/2023**	SeqNo: **3613454** 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	8.7		10.00		86.6	69	147			

Sample ID: **LCS-76949**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **76949**	RunNo: **99104**
Prep Date: **8/18/2023**	Analysis Date: **8/21/2023**	SeqNo: **3613455** 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	85.2	61.9	130			
Surr: DNOP	3.6		5.000		72.7	69	147			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A34**

23-Aug-23

Client: Vertex Resources Services, Inc.

Project: Margarita Pony Riser

Sample ID: **lcs-76946**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **76946**	RunNo: **99101**
Prep Date: **8/18/2023**	Analysis Date: **8/21/2023**	SeqNo: **3613217** 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	87.8	70	130			
Surr: BFB	2100		1000		214	15	244			

Sample ID: **mb-76946**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **76946**	RunNo: **99101**
Prep Date: **8/18/2023**	Analysis Date: **8/21/2023**	SeqNo: **3613218** 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		97.2	15	244			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A34**

23-Aug-23

Client: Vertex Resources Services, Inc.

Project: Margarita Pony Riser

Sample ID: **lcs-76946**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **76946**	RunNo: **99101**
Prep Date: **8/18/2023**	Analysis Date: **8/21/2023**	SeqNo: **3613314** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.80	0.025	1.000	0	79.9	70	130			
Toluene	0.81	0.050	1.000	0	80.7	70	130			
Ethylbenzene	0.83	0.050	1.000	0	82.9	70	130			
Xylenes, Total	2.5	0.10	3.000	0	82.8	70	130			
Surr: 4-Bromofluorobenzene	0.95		1.000		95.3	39.1	146			

Sample ID: **mb-76946**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **76946**	RunNo: **99101**
Prep Date: **8/18/2023**	Analysis Date: **8/21/2023**	SeqNo: **3613315** 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	0.93		1.000		93.0	39.1	146			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Vertex Resources Services, Inc.

Work Order Number: 2308A34

RcptNo: 1

Received By: Tracy Casarrubias 8/18/2023 7:40:00 AM

Completed By: Tracy Casarrubias 8/18/2023 8:50:37 AM

Reviewed By: JH 8-18-23

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	# of preserved bottles checked for pH:
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	(<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: SCM 8/18/23

Special Handling (if applicable)

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

Person Notified: Date:

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

Regarding:

Client Instructions: Mailing address, phone number and Email/Fax are missing on COC - TMC 8/18/23

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.3	Good	Yes	Yogi		

Chain-of-Custody Record

Client: Vertex ([redacted])

Mailing Address: On file

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☒ Rush 5 Day

Project Name: Margarita Pony Riser

Project #: 23E-04206

Project Manager: C. Dixon

Sampler: A. Mohle

On Ice: ☒ Yes ☐ No 4094

# of Coolers: 1

Cooler Temp(including CF): 5.2 +0.1 = 5.3 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2308A34
8/15/23	14:00	Soil	BH23-01 @ 4'	4oz jar	ice	001
8/16/23	11:40	"	BH23-01 @ 10'	"	"	002

Analysis Request

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)
↓	↓					↓			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
8/17/23	915	A. Mohle			8/17/23	915
8/17/23	1100			Courier	8/18/23	7:40

Remarks: results to CDixon@vertex.ca

cc: amohle@vertex.ca

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

September 11, 2023

Chance Dixon

Vertex Resources Services, Inc.
3101 Boyd Drive
Carlsbad, NM 88220
TEL: (505) 506-0040
FAX:

RE: Margarita Pony OrderNo.: 2308C23

Dear Chance Dixon:

Hall Environmental Analysis Laboratory received 5 sample(s) on 8/23/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2308C23**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-04 4'
Project: Margarita Pony **Collection Date:** 8/17/2023 9:30:00 AM
Lab ID: 2308C23-001 **Matrix:** SOIL **Received Date:** 8/23/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/25/2023 10:06:20 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/25/2023 10:06:20 PM
Surr: DNOP	92.5	69-147		%Rec	1	8/25/2023 10:06:20 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/26/2023 3:33:18 AM
Surr: BFB	92.0	15-244		%Rec	1	8/26/2023 3:33:18 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	8/26/2023 3:33:18 AM
Toluene	ND	0.047		mg/Kg	1	8/26/2023 3:33:18 AM
Ethylbenzene	ND	0.047		mg/Kg	1	8/26/2023 3:33:18 AM
Xylenes, Total	ND	0.095		mg/Kg	1	8/26/2023 3:33:18 AM
Surr: 4-Bromofluorobenzene	105	39.1-146		%Rec	1	8/26/2023 3:33:18 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	ND	60		mg/Kg	20	8/26/2023 11:48:30 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2308C23**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-02 6'
Project: Margarita Pony
Collection Date: 8/17/2023 9:40:00 AM
Lab ID: 2308C23-002 **Matrix:** SOIL **Received Date:** 8/23/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/25/2023 10:30:57 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/25/2023 10:30:57 PM
Surr: DNOP	94.4	69-147		%Rec	1	8/25/2023 10:30:57 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/26/2023 3:56:41 AM
Surr: BFB	91.2	15-244		%Rec	1	8/26/2023 3:56:41 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	8/26/2023 3:56:41 AM
Toluene	ND	0.049		mg/Kg	1	8/26/2023 3:56:41 AM
Ethylbenzene	ND	0.049		mg/Kg	1	8/26/2023 3:56:41 AM
Xylenes, Total	ND	0.097		mg/Kg	1	8/26/2023 3:56:41 AM
Surr: 4-Bromofluorobenzene	103	39.1-146		%Rec	1	8/26/2023 3:56:41 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	ND	60		mg/Kg	20	8/26/2023 12:00:55 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308C23**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-07 4'
Project: Margarita Pony
Collection Date: 8/17/2023 11:30:00 AM
Lab ID: 2308C23-003 **Matrix:** SOIL **Received Date:** 8/23/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	8.6		mg/Kg	1	8/25/2023 10:55:38 PM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	8/25/2023 10:55:38 PM
Surr: DNOP	93.6	69-147		%Rec	1	8/25/2023 10:55:38 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/26/2023 4:20:05 AM
Surr: BFB	89.6	15-244		%Rec	1	8/26/2023 4:20:05 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	8/26/2023 4:20:05 AM
Toluene	ND	0.050		mg/Kg	1	8/26/2023 4:20:05 AM
Ethylbenzene	ND	0.050		mg/Kg	1	8/26/2023 4:20:05 AM
Xylenes, Total	ND	0.10		mg/Kg	1	8/26/2023 4:20:05 AM
Surr: 4-Bromofluorobenzene	101	39.1-146		%Rec	1	8/26/2023 4:20:05 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	ND	60		mg/Kg	20	8/26/2023 12:13:20 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308C23**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-05 6'
Project: Margarita Pony
Collection Date: 8/17/2023 1:00:00 PM
Lab ID: 2308C23-004 **Matrix:** SOIL **Received Date:** 8/23/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/25/2023 11:20:13 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/25/2023 11:20:13 PM
Surr: DNOP	95.7	69-147		%Rec	1	8/25/2023 11:20:13 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/26/2023 4:43:29 AM
Surr: BFB	90.9	15-244		%Rec	1	8/26/2023 4:43:29 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	8/26/2023 4:43:29 AM
Toluene	ND	0.048		mg/Kg	1	8/26/2023 4:43:29 AM
Ethylbenzene	ND	0.048		mg/Kg	1	8/26/2023 4:43:29 AM
Xylenes, Total	ND	0.097		mg/Kg	1	8/26/2023 4:43:29 AM
Surr: 4-Bromofluorobenzene	104	39.1-146		%Rec	1	8/26/2023 4:43:29 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	4000	150		mg/Kg	50	8/30/2023 2:22:28 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308C23**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-05 12'
Project: Margarita Pony
Collection Date: 8/17/2023 2:00:00 PM
Lab ID: 2308C23-005 **Matrix:** SOIL **Received Date:** 8/23/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	8/25/2023 11:44:56 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/25/2023 11:44:56 PM
Surr: DNOP	93.5	69-147		%Rec	1	8/25/2023 11:44:56 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/26/2023 5:06:49 AM
Surr: BFB	89.8	15-244		%Rec	1	8/26/2023 5:06:49 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	8/26/2023 5:06:49 AM
Toluene	ND	0.050		mg/Kg	1	8/26/2023 5:06:49 AM
Ethylbenzene	ND	0.050		mg/Kg	1	8/26/2023 5:06:49 AM
Xylenes, Total	ND	0.10		mg/Kg	1	8/26/2023 5:06:49 AM
Surr: 4-Bromofluorobenzene	103	39.1-146		%Rec	1	8/26/2023 5:06:49 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	ND	60		mg/Kg	20	8/26/2023 12:38:09 PM

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308C23**

11-Sep-23

Client: Vertex Resources Services, Inc.

Project: Margarita Pony

Sample ID: **MB-77116**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **77116**	RunNo: **99266**
Prep Date: **8/25/2023**	Analysis Date: **8/26/2023**	SeqNo: **3620955** Units: **mg/Kg**

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

Sample ID: **LCS-77116**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **77116**	RunNo: **99266**
Prep Date: **8/25/2023**	Analysis Date: **8/26/2023**	SeqNo: **3620958** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.6	90	110			

Qualifiers:

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PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308C23**

11-Sep-23

Client: Vertex Resources Services, Inc.

Project: Margarita Pony

Sample ID: **MB-77096**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **77096**	RunNo: **99257**
Prep Date: **8/25/2023**	Analysis Date: **8/25/2023**	SeqNo: **3620211** 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		89.9	69	147			

Sample ID: **LCS-77096**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **77096**	RunNo: **99257**
Prep Date: **8/25/2023**	Analysis Date: **8/25/2023**	SeqNo: **3620212** 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	87.1	61.9	130			
Surr: DNOP	4.3		5.000		86.3	69	147			

Qualifiers:

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ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308C23**

11-Sep-23

Client: Vertex Resources Services, Inc.

Project: Margarita Pony

Sample ID: **lcs-77083**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **77083**	RunNo: **99233**
Prep Date: **8/24/2023**	Analysis Date: **8/26/2023**	SeqNo: **3620394** 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	82.7	70	130			
Surr: BFB	1800		1000		181	15	244			

Sample ID: **mb-77083**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **77083**	RunNo: **99233**
Prep Date: **8/24/2023**	Analysis Date: **8/26/2023**	SeqNo: **3620395** 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		90.0	15	244			

Sample ID: **2308c23-001ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH23-04 4'**	Batch ID: **77083**	RunNo: **99233**
Prep Date: **8/24/2023**	Analysis Date: **8/26/2023**	SeqNo: **3620479** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	4.7	23.67	0	85.8	70	130			
Surr: BFB	1800		947.0		185	15	244			

Sample ID: **2308c23-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH23-04 4'**	Batch ID: **77083**	RunNo: **99233**
Prep Date: **8/24/2023**	Analysis Date: **8/26/2023**	SeqNo: **3620480** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	4.7	23.65	0	86.2	70	130	0.324	20	
Surr: BFB	1800		946.1		186	15	244	0	0	

Qualifiers:

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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#: **2308C23**

11-Sep-23

Client: Vertex Resources Services, Inc.

Project: Margarita Pony

Sample ID: **LCS-77083**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **77083**	RunNo: **99233**
Prep Date: **8/24/2023**	Analysis Date: **8/26/2023**	SeqNo: **3620414** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.025	1.000	0	87.6	70	130			
Toluene	0.90	0.050	1.000	0	89.9	70	130			
Ethylbenzene	0.91	0.050	1.000	0	90.6	70	130			
Xylenes, Total	2.8	0.10	3.000	0	92.1	70	130			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	39.1	146			

Sample ID: **mb-77083**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **77083**	RunNo: **99233**
Prep Date: **8/24/2023**	Analysis Date: **8/26/2023**	SeqNo: **3620415** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		102	39.1	146			

Sample ID: **2308c23-002ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH23-02 6'**	Batch ID: **77083**	RunNo: **99233**
Prep Date: **8/24/2023**	Analysis Date: **8/26/2023**	SeqNo: **3620595** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.024	0.9699	0	88.1	70	130			
Toluene	0.88	0.048	0.9699	0	90.3	70	130			
Ethylbenzene	0.89	0.048	0.9699	0	92.0	70	130			
Xylenes, Total	2.7	0.097	2.910	0	92.8	70	130			
Surr: 4-Bromofluorobenzene	1.0		0.9699		103	39.1	146			

Sample ID: **2308c23-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH23-02 6'**	Batch ID: **77083**	RunNo: **99233**
Prep Date: **8/24/2023**	Analysis Date: **8/26/2023**	SeqNo: **3620596** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.82	0.024	0.9681	0	84.5	70	130	4.34	20	
Toluene	0.85	0.048	0.9681	0	87.5	70	130	3.39	20	
Ethylbenzene	0.86	0.048	0.9681	0	88.9	70	130	3.71	20	
Xylenes, Total	2.6	0.097	2.904	0	90.4	70	130	2.79	20	
Surr: 4-Bromofluorobenzene	1.0		0.9681		103	39.1	146	0	0	

Qualifiers:

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P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Vertex Resources Services, Inc.

Work Order Number: 2308C23

RcptNo: 1

Received By: Tracy Casarrubias 8/23/2023 7:30:00 AM

Completed By: Tracy Casarrubias 8/23/2023 8:55:08 AM

Reviewed By: SCM 8/23/23

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified: Date:

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

Regarding:

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

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.3	Good	Yes	Yogi		

Chain-of-Custody Record

Client: Vertex

Mailing Address: On file

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☒ Rush 5 Day

Project Name: Margarita Pony

Project #: 23E-04266

Project Manager: C. Dixon

Sampler: A. Mohl

On Ice: ☒ Yes ☐ No 4009

# of Coolers: 1

Cooler Temp (including CF): 1.3-0=1.3 (°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. 2308C73	BTEX / MTBE / TMB's (8021)	TPH 8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
8/17/23	9:30	Soil	BH23-04 4'	4oz jar	ice	001	✓	✓					✓			
	9:40		BH23-02 6'			002										
	11:30		BH23-07 4'			003										
	13:00		BH23-05 6'			004										
↓	14:00	↓	BH23-05 12'	↓	↓	005	↓	↓					↓			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
8/17/23	18:10	A. Mohl			8/22/23	930
8/22/23	1900			courier	8/23/23	7:30

Remarks: results to CDixon@vertex.ca

cc: amohl@vertex.ca

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 264731

CONDITIONS

Operator: SELECT ENERGY SERVICES, LLC PO Box 1715 Gainesville, TX 76240	OGRID: 289068
	Action Number: 264731
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Remediation plan is approved as written. Remediation Due date updated to April 11, 2024.	1/12/2024