

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

ARTESIA DISTRICT

DEC 08 2015

Form C-141  
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

RECEIVED

**Release Notification and Corrective Action**

**NAB1534452923**

**OPERATOR**

Initial Report  Final Report

<b>Name of Company</b> Devon Energy Production <b>10137</b>	<b>Contact</b> Ruben Garcia Assistant Production Foreman
<b>Address</b> 6488 Seven Rivers Hwy Artesia, NM 88220	<b>Telephone No.</b> 575.748.5209
<b>Facility Name</b> Todd 36 State 1	<b>Facility Type</b> SWD

<b>Surface Owner State</b>	<b>Mineral Owner</b> Federal & State	<b>API No.</b> 30-015-20341
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**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
I	26	23S	31E	990	FSL	1980	FEL	Eddy

Latitude: 32.271810 Longitude: -103.744224

**NATURE OF RELEASE**

<b>Type of Release Spill</b> Produced water	<b>Volume of Release</b> 1160 BBL	<b>Volume Recovered</b> 30 BBL
<b>Source of Release</b> Water line leak	<b>Date and Hour of Occurrence</b> 12/03/15 at 3:45 pm	<b>Date and Hour of Discovery</b> 12/03/15 at 3:45 pm
<b>Was Immediate Notice Given?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	<b>If YES, To Whom?</b> BLM Jim Amos OCD Mike Bratcher	
<b>By Whom?</b> Ruben Garcia Production Assistant Foreman	<b>Date and Hour</b> 12/04/15 11:23 BLM 12/04/15 11:26 OCD	
<b>Was a Watercourse Reached?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>If YES, Volume Impacting the Watercourse</b> N/A	

If a Watercourse was Impacted, Describe Fully.\* N/A

**Describe Cause of Problem and Remedial Action Taken.\***

Corrosion caused a water line leak coming from the Todd 26 SWD going to the Todd 36 State 1. Shut valve at the Todd 26 SWD and valve at the Todd 36 State 1. Crew is currently working on repairing line.

**Describe Area Affected and Cleanup Action Taken.\***

1160 BBL of produced water was released and 30 BBL recovered by vacuum truck in a 21,681 square feet area. It was all on pasture, on the north side of lease road leading to the Todd 26 Fed 7. An environmental agency will be called out for remediation.

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

<b>Signature:</b> <i>Jeanette Barron</i>	<b>OIL CONSERVATION DIVISION</b>	
<b>Printed Name:</b> Jeanette Barron	Signed By <i>Mike Bratcher</i> Approved by Environmental Specialist:	
<b>Title:</b> Field Admin Support	Approval Date: 12/10/15	Expiration Date: N/A
<b>E-mail Address:</b> Jeanette.barron@dmv.com	Conditions of Approval: <b>Remediation per O.C.D. Rules &amp; Guidelines</b> Attached <input type="checkbox"/>	
<b>Date:</b> 12/08/15 <b>Phone:</b> 575.748.1813	<b>SUBMIT REMEDIATION PROPOSAL NO</b> <b>LATER THAN:</b> 1/15/16	

\* Attach Additional Sheets If Necessary

2RP-3458

State of New Mexico  
Oil Conservation Division

Incident ID	pab1534452828
District RP	2RP-3438
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?  1160 bbl release
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?  See above, original submittal.	

### Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.
If all the actions described above have <u>not</u> been undertaken, explain why:   
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.
Printed Name: <u>Jeff Harvard</u> Title: <u>Manager</u> Signature: <u></u> Date: <u>12/19/22</u> email: <u>jharvard@hpcnm.com</u> Telephone: <u>575-626-7938</u>
<b><u>OCD Only</u></b>  Received by: _____ Date: _____

Incident ID	NAB1534452923
District RP	
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## 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?	>100 (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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

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

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

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

State of New Mexico  
Oil Conservation Division

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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: Jeff Harvard Title: Manager  
Signature:  Date: 12/19/22  
email: jharvard@hpcnm.com Telephone: 575-626-7938

**OCD Only**

Received by: Jocelyn Harimon Date: 12/19/2022

Incident ID	NAB1534452923
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## Remediation Plan

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

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

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

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

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

Printed Name: Jeff Harvard Title: Manager  
 Signature:  Date: 12/19/22  
 email: jharvard@hpcnm.com Telephone: 12/19/22

**OCD Only**

Received by: Jocelyn Harimon Date: 12/19/2022

- Approved     Approved with Attached Conditions of Approval     Denied     Deferral Approved

Signature:  Date: 12/28/2022

Variance request of five-point composite confirmation samples representative of 1,000 square feet denied. OCD approves a variance of five-point composite samples confirmation samples representative of no more than 500 square feet. Confirmation samples must be analyzed for all constituents list in Table 1. Revegetation must occur per 19.15.29.13 NMAC once the excavation is backfilled.

Incident ID	
District RP	
Facility ID	
Application ID	

## Closure

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

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

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

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

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

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

email: \_\_\_\_\_ Telephone: \_\_\_\_\_

**OCD Only**

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

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

Closure Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

## Environmental Site Remediation Work Plan

### General Information

NMOCD District:	<u>District 2</u>	Incident ID:	<u>NAB1534452923</u>
Landowner:	<u>New Mexico State Land Office</u>	RP Reference:	<u>2RP-3438</u>
Client:	<u>Devon Energy Production Company</u>	Site Location:	<u>Todd 36 State 1</u>
Date:	<u>October 28, 2022</u>	Project #:	<u>21E-02816-22</u>
Client Contact:	<u>Dale Woodall</u>	Phone #:	<u>(575) 748-1838</u>
Vertex PM:	<u>Kent Stallings</u>	Phone #:	<u>(346) 814-1413</u>

### Objective

The objective of the environmental remediation work plan is to identify exceedances found during the site assessment/characterization activity and propose an appropriate remediation technique to address these areas. Areas of environmental concern identified and delineated include: Pasture and Right-of-Way Area and Pad. An aerial view schematic is included on Figure 1 (Attachment 1). Laboratory analysis results and field screens from delineation are included in Table 2 (Attachment 2). Closure criteria has been selected as per New Mexico Administrative Code (NMAC) 19.15.29. All applicable research as it pertains to closure criteria selection is presented in Attachment 3. The closure criteria for the site are presented below.

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 >100 feet (19.15.29.12)	Chloride	20,000 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 = gasoline range organics (GRO) + diesel range organics (DRO) + motor oil range organics (MRO), BTEX - Benzene, toluene, ethylbenzene, and xylenes

### Site Assessment/Characterization

Site characterization was completed on October 19, 2022. A total of 19 sample points were established and samples collected for field screening. Samples at the furthest horizontal distance below closure criteria were submitted to the laboratory for analysis. In total, 45 samples were submitted to Hall Environmental Analysis Laboratory, Albuquerque, New Mexico for analysis. The sample locations are presented on Figure 1 (Attachment 1). Laboratory analysis results have been compared to the above noted closure criteria and the results from the characterization activity are presented in Table 2 (Attachment 2). Exceedances are identified in the table as bold with a grey background. Laboratory analysis reports are included in Attachment 4.

### Remedial Activities

Areas identified with contaminant concentrations above closure criteria will be remediated through excavation. Laboratory results from the site assessment/characterization have been referenced to estimate both the vertical and horizontal limits of the impacts and the volume of soil to be removed. Soil will be excavated to the meet reclamation standards of NMAC 19.15.23.13, Table 1, of the top 4 feet below ground surface. Additional vertical delineation will be completed at the time of excavation. Field screening will be utilized to confirm removal of contaminated soil below the applicable closure criteria. Contaminated soils will be stored on a 30 mil liner prior to

Environmental Site Remediation Work Plan

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. A depth to groundwater well will be drilled within 0.5 miles to meet the above noted closure criteria and registered with the New Mexico Office of the State Engineer.

**NAB1534452923/2RP-3438 – Pastureland and Right-of-Way**

Multiple samples were collected for analysis in the pastureland area and Right-of-Way to characterize the area to be excavated. A hydrovac truck will be utilized to remove contaminated soil in close proximity to the underground flowlines. Heavy equipment will be used to complete excavation of the top 4 feet in the pastureland and Right-of-Way. Field screening will be utilized to find the horizontal and vertical extents of the spill area. Confirmatory samples will be collected as per New Mexico Oil Conservation District (NMOCD) guidance and submitted for laboratory analysis of all applicable parameters. The square footage, based on horizontal delineation, is estimated at 78,408 square feet. The estimated volume to be excavated is 13,939 cubic yards. Field screening will be used to guide horizontal excavation to meet closure criteria requirements of the top 4 feet to the strictest criteria.

Vertex Resource Services Inc. and Devon Energy Production Company request a variance for confirmation sampling due to the square footage of the excavated area and the depth to groundwater greater the 100 feet. This variance request will consist of five-point composite samples for every 1,000 square feet of excavation area in the 4-foot excavation. For excavation greater than 4 feet of vertical depth, base and wall samples will utilize five-point composite samples each representative of no more than 200 square feet. Additional discrete grab samples will be collected from areas with discoloration and analyzed for chloride (EPA 300.0), BTEX (EPA 8021B), and TPH (EPA 8015D) depending on field screening results.

Heavy equipment will be used to remove contaminated soils in the event that any confirmation samples are above applicable constituents based on Table 1 of 19.15.29.12 & 13 NMAC once the analytical reports have been received. A detailed closure report of all events will be submitted once all field work has been completed.

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



October 31, 2022

Monica Peppin, A.S.  
PROJECT MANAGER, REPORTING

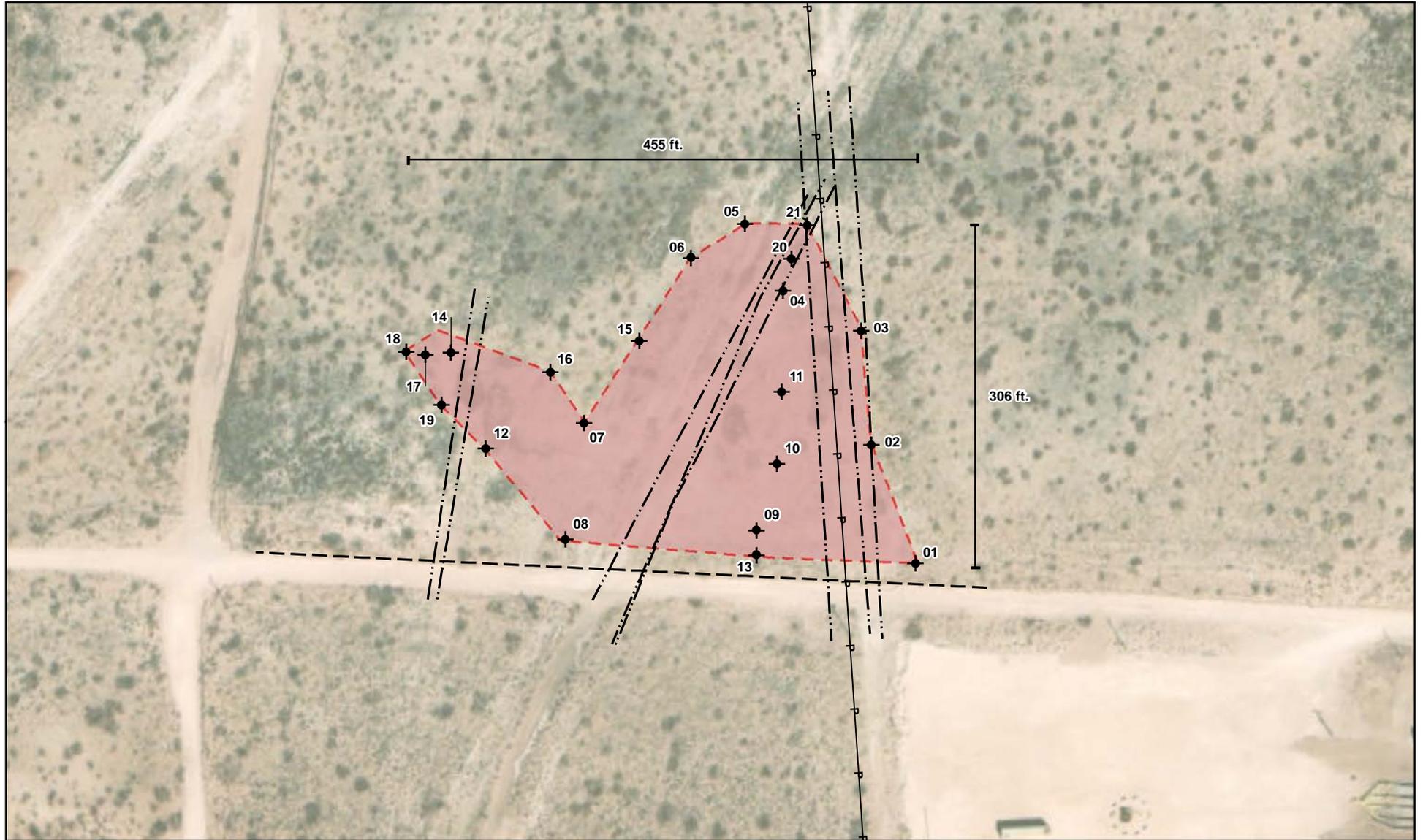
Date

**Attachments**

- Attachment 1. Figure 1 – Characterization Schematic
- Attachment 2. Table 2
- Attachment 3. Closure Criteria Research
- Attachment 4. Laboratory Results Table and Laboratory Analysis

## **ATTACHMENT 1**

Document Path: G:\V-Projects\US PROJECTS\Devon Energy Corporation\21E-02816\022 - Todd 36 State 1\Figure 1 Characterization Schematic Todd 36 State 1.mxd



◆ Borehole (Prefixed by "BH22-")
— Above Ground Power Line
- - Pipeline (Aboveground)
- · · Pipeline (Underground)
■ Release Area (~78,510 sq. ft.)



0 25 50 100 Feet  
 Map Center:  
 Lat/Long: 32.272203, -103.744662

NAD 1983 UTM Zone 13N  
 Date: Oct 26/22



**Characterization Schematic**  
**Todd 36 State 1 - Pasture**

FIGURE:

1



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

Note: Background imagery from Maxar, 2022. Features from GPS. Vertex Professional Services Ltd., 2022.

VERSATILITY. EXPERTISE.

## **ATTACHMENT 2**

Client Name: Devon Energy  
 Site Name: Todd 36 State 1-Pasture  
 NMOCD Tracking #: 2RP-3405, 2RP-3438, 2RP-4105  
 Project #: 21E-02816  
 Lab Reports: 2210930, 2210A34, 2210B05

Table 2. Initial Characterization Sample Field Screen and Laboratory Results - Depth to Groundwater >100 feet bgs

Sample Description		Field Screening			Petroleum Hydrocarbons								Inorganic
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID) (ppm)	Extractable Organic Compounds (PetroFlag) (ppm)	Chloride Concentration (ppm)	Volatile		Extractable					Chloride Concentration (mg/kg)
						Benzene (mg/kg)	BTEX (Total) (mg/kg)	Gasoline Range Organics (GRO) (mg/kg)	Diesel Range Organics (DRO) (mg/kg)	Motor Oil Range Organics (MRO) (mg/kg)	(GRO + DRO) (mg/kg)	Total Petroleum Hydrocarbons (TPH) (mg/kg)	
BH22-01	0	10/14/2022	-	-	33	ND	ND	ND	ND	ND	ND	ND	ND
	2	10/14/2022	-	-	1,519	ND	ND	ND	ND	ND	ND	ND	1400
	4	10/14/2022	-	14	0	ND	ND	ND	ND	ND	ND	ND	ND
BH22-02	0	10/14/2022	-	-	1,210	-	-	-	-	-	-	-	-
	2	10/14/2022	-	-	4,182	-	-	-	-	-	-	-	-
	4	10/14/2022	-	20	1,498	-	-	-	-	-	-	-	-
BH22-03	0	10/14/2022	-	-	232	ND	ND	ND	ND	ND	ND	ND	ND
	2	10/14/2022	-	-	256	ND	ND	ND	ND	ND	ND	ND	ND
	4	10/14/2022	-	15	300	ND	ND	ND	ND	ND	ND	ND	62
BH22-04	0	10/14/2022	-	-	6,564	-	-	-	-	-	-	-	-
	2	10/14/2022	-	-	6,380	-	-	-	-	-	-	-	-
	4	10/14/2022	-	28	6,097	-	-	-	-	-	-	-	-
BH22-05	0	10/14/2022	-	-	207	ND	ND	ND	ND	ND	ND	ND	ND
	2	10/14/2022	-	-	1,271	ND	ND	ND	ND	ND	ND	ND	860
	4	10/14/2022	-	23	324	ND	ND	ND	ND	ND	ND	ND	87
BH22-06	0	10/14/2022	-	-	170	ND	ND	ND	ND	ND	ND	ND	ND
	2	10/14/2022	-	-	196	ND	ND	ND	ND	ND	ND	ND	ND
	4	10/14/2022	-	26	259	ND	ND	ND	ND	ND	ND	ND	ND
BH22-07	0	10/14/2022	-	-	860	ND	ND	ND	ND	ND	ND	ND	610
	2	10/14/2022	-	-	13,217	ND	ND	ND	ND	ND	ND	ND	13000
	4	10/14/2022	-	-	5,992	ND	ND	ND	ND	ND	ND	ND	4700
	6	10/14/2022	-	29	5,227	ND	ND	ND	ND	ND	ND	ND	3700
	8	10/18/2022	-	-	4,517	-	-	-	-	-	-	-	-
BH22-08	0	2022-10-14	-	-	144	-	-	-	-	-	-	-	-
	2	2022-10-14	-	-	272	-	-	-	-	-	-	-	-
	4	2022-10-14	-	19	181	-	-	-	-	-	-	-	-
BH22-09	0	2022-10-14	-	-	307	ND	ND	ND	ND	ND	ND	ND	ND
	2	2022-10-14	-	-	3,059	ND	ND	ND	ND	ND	ND	ND	2600
	4	2022-10-14	-	25	1,840	ND	ND	ND	ND	ND	ND	ND	1600
BH22-10	0	2022-10-14	-	-	1,488	ND	ND	ND	ND	ND	ND	ND	970
	2	10/14/2022	-	-	395	ND	ND	ND	ND	ND	ND	ND	110
	4	10/14/2022	-	-	409	ND	ND	ND	ND	ND	ND	ND	94
	6	10/14/2022	-	26	587	ND	ND	ND	ND	ND	ND	ND	130
BH22-11	0	10/14/2022	-	-	105	-	-	-	-	-	-	-	-
	2	10/14/2022	-	-	1,710	-	-	-	-	-	-	-	-
	4	10/14/2022	-	-	12,572	-	-	-	-	-	-	-	-
	6	10/14/2022	-	27	3,091	-	-	-	-	-	-	-	-
BH22-12	0	10/18/2022	-	-	0	ND	ND	ND	ND	ND	ND	ND	ND
	2	10/18/2022	-	-	129	ND	ND	ND	ND	ND	ND	ND	ND
	4	10/18/2022	-	20	272	ND	ND	ND	ND	ND	ND	ND	160
BH22-13	0	10/18/2022	-	-	47	ND	ND	ND	ND	ND	ND	ND	ND
	2	10/18/2022	-	-	220	ND	ND	ND	ND	ND	ND	ND	140
	4	10/18/2022	-	13	72	ND	ND	ND	ND	ND	ND	ND	ND
BH22-14	0	10/18/2022	-	-	10,588	-	-	-	-	-	-	-	-
	2	10/18/2022	-	-	9,683	-	-	-	-	-	-	-	-
	4	10/18/2022	-	-	10,706	-	-	-	-	-	-	-	-
	7	10/18/2022	-	37	8,882	-	-	-	-	-	-	-	-
BH22-15	0	10/18/2022	-	-	0	ND	ND	ND	ND	ND	ND	ND	ND
	2	10/18/2022	-	-	59	ND	ND	ND	ND	ND	ND	ND	ND
	4	10/18/2022	-	0	21	ND	ND	ND	ND	ND	ND	ND	ND



Client Name: Devon Energy  
 Site Name: Todd 36 State 1-Pasture  
 NMOCD Tracking #: 2RP-3405, 2RP-3438, 2RP-4105  
 Project #: 21E-02816  
 Lab Reports: 2210930, 2210A34, 2210B05

Table 2. Initial Characterization Sample Field Screen and Laboratory Results - Depth to Groundwater >100 feet bgs													
Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Volatile		Extractable					Chloride Concentration
						Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BH22-16	0	10/19/2022	-	-	210	ND	ND	ND	ND	ND	ND	ND	ND
	2	10/19/2022	-	-	225	ND	ND	ND	ND	ND	ND	ND	ND
	4	10/19/2022	-	20	291	ND	ND	ND	ND	ND	ND	ND	ND
BH22-17	0	10/19/2022	-	-	165	-	-	-	-	-	-	-	-
	2	10/19/2022	-	-	3,293	-	-	-	-	-	-	-	-
	4	10/19/2022	-	52	1,822	-	-	-	-	-	-	-	-
BH22-18	0	10/19/2022	-	-	106	ND	ND	ND	ND	ND	ND	ND	ND
	2	10/19/2022	-	-	197	ND	ND	ND	ND	ND	ND	ND	ND
	4	10/19/2022	-	19	183	ND	ND	ND	ND	ND	ND	ND	ND
BH22-19	0	10/19/2022	-	-	47	ND	ND	ND	ND	ND	ND	ND	ND
	2	10/19/2022	-	-	181	ND	ND	ND	ND	ND	ND	ND	74
	4	10/19/2022	-	43	108	ND	ND	ND	ND	ND	ND	ND	ND
BH22-20	0	10/19/2022	-	-	0	-	-	-	-	-	-	-	-
	2	10/19/2022	-	-	458	-	-	-	-	-	-	-	-
	4	10/19/2022	-	-	1,597	-	-	-	-	-	-	-	-
BH22-21	0	10/19/2022	-	-	0	ND	ND	ND	ND	ND	ND	ND	ND
	2	10/19/2022	-	-	0	ND	ND	ND	ND	ND	ND	ND	ND
	4	10/19/2022	-	25	10	ND	ND	ND	ND	ND	ND	ND	ND

"ND" Not Detected at the Reporting Limit

"-" indicates not analyzed/assessed

**Bold and grey shaded indicates exceedance outside of NMOCD Closure Criteria (on-pad)**



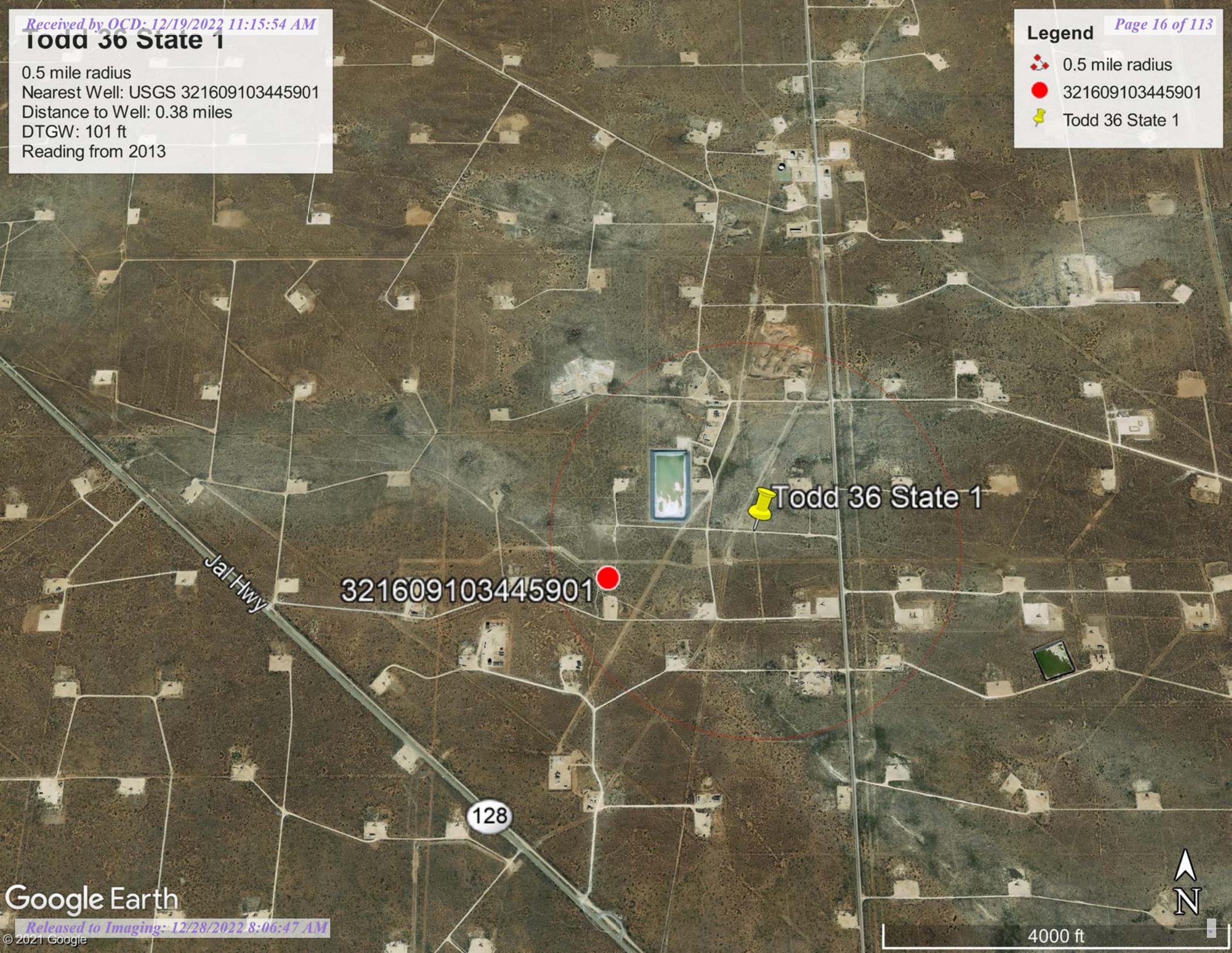
## **ATTACHMENT 3**

<b>Closure Criteria Worksheet</b>			
<b>Site Name: Todd 36 State 1</b>			
<b>Spill Coordinates:</b>		<b>X: 32.271810</b>	<b>Y: -103.744224</b>
<b>Site Specific Conditions</b>		<b>Value</b>	<b>Unit</b>
1	Depth to Groundwater	>100	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	76,076	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	55,891	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	26,701	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, <b>or</b>	26,701	feet
	ii) Within 1000 feet of any fresh water well or spring	26,701	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	15,770	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
9	Within an unstable area (Karst Map)	Low	Critical High Medium Low
10	Within a 100-year Floodplain	>100	year
11	Soil Type	Simona and Wink fine sandy loams and Kermit-Berino fine sands	
12	Ecological Classification	Sandy	
13	Geology	Qep	
<b>NMAC 19.15.29.12 E (Table 1) Closure Criteria</b>		>100'	<50' 51-100' >100'

# Todd 36 State 1

0.5 mile radius  
Nearest Well: USGS 321609103445901  
Distance to Well: 0.38 miles  
DTGW: 101 ft  
Reading from 2013

-  0.5 mile radius
-  321609103445901
-  Todd 36 State 1



 Todd 36 State 1

321609103445901 

Jal Hwy

128



# 2RP-3438 and 2RP-4105



8/31/2022, 10:19:53 AM

GIS WATERS PODs

● Active

● Pending

□ OSE District Boundary

Water Right Regulations

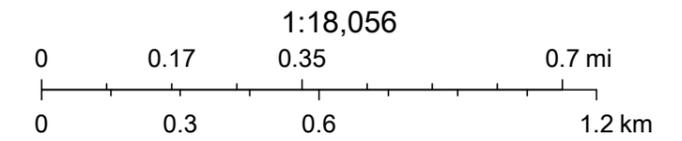
□ Closure Area

New Mexico State Trust Lands

□ Subsurface Estate

■ Both Estates

□ Site Boundaries



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



# New Mexico Office of the State Engineer

## Water Right Summary



[get image list](#)

**WR File Number:** C 02348                      **Subbasin:** C                      **Cross Reference:** -  
**Primary Purpose:** STK 72-12-1 LIVESTOCK WATERING  
**Primary Status:** PMT PERMIT  
**Total Acres:**    **Subfile:** -    **Header:** -  
**Total Diversion:** 3    **Cause/Case:** -  
**Owner:** NGL WATER SOLUTIONS PERMIAN  
**Contact:** R CHARLES WILKIN

**Documents on File**

Trn #	Doc	File/Act	Status		Transaction Desc.	From/	Acres	Diversion	Consumptive
			1	2		To			
<a href="#">633178</a>	<a href="#">COWNF</a>	<a href="#">2018-09-17</a>	CHG	PRC	C 02348	T		0	
<a href="#">491413</a>	<a href="#">72121</a>	<a href="#">2011-12-14</a>	PMT	LOG	C 02348: SUBSEQUENT STK PERMIT	T		3	
<a href="#">422940</a>	<a href="#">COWNF</a>	<a href="#">2009-02-02</a>	CHG	PRC	C 02348	T		0	
<a href="#">154822</a>	<a href="#">COWNF</a>	<a href="#">1998-09-09</a>	CHG	PRC	C 02348	T	0	0	
<a href="#">154817</a>	<a href="#">DCL</a>	<a href="#">1998-09-09</a>	DCL	PRC	C 02348	T	0	3	

**Current Points of Diversion**

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q	64Q16Q4Sec	Tws	Rng	X	Y	Other Location Desc
<a href="#">C 02348</a>		Shallow	1	4	3	26 23S 31E	617648	3571068	

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

8/31/22 9:30 AM

WATER RIGHT SUMMARY



# New Mexico Office of the State Engineer

## Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)							
		(quarters are smallest to largest)					(NAD83 UTM in meters)		
<b>Well Tag</b>	<b>POD Number</b>	<b>Q64</b>	<b>Q16</b>	<b>Q4</b>	<b>Sec</b>	<b>Tws</b>	<b>Rng</b>	<b>X</b>	<b>Y</b>
C	02348	1	4	3	26	23S	31E	617648	3571068

<b>Driller License:</b> 1654	<b>Driller Company:</b> NOT WORKING FOR HIRE--SIRMAN DRILLING AND CONSTRUC	
<b>Driller Name:</b>		
<b>Drill Start Date:</b> 10/31/2013	<b>Drill Finish Date:</b> 11/01/2013	<b>Plug Date:</b>
<b>Log File Date:</b> 11/07/2013	<b>PCW Rev Date:</b>	<b>Source:</b> Shallow
<b>Pump Type:</b>	<b>Pipe Discharge Size:</b>	<b>Estimated Yield:</b> 10 GPM
<b>Casing Size:</b> 6.00	<b>Depth Well:</b> 700 feet	<b>Depth Water:</b> 430 feet

Water Bearing Stratifications:	Top	Bottom	Description
	15	125	Sandstone/Gravel/Conglomerate
	315	700	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	560	620
	680	700

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

8/31/22 9:30 AM

POINT OF DIVERSION SUMMARY



[USGS Home](#)  
[Contact USGS](#)  
[Search USGS](#)

## National Water Information System: Web Interface

USGS Water Resources

Data Category:

Groundwater

Geographic Area:

United States

GO

Click to hide News Bulletins

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

Groundwater levels for the Nation

\* IMPORTANT: [Next Generation Station Page](#)

### Search Results -- 1 sites found

site\_no list =

- 321609103445901

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

### USGS 321609103445901 23S.31E.26.34411

Available data for this site

Groundwater: Field measurements

GO

Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°16'11.9", Longitude 103°45'01.2" NAD83

Land-surface elevation 3,451.00 feet above NGVD29

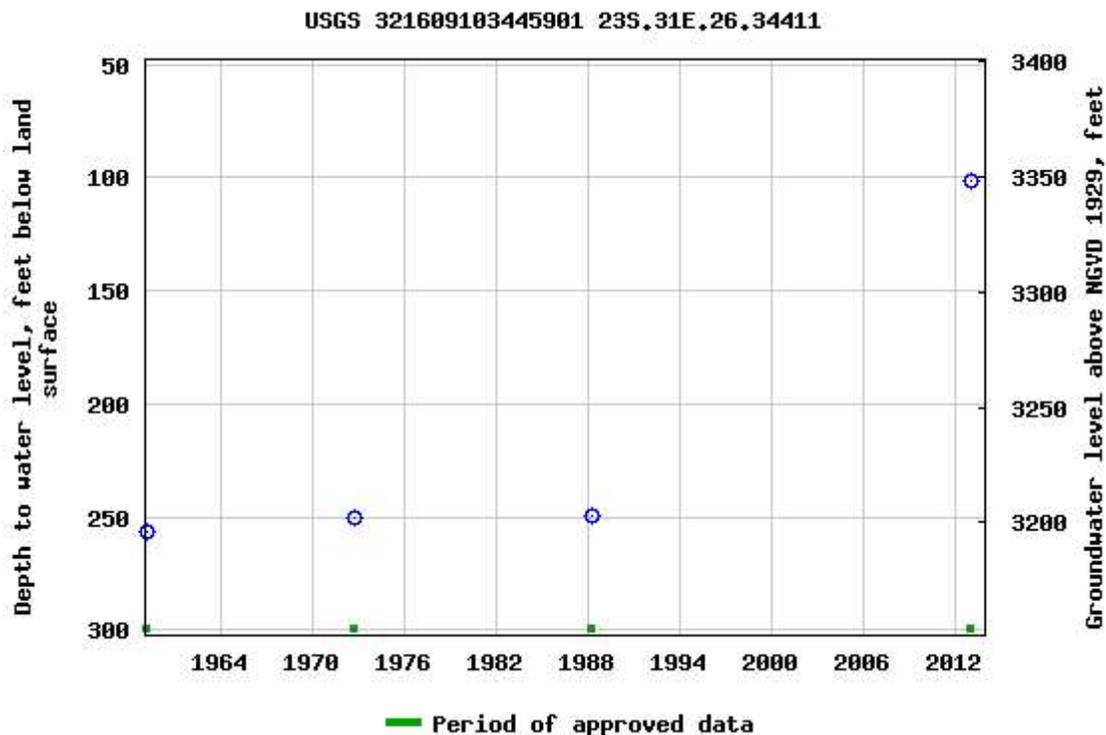
The depth of the well is 365 feet below land surface.

This well is completed in the Other aquifers (N9999OTHER) national aquifer.

This well is completed in the Dewey Lake Redbeds (312DYLK) local aquifer.

#### Output formats

<a href="#">Table of data</a>
<a href="#">Tab-separated data</a>
<a href="#">Graph of data</a>
<a href="#">Reselect period</a>



Breaks in the plot represent a gap of at least one year between field measurements. [Download a presentation-quality graph](#)

- [Questions about sites/data?](#)
- [Feedback on this web site](#)
- [Automated retrievals](#)
- [Help](#)
- [Data Tips](#)
- [Explanation of terms](#)
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[Accessibility](#)   [FOIA](#)   [Privacy](#)   [Policies and Notices](#)

[U.S. Department of the Interior](#) | [U.S. Geological Survey](#)

**Title: Groundwater for USA: Water Levels**

**URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>**



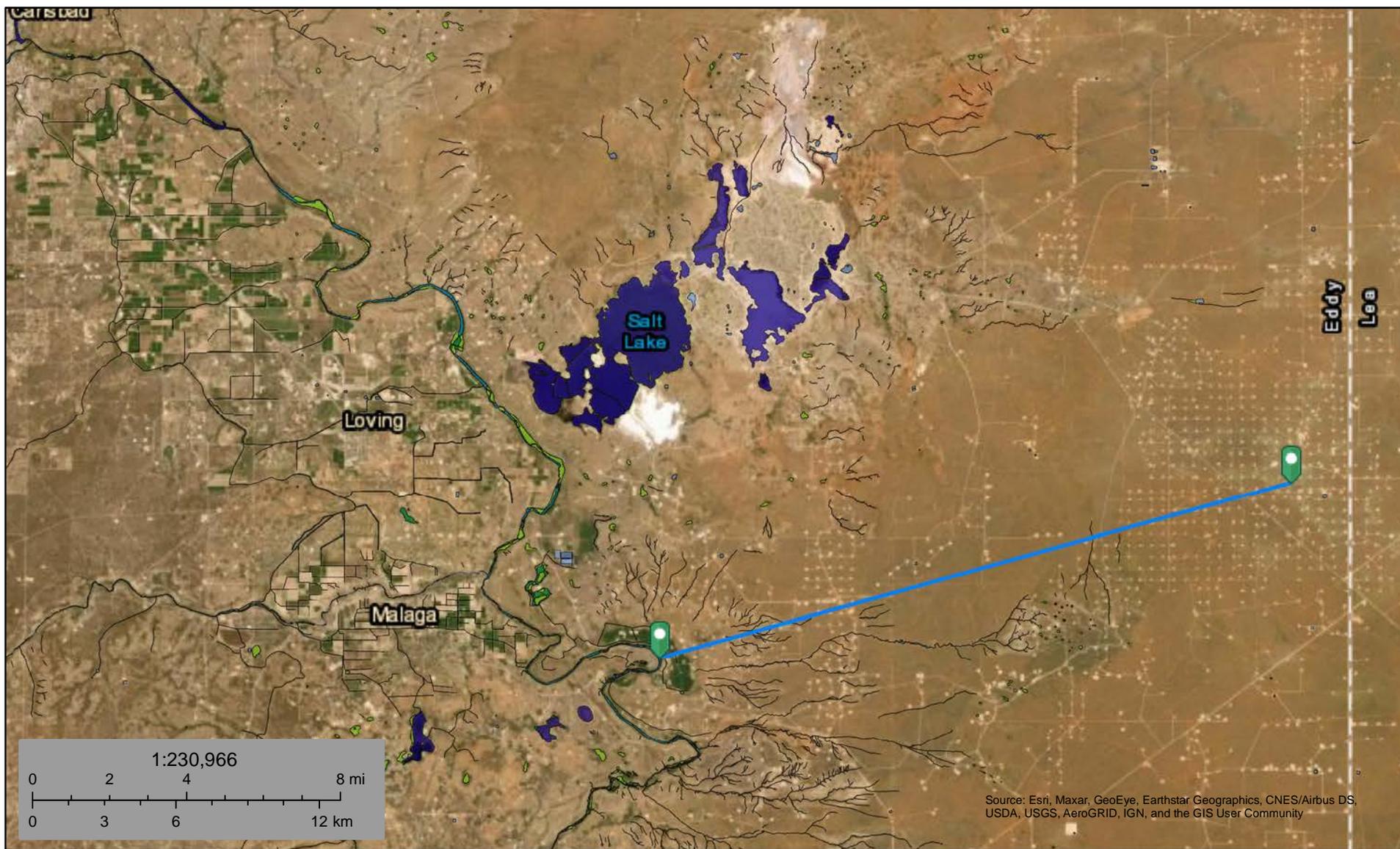
Page Contact Information: [USGS Water Data Support Team](#)

Page Last Modified: 2021-08-13 15:50:17 EDT

0.54 0.46 nadww02



# Todd 36 State 1 Significant Watercourse



August 16, 2021

### Wetlands

- Estuarine and Marine Deepwater
- 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.



# Todd 36 State 1 Distance to lake



August 16, 2021

### Wetlands

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

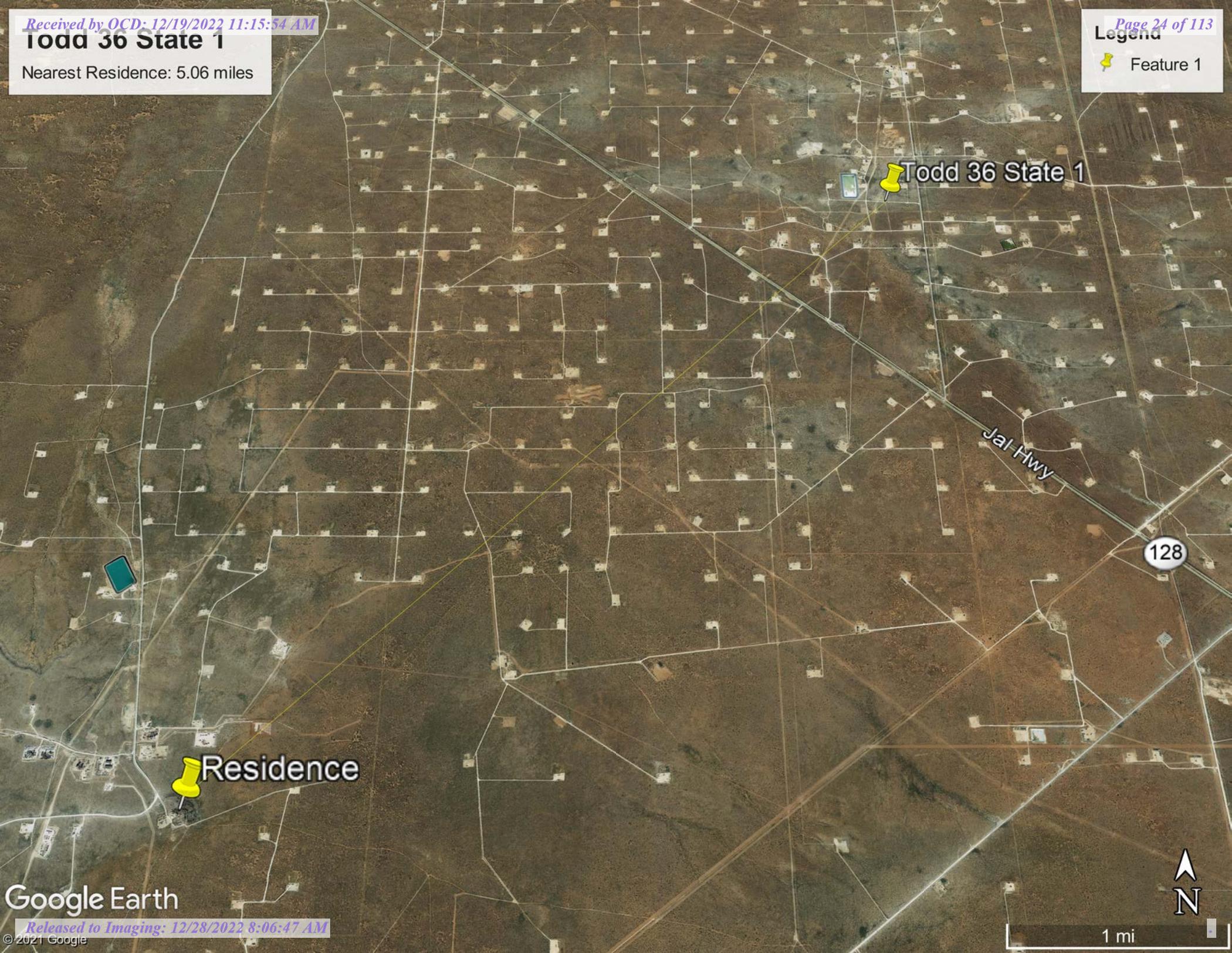
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

# Todd 36 State 1

**Legend**

-  Feature 1

Nearest Residence: 5.06 miles

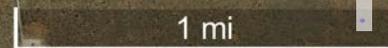


Todd 36 State 1

Residence

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128

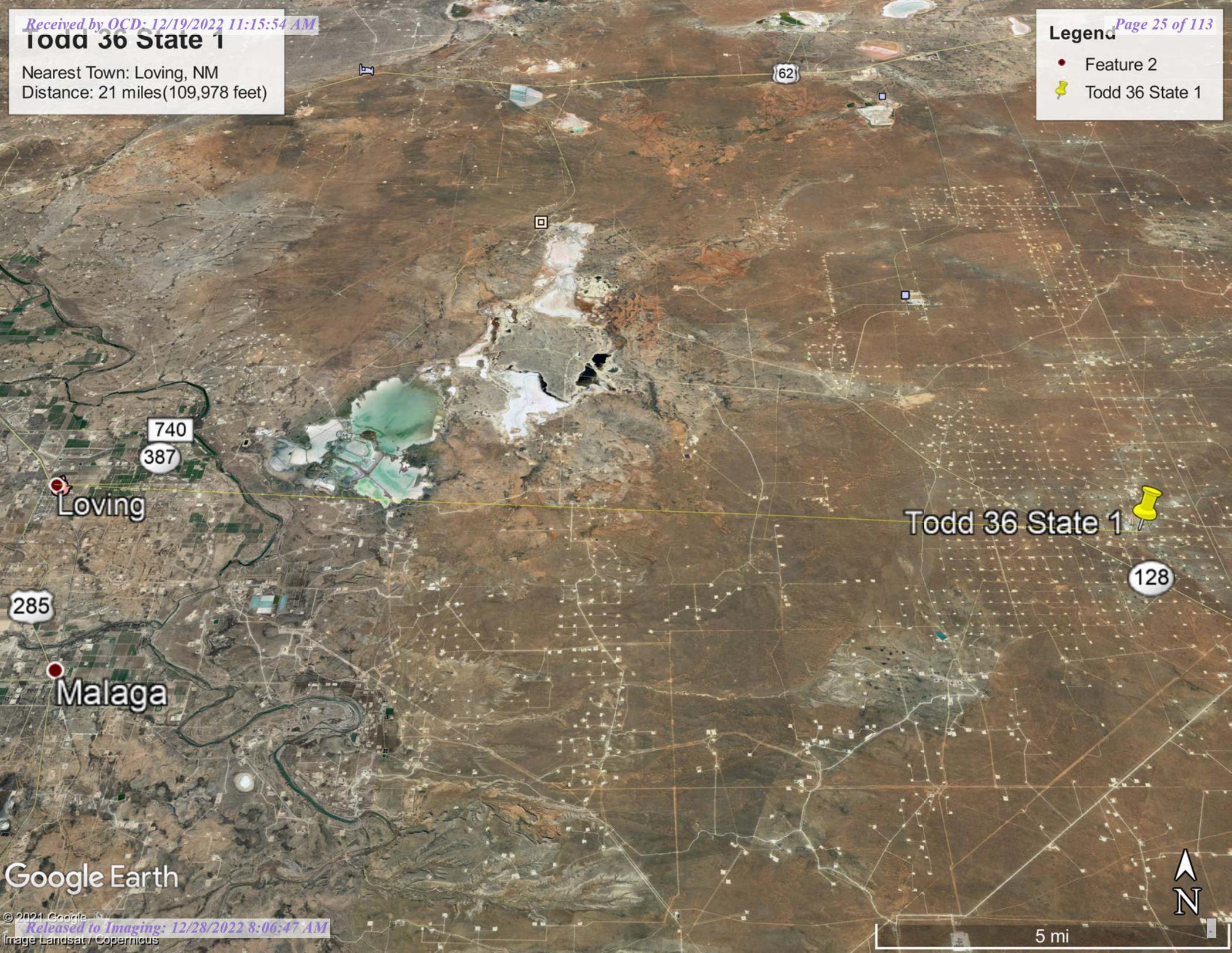


# Todd 36 State 1

Nearest Town: Loving, NM  
Distance: 21 miles (109,978 feet)

## Legend

- Feature 2
- 📌 Todd 36 State 1



Loving

Todd 36 State 1

Malaga

Google Earth

5 mi





# Todd 36 State 1



August 13, 2021

### Wetlands

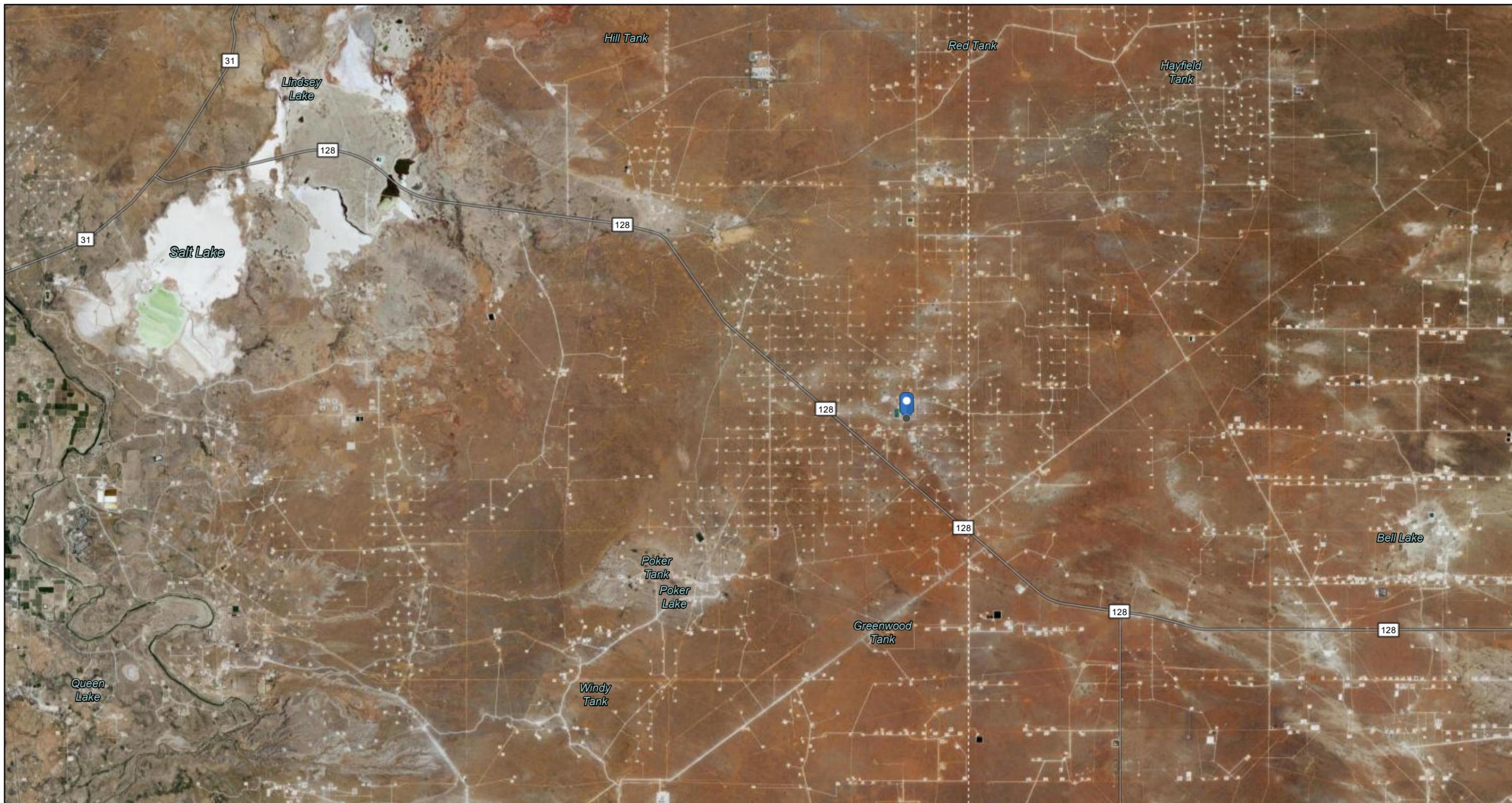
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond

- Lake
- Other
- Riverine

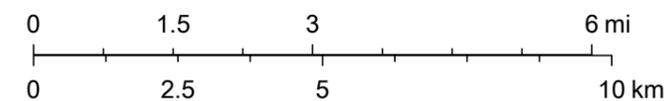
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

# Todd 36 State 1



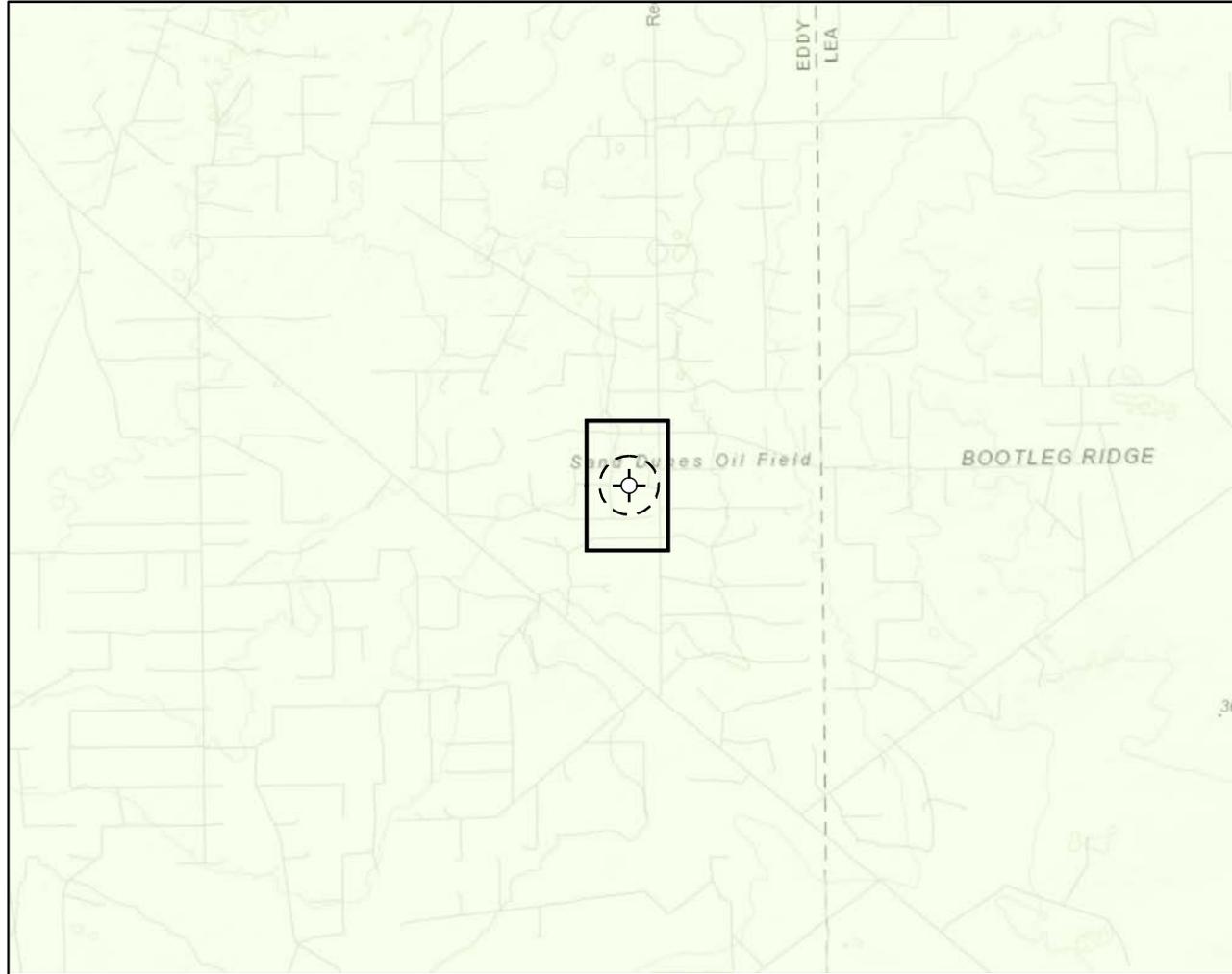
8/16/2021, 9:20:16 AM

1:144,448



Source: Esri, USDA FSA, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, New Mexico State University, Texas Parks & Wildlife, Esri, HERE, Garmin, SafeGraph, METI/

Document Path: G:\1-Projects\US PROJECTS\Devon Energy Corporation\21E-02816\022 - Todd 36 State 1\Figure 4 Karst Potential Map Todd 36 State 1.mxd



**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.



Map Center:  
Lat/Long: 32.271523, -103.744336

NAD 1983 UTM Zone 13N  
Date: Aug 13/21



**Karst Potential Map  
Todd 36 State 1**

FIGURE:

**4**



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 20XX; Overview Map: ESRI World Topographic

**VERSATILITY. EXPERTISE.**

# National Flood Hazard Layer FIRMMette



103°44'58"W 32°16'34"N



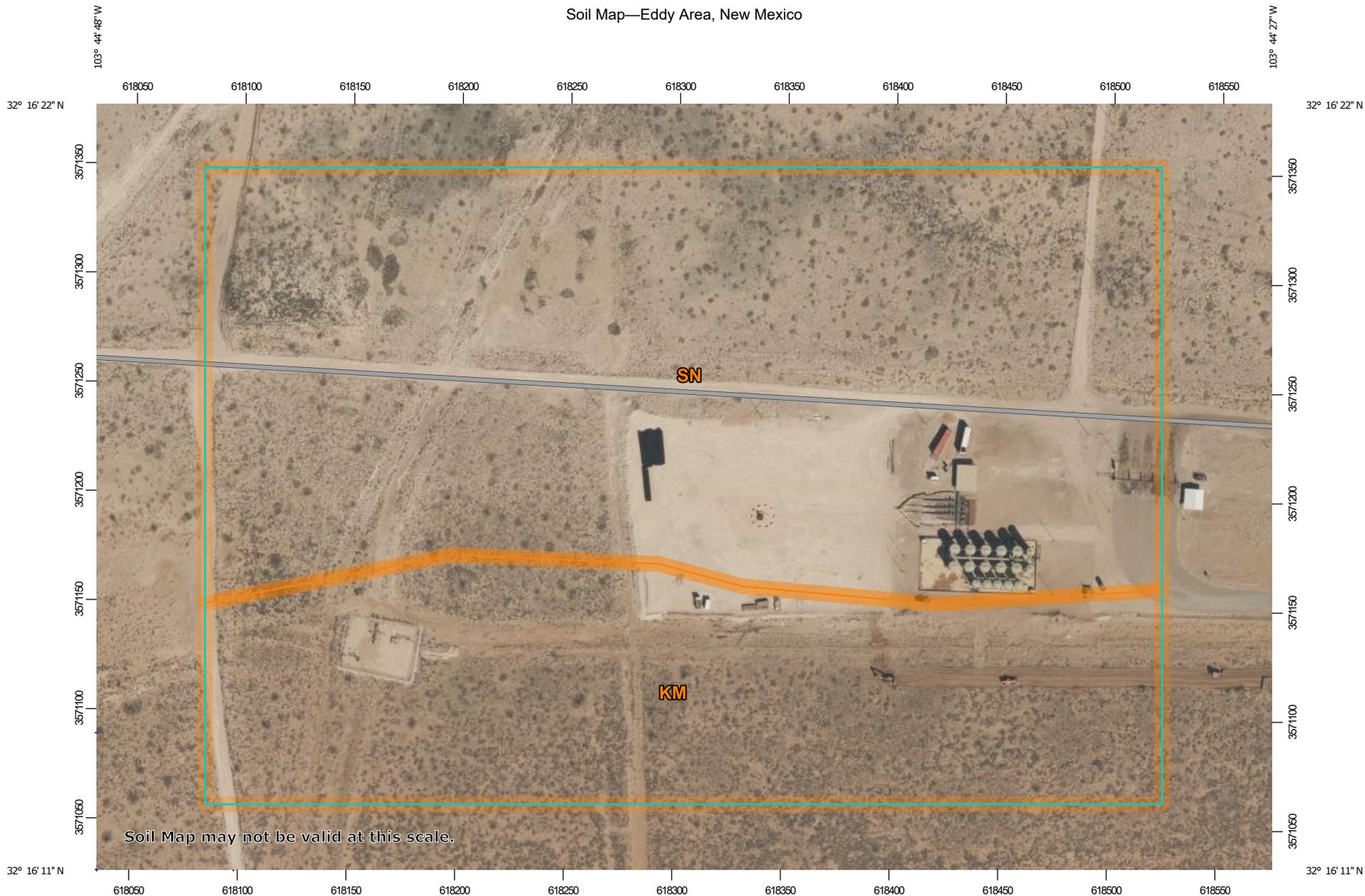
## Legend

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

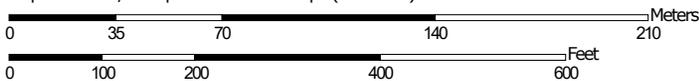
- |                                    |  |  |
|------------------------------------|--|--|
| <b>SPECIAL FLOOD HAZARD AREAS</b>  |  | Without Base Flood Elevation (BFE)<br><i>Zone A, V, A99</i>  |
|                                    |  | With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>   |
|                                    |  | Regulatory Floodway  |
| <b>OTHER AREAS OF FLOOD HAZARD</b> |  | 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 <i>Zone X</i> |
|                                    |  | Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>  |
|                                    |  | Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>  |
|                                    |  | Area with Flood Risk due to Levee <i>Zone D</i>  |
| <b>OTHER AREAS</b>                 |  | NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>   |
|                                    |  | Effective LOMRs  |
| <b>GENERAL STRUCTURES</b>          |  | Area of Undetermined Flood Hazard <i>Zone D</i>  |
|                                    |  | Channel, Culvert, or Storm Sewer   |
|                                    |  | Levee, Dike, or Floodwall  |
| <b>OTHER FEATURES</b>              |  | 20.2 Cross Sections with 1% Annual Chance  |
|                                    |  | 17.5 Water Surface Elevation   |
|                                    |  | Coastal Transect   |
|                                    |  | Base Flood Elevation Line (BFE)  |
|                                    |  | Limit of Study   |
| <b>MAP PANELS</b>                  |  | Jurisdiction Boundary  |
|                                    |  | Coastal Transect Baseline  |
|                                    |  | Profile Baseline   |
|                                    |  | Hydrographic Feature   |
|                                    |  | Digital Data Available   |
|                                    |  | No Digital Data Available  |
|                                    |  | Unmapped   |
- The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.



Soil Map—Eddy Area, New Mexico



Map Scale: 1:2,470 if printed on A landscape (11" x 8.5") sheet.



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



Natural Resources Conservation Service

Web Soil Survey National Cooperative Soil Survey

8/13/2021 Page 1 of 3

Soil Map—Eddy Area, New Mexico

**MAP LEGEND**

**Area of Interest (AOI)**

 Area of Interest (AOI)

**Soils**

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

**Special Point Features**

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

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

**Water Features**

 Streams and Canals

**Transportation**

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

**Background**

 Aerial Photography

**MAP INFORMATION**

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

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

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

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

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

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

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

Soil Survey Area: Eddy Area, New Mexico  
 Survey Area Data: Version 16, Jun 8, 2020

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

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

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

Soil Map—Eddy Area, New Mexico

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
KM	Kermit-Berino fine sands, 0 to 3 percent slopes	11.1	34.9%
SN	Simona and Wink fine sandy loams, 0 to 3 percent slopes, eroded	20.7	65.1%
<b>Totals for Area of Interest</b>		<b>31.9</b>	<b>100.0%</b>

Map Unit Description: Kermit-Berino fine sands, 0 to 3 percent slopes---Eddy Area, New Mexico

## Eddy Area, New Mexico

### KM—Kermit-Berino fine sands, 0 to 3 percent slopes

#### Map Unit Setting

*National map unit symbol:* 1w4q  
*Elevation:* 3,100 to 4,200 feet  
*Mean annual precipitation:* 10 to 14 inches  
*Mean annual air temperature:* 60 to 64 degrees F  
*Frost-free period:* 190 to 230 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Kermit and similar soils:* 50 percent  
*Berino and similar soils:* 35 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Kermit

##### Setting

*Landform:* Alluvial fans, plains  
*Landform position (three-dimensional):* Rise, talf  
*Down-slope shape:* Linear, convex  
*Across-slope shape:* Linear  
*Parent material:* Mixed alluvium and/or eolian sands

##### Typical profile

*H1 - 0 to 7 inches:* fine sand  
*H2 - 7 to 60 inches:* fine sand

##### Properties and qualities

*Slope:* 0 to 3 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Excessively drained  
*Runoff class:* Negligible  
*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:* 1.0  
*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:* R042XC005NM - Deep Sand  
*Hydric soil rating:* No

Map Unit Description: Kermit-Berino fine sands, 0 to 3 percent slopes---Eddy Area, New Mexico

---

## Description of Berino

### Setting

*Landform:* Fan piedmonts, plains  
*Landform position (three-dimensional):* Riser  
*Down-slope shape:* Convex  
*Across-slope shape:* Linear  
*Parent material:* Mixed alluvium and/or eolian sands

### Typical profile

*H1 - 0 to 17 inches:* fine sand  
*H2 - 17 to 50 inches:* fine sandy loam  
*H3 - 50 to 58 inches:* loamy sand

### Properties and qualities

*Slope:* 0 to 3 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:* 40 percent  
*Maximum salinity:* Very slightly saline to slightly saline (2.0 to 4.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 1.0  
*Available water supply, 0 to 60 inches:* Moderate (about 7.2 inches)

### Interpretive groups

*Land capability classification (irrigated):* 4e  
*Land capability classification (nonirrigated):* 7e  
*Hydrologic Soil Group:* B  
*Ecological site:* R042XC003NM - Loamy Sand  
*Hydric soil rating:* No

## Minor Components

### Active dune land

*Percent of map unit:* 15 percent  
*Hydric soil rating:* No

## Data Source Information

Soil Survey Area: Eddy Area, New Mexico  
Survey Area Data: Version 16, Jun 8, 2020

Map Unit Description: Simona and Wink fine sandy loams, 0 to 3 percent slopes, eroded---  
Eddy Area, New Mexico

---

## Eddy Area, New Mexico

### SN—Simona and Wink fine sandy loams, 0 to 3 percent slopes, eroded

#### Map Unit Setting

*National map unit symbol:* 1w5y  
*Elevation:* 3,000 to 4,200 feet  
*Mean annual precipitation:* 10 to 14 inches  
*Mean annual air temperature:* 60 to 64 degrees F  
*Frost-free period:* 200 to 220 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Simona and similar soils:* 45 percent  
*Wink and similar soils:* 40 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Simona

##### Setting

*Landform:* Alluvial fans, plains  
*Landform position (three-dimensional):* Rise  
*Down-slope shape:* Linear, convex  
*Across-slope shape:* Linear  
*Parent material:* Mixed alluvium and/or eolian sands

##### Typical profile

*H1 - 0 to 19 inches:* fine sandy loam  
*H2 - 19 to 23 inches:* indurated

##### Properties and qualities

*Slope:* 0 to 3 percent  
*Depth to restrictive feature:* 7 to 20 inches to petrocalcic  
*Drainage class:* Well drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 15 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 1.0  
*Available water supply, 0 to 60 inches:* Very low (about 2.5 inches)

##### Interpretive groups

*Land capability classification (irrigated):* 4s  
*Land capability classification (nonirrigated):* 7e

Map Unit Description: Simona and Wink fine sandy loams, 0 to 3 percent slopes, eroded---  
Eddy Area, New Mexico

---

*Hydrologic Soil Group:* D  
*Ecological site:* R042XC002NM - Shallow Sandy  
*Hydric soil rating:* No

### Description of Wink

#### Setting

*Landform:* Depressions, swales  
*Landform position (three-dimensional):* Talf  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Mixed alluvium and/or eolian sands

#### Typical profile

*H1 - 0 to 8 inches:* fine sandy loam  
*H2 - 8 to 38 inches:* fine sandy loam  
*H3 - 38 to 60 inches:* stratified gravelly variable

#### Properties and qualities

*Slope:* 0 to 3 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Runoff class:* Very low  
*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:* 30 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0  
mmhos/cm)  
*Sodium adsorption ratio, maximum:* 1.0  
*Available water supply, 0 to 60 inches:* Low (about 6.0 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 7e  
*Hydrologic Soil Group:* A  
*Ecological site:* R042XC004NM - Sandy  
*Hydric soil rating:* No

### Minor Components

#### Dune land

*Percent of map unit:* 15 percent  
*Hydric soil rating:* No

## Data Source Information

Soil Survey Area: Eddy Area, New Mexico  
Survey Area Data: Version 16, Jun 8, 2020

## Ecological Reference Worksheet

**Author(s) / participant(s):** John Tunberg,

**Contact for lead author :** 505-761-4488

**Reference site used? Yes/No**

No

**Date:** 2010-02-03 **MLRA:** 42.3 **Ecological Site:** Sandy This *must* be verified based on soils and climate (see Ecological Site Description). Current plant community *cannot* be used to identify the ecological site.

**Indicators:** For each indicator, describe the potential for the site. Where possible, (1) use numbers, (2) include expected range of values for above and below average years for **each** community within the reference state, when appropriate & (3) site data. Continue description on separate sheet.

<b>1. Number and extent of rills</b>	There should not be any rills on this site. After wildfires, or abnormally high human or herbivore impacts or extended drought or combinations of these disturbances rills may double in number on steeper slopes at the margins of this site after high-intensity summer thunderstorms. Any rills formed should not be long lived or interconnected and should heal rapidly.
<b>2. Presence of water flow patterns:</b>	Large storms can produce short, less than 1 meter flow patterns across the bare patches. There can be a few flow patterns that should be short and discontinuous. There can be some sheet flow. Water flow patterns should only be present following intense storm events on upper slope limits at the margins of this site. Numerous obstructions alter flow paths. Flow pattern length and numbers may double after wildfires, or abnormally high human or herbivore impacts or extended drought or combinations of these disturbances.
<b>3. Number and height of erosional pedestals or terracettes:</b>	There should not be any pedestals and terracettes should be rare. If present plant or rock pedestals and terracettes are almost always in flow patterns. Wind caused pedestals are rare and only would be on the site following after wildfires, or abnormally high human or herbivore impacts or extended drought or combinations of these disturbances. These would show signs of healing within 1 year after event.
<b>4. Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground) :</b>	Bare ground can make up to 1/3% of the ground cover on this site according to the ESD. This value may be too high for a wet year. Bare patch size should be small.
<b>5. Number of gullies and erosion associated with gullies:</b>	Gullies and erosion associated with gullies should be rare are infrequent. Typically, gullies if present will only follow the micro topography. Natural drainages with little to no active cutting are common on this site. There should not be any accelerated erosion. After high-intensity summer thunderstorms or after wildfire, or abnormally high human or herbivore impacts or extended drought or combinations of these disturbances then gully formation would be accelerated for a year or two. Evidence of healing within 1 year of event and continuing after that.
<b>6. Extent of wind scoured, blowouts and/or depositional area</b>	Wind scoured, blowouts and/or depositional areas should be rare and associated with disturbances (e.g. small mammal burrows, resting areas). Wind erosion is minimal when the site is in a well vegetated condition. Significant wind erosion would only be present following high-intensity summer thunderstorms, after wildfire, or abnormally high human or herbivore impacts or extended drought or combinations of these disturbances. After rain events, exposed soil surfaces form physical crusts that tend to reduce wind erosion. Deposition from off site sources can be common on this site and is in fact a primary soil forming process. This site is susceptible to wind erosion when vegetation is removed or significantly decreased.
<b>7. Amount of litter movement (describe size and distance expected to travel) :</b>	The size of the litter (grass litter) should be small and its movement should be less than 1 meter across bare patches.
<b>8. Soil surface (top few mm) resistance to erosion (stability) values are averages - most sites will show a range of values for both plant canopy and interspaces, if different) :</b>	This site can be susceptible to alluvial erosion. Stability values are estimated to be 1-2 in interspaces and 3-5 at bases of vegetation. This would be true at the surface and subsurface.
<b>9. Soil surface structures and SOM content (include type and strength of structure, and A-horizon color and thickness for both plant canopy and interspaces, if different) :</b>	Depending on the series, these sandy loams should have A horizons 2-10 inches thick. They have a fine to very fine granular structure and are light brown (7.5 YR 6/5) to brown (e.g. 7.5 YR 5/4 moist). The SOM content should be less than 1%.
<b>10. Effect of plant community composition (relative proportion of different functional groups) &amp; spatial distribution on infiltration &amp; runoff:</b>	In a grassland with uniformly distributed grass patches on coarse-textured soils, runoff should be low to nil. Most water infiltrates at the plant bases as well as in the interspaces.
<b>11. Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction):</b>	There should not be any compaction layers on this site. There are soil profile features in the top 9 inches of the soil profile that would be mistaken for a management induced soil compaction layer. Management induced compaction layers will be more difficult to penetrate than clay lenses.
<b>12. Functional/Structural Groups (list in order of descending dominance by above-ground weight using symbols: indicate much</b>	

**greater than (>>), greater than (>), and equal to (=) :**

Black grama > Short-lived perennial C4 bunchgrasses [Dropseeds, Threeawns] >> Long-lived perennial C4 bunchgrasses [bush muhly tobosa, alkali sacaton, cane bluestem] = Yucca=Shrubs (not creosotebush and mesquite) <> Forbs <> Plains bristlegrass = Short-statured grasses [Fluffgrass, Blue grama, annuals] >= prickly pear = broom snakeweed

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

Short-lived perennial component can exhibit significant mortality in drought, black grama tends to exhibit mortality only when exposed to drought in addition to other stressors. Shrubs/yucca should exhibit low mortality rates.

**14. Average percent litter cover ( \_\_\_\_\_ % ) and depth ( \_\_\_\_\_ inches).**

35 to 45 % litter cover on this site. Well distributed. Depth of 1/2 inch.

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

(Low Production 600 lbs./ac.) (Average RV Production 900 lbs./ac.) (High Production 1200 lbs./ac.) After wildfires, high herbivore impacts, extended drought, or combinations of these disturbances, can cause production to be significantly reduced (100-200 lbs per ac. the first growing season following a wildfire) and recover slowly under below average precipitation regimes.

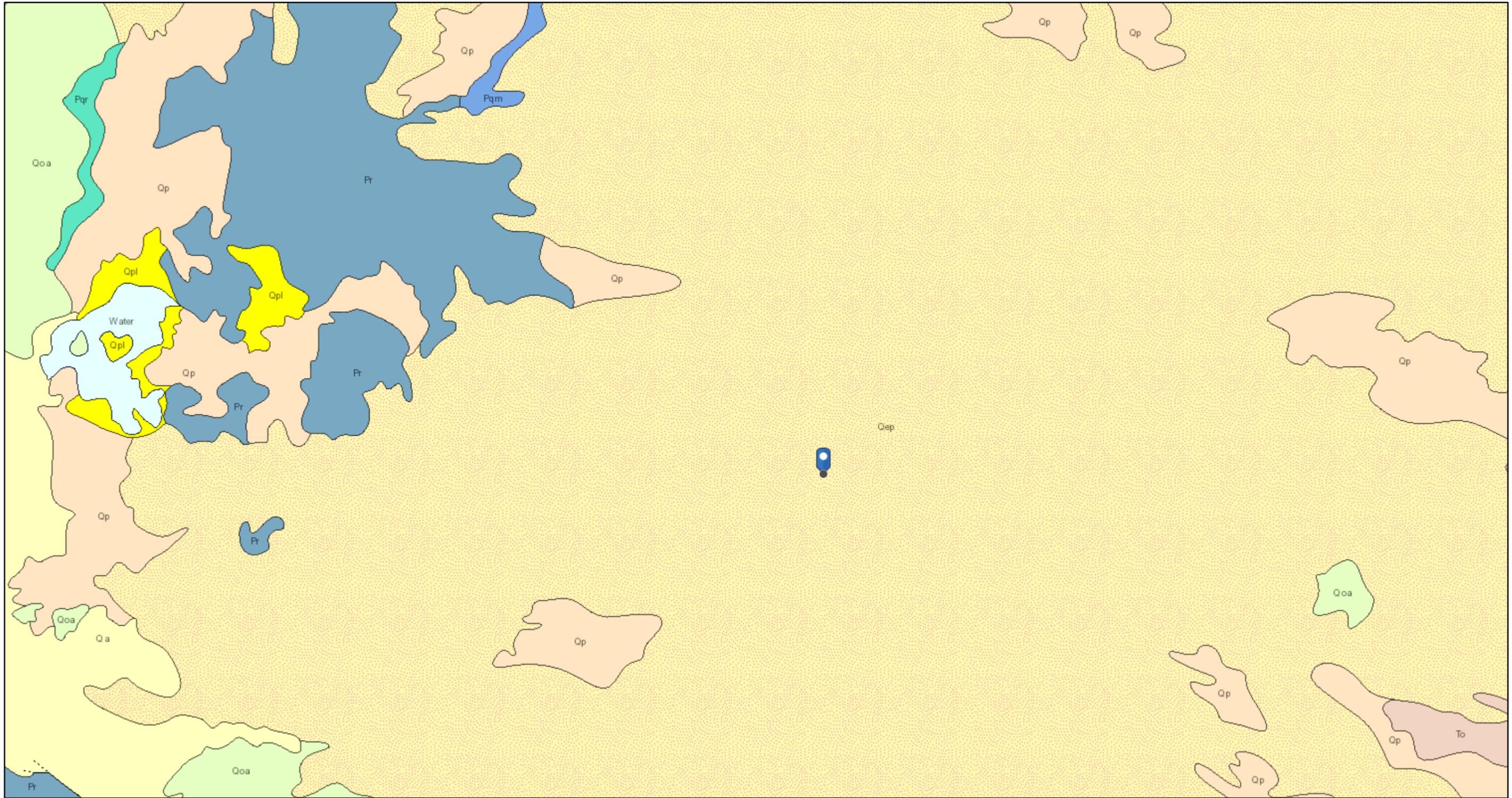
**16. Potential invasive (including noxious) species (native and non-native). List species which characterize degraded states and which, after a threshold is crossed, "can, and often do , continue to increase regardless of the management of the site and may eventually dominate**

Mesquite, whitethorn and creosotebush (where gravel content high) can be invaders of this site. Invasive plants should not occur in reference plant community. However, lovegrass, Russian thistle, kochia, and other nonnative annuals may initially invade following extended disturbance. Mesquite and whitethorn and creosote and lovegrass are the greatest threat to dominate this site in the long term after disturbance (primarily following wildfire exclusion but also includes high human or herbivore impacts and extended drought). Mesquite and whitethorn and creosote and lovegrass are most likely to retain dominance if allowed to alter natural fire regime (this alteration may require poor land management combined with years of wet winter-spring; dry summer-fall conditions). Any of these invaded communities represent a departure from the reference state.

**17. Perennial plant reproductive capability :**

Black grama reproduces by seed sporadically and reproduction by tiller and stolon can be common. The dropseeds should have high reproductive potential and rapidly recover from drought in the absence of additional stresses

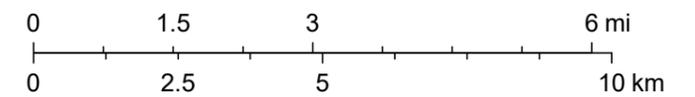
# Todd 36 State 1



8/13/2021, 2:45:17 PM

1:144,448

- |                      |                     |                    |                      |
|----------------------|---------------------|--------------------|----------------------|
| Lithologic Contacts  | Map Boundary        | Fault, Concealed   | Dike                 |
| Contact, Exposed     | Faults              | Shere Zone         | Dike intruding fault |
| Contact, Gradational | Fault, Exposed      | Dikes              | Volcanic Vents       |
| Nomenclature change  | Fault, Intermittent | <all other values> |                      |



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, NMBGMR

**ATTACHMENT 4**



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

October 28, 2022

Kent Stallings

Vertex Resources Services, Inc.

3101 Boyd Drive

Carlsbad, NM 88220

TEL: (505) 506-0040

FAX:

RE: Todd 36 State 1 Pasture

OrderNo.: 2210A34

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 10 sample(s) on 10/20/2022 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](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

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

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

**Analytical Report**

Lab Order **2210A34**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-07 10'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/18/2022 9:00:00 AM

**Lab ID:** 2210A34-001

**Matrix:** SOIL

**Received Date:** 10/20/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/26/2022 4:58:29 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	10/26/2022 4:58:29 AM
Surr: DNOP	93.1	21-129		%Rec	1	10/26/2022 4:58:29 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/24/2022 4:37:17 PM
Surr: BFB	91.1	37.7-212		%Rec	1	10/24/2022 4:37:17 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	10/24/2022 4:37:17 PM
Toluene	ND	0.049		mg/Kg	1	10/24/2022 4:37:17 PM
Ethylbenzene	ND	0.049		mg/Kg	1	10/24/2022 4:37:17 PM
Xylenes, Total	ND	0.097		mg/Kg	1	10/24/2022 4:37:17 PM
Surr: 4-Bromofluorobenzene	94.2	70-130		%Rec	1	10/24/2022 4:37:17 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	190	60		mg/Kg	20	10/24/2022 9:09:18 PM

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

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

**Analytical Report**

Lab Order **2210A34**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-12 0'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/18/2022 9:05:00 AM

**Lab ID:** 2210A34-002

**Matrix:** SOIL

**Received Date:** 10/20/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/26/2022 5:38:18 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/26/2022 5:38:18 AM
Surr: DNOP	102	21-129		%Rec	1	10/26/2022 5:38:18 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/24/2022 5:48:01 PM
Surr: BFB	101	37.7-212		%Rec	1	10/24/2022 5:48:01 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	10/24/2022 5:48:01 PM
Toluene	ND	0.049		mg/Kg	1	10/24/2022 5:48:01 PM
Ethylbenzene	ND	0.049		mg/Kg	1	10/24/2022 5:48:01 PM
Xylenes, Total	ND	0.098		mg/Kg	1	10/24/2022 5:48:01 PM
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	10/24/2022 5:48:01 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	61		mg/Kg	20	10/24/2022 9:21:38 PM

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

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

**Analytical Report**

Lab Order **2210A34**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-12 2'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/18/2022 9:10:00 AM

**Lab ID:** 2210A34-003

**Matrix:** SOIL

**Received Date:** 10/20/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/26/2022 5:51:40 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/26/2022 5:51:40 AM
Surr: DNOP	83.0	21-129		%Rec	1	10/26/2022 5:51:40 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/24/2022 6:59:10 PM
Surr: BFB	101	37.7-212		%Rec	1	10/24/2022 6:59:10 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.023		mg/Kg	1	10/24/2022 6:59:10 PM
Toluene	ND	0.047		mg/Kg	1	10/24/2022 6:59:10 PM
Ethylbenzene	ND	0.047		mg/Kg	1	10/24/2022 6:59:10 PM
Xylenes, Total	ND	0.094		mg/Kg	1	10/24/2022 6:59:10 PM
Surr: 4-Bromofluorobenzene	107	70-130		%Rec	1	10/24/2022 6:59:10 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	10/24/2022 9:33:59 PM

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

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

**Analytical Report**

Lab Order **2210A34**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-12 4'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/18/2022 9:15:00 AM

**Lab ID:** 2210A34-004

**Matrix:** SOIL

**Received Date:** 10/20/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/26/2022 6:17:57 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/26/2022 6:17:57 AM
Surr: DNOP	90.0	21-129		%Rec	1	10/26/2022 6:17:57 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/24/2022 7:22:50 PM
Surr: BFB	96.8	37.7-212		%Rec	1	10/24/2022 7:22:50 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	10/24/2022 7:22:50 PM
Toluene	ND	0.048		mg/Kg	1	10/24/2022 7:22:50 PM
Ethylbenzene	ND	0.048		mg/Kg	1	10/24/2022 7:22:50 PM
Xylenes, Total	ND	0.097		mg/Kg	1	10/24/2022 7:22:50 PM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	10/24/2022 7:22:50 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	160	60		mg/Kg	20	10/24/2022 3:28:44 PM

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

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

**Analytical Report**

Lab Order **2210A34**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-13 0'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/18/2022 9:20:00 AM

**Lab ID:** 2210A34-005

**Matrix:** SOIL

**Received Date:** 10/20/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	10/26/2022 6:31:18 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/26/2022 6:31:18 AM
Surr: DNOP	93.4	21-129		%Rec	1	10/26/2022 6:31:18 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/24/2022 7:46:30 PM
Surr: BFB	93.1	37.7-212		%Rec	1	10/24/2022 7:46:30 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	10/24/2022 7:46:30 PM
Toluene	ND	0.050		mg/Kg	1	10/24/2022 7:46:30 PM
Ethylbenzene	ND	0.050		mg/Kg	1	10/24/2022 7:46:30 PM
Xylenes, Total	ND	0.099		mg/Kg	1	10/24/2022 7:46:30 PM
Surr: 4-Bromofluorobenzene	99.4	70-130		%Rec	1	10/24/2022 7:46:30 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	ND	61		mg/Kg	20	10/24/2022 4:05:57 PM

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

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

Analytical Report

Lab Order 2210A34

Date Reported: 10/28/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-13 2'

Project: Todd 36 State 1 Pasture

Collection Date: 10/18/2022 9:25:00 AM

Lab ID: 2210A34-006

Matrix: SOIL

Received Date: 10/20/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	10/26/2022 6:44:49 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/26/2022 6:44:49 AM
Surr: DNOP	74.5	21-129		%Rec	1	10/26/2022 6:44:49 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/24/2022 8:10:10 PM
Surr: BFB	99.5	37.7-212		%Rec	1	10/24/2022 8:10:10 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	10/24/2022 8:10:10 PM
Toluene	ND	0.049		mg/Kg	1	10/24/2022 8:10:10 PM
Ethylbenzene	ND	0.049		mg/Kg	1	10/24/2022 8:10:10 PM
Xylenes, Total	ND	0.098		mg/Kg	1	10/24/2022 8:10:10 PM
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	10/24/2022 8:10:10 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	140	60		mg/Kg	20	10/24/2022 4:18:21 PM

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

Qualifiers:

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

**Analytical Report**

Lab Order **2210A34**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-13 4'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/18/2022 9:30:00 AM

**Lab ID:** 2210A34-007

**Matrix:** SOIL

**Received Date:** 10/20/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/26/2022 6:58:25 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/26/2022 6:58:25 AM
Surr: DNOP	79.0	21-129		%Rec	1	10/26/2022 6:58:25 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/24/2022 8:33:51 PM
Surr: BFB	98.9	37.7-212		%Rec	1	10/24/2022 8:33:51 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	10/24/2022 8:33:51 PM
Toluene	ND	0.049		mg/Kg	1	10/24/2022 8:33:51 PM
Ethylbenzene	ND	0.049		mg/Kg	1	10/24/2022 8:33:51 PM
Xylenes, Total	ND	0.097		mg/Kg	1	10/24/2022 8:33:51 PM
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	10/24/2022 8:33:51 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	10/24/2022 4:30:46 PM

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

**Qualifiers:**

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

**Analytical Report**

Lab Order **2210A34**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-15 0'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/18/2022 1:00:00 PM

**Lab ID:** 2210A34-008

**Matrix:** SOIL

**Received Date:** 10/20/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/26/2022 7:11:53 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/26/2022 7:11:53 AM
Surr: DNOP	82.8	21-129		%Rec	1	10/26/2022 7:11:53 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/24/2022 8:57:33 PM
Surr: BFB	96.3	37.7-212		%Rec	1	10/24/2022 8:57:33 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	10/24/2022 8:57:33 PM
Toluene	ND	0.050		mg/Kg	1	10/24/2022 8:57:33 PM
Ethylbenzene	ND	0.050		mg/Kg	1	10/24/2022 8:57:33 PM
Xylenes, Total	ND	0.10		mg/Kg	1	10/24/2022 8:57:33 PM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	10/24/2022 8:57:33 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	10/24/2022 4:43:10 PM

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

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

Analytical Report

Lab Order 2210A34

Date Reported: 10/28/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-15 2'

Project: Todd 36 State 1 Pasture

Collection Date: 10/18/2022 1:05:00 PM

Lab ID: 2210A34-009

Matrix: SOIL

Received Date: 10/20/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/26/2022 7:24:59 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	10/26/2022 7:24:59 AM
Surr: DNOP	84.3	21-129		%Rec	1	10/26/2022 7:24:59 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/24/2022 9:21:10 PM
Surr: BFB	89.1	37.7-212		%Rec	1	10/24/2022 9:21:10 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	10/24/2022 9:21:10 PM
Toluene	ND	0.049		mg/Kg	1	10/24/2022 9:21:10 PM
Ethylbenzene	ND	0.049		mg/Kg	1	10/24/2022 9:21:10 PM
Xylenes, Total	ND	0.098		mg/Kg	1	10/24/2022 9:21:10 PM
Surr: 4-Bromofluorobenzene	94.1	70-130		%Rec	1	10/24/2022 9:21:10 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	10/24/2022 4:55:35 PM

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

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

Analytical Report

Lab Order 2210A34

Date Reported: 10/28/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-15 4'

Project: Todd 36 State 1 Pasture

Collection Date: 10/18/2022 1:10:00 PM

Lab ID: 2210A34-010

Matrix: SOIL

Received Date: 10/20/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	10/26/2022 7:38:18 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/26/2022 7:38:18 AM
Surr: DNOP	85.7	21-129		%Rec	1	10/26/2022 7:38:18 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/24/2022 9:44:48 PM
Surr: BFB	97.7	37.7-212		%Rec	1	10/24/2022 9:44:48 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	10/24/2022 9:44:48 PM
Toluene	ND	0.050		mg/Kg	1	10/24/2022 9:44:48 PM
Ethylbenzene	ND	0.050		mg/Kg	1	10/24/2022 9:44:48 PM
Xylenes, Total	ND	0.099		mg/Kg	1	10/24/2022 9:44:48 PM
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	10/24/2022 9:44:48 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	10/24/2022 5:07:59 PM

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

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2210A34

28-Oct-22

**Client:** Vertex Resources Services, Inc.

**Project:** Todd 36 State 1 Pasture

Sample ID: <b>MB-71027</b>	SampType: <b>mblk</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>71027</b>	RunNo: <b>92018</b>								
Prep Date: <b>10/24/2022</b>	Analysis Date: <b>10/24/2022</b>	SeqNo: <b>3302974</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-71027</b>	SampType: <b>ics</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>71027</b>	RunNo: <b>92018</b>								
Prep Date: <b>10/24/2022</b>	Analysis Date: <b>10/24/2022</b>	SeqNo: <b>3302975</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	98.2	90	110			

Sample ID: <b>MB-71026</b>	SampType: <b>mblk</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>71026</b>	RunNo: <b>92046</b>								
Prep Date: <b>10/24/2022</b>	Analysis Date: <b>10/24/2022</b>	SeqNo: <b>3303074</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-71026</b>	SampType: <b>ics</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>71026</b>	RunNo: <b>92046</b>								
Prep Date: <b>10/24/2022</b>	Analysis Date: <b>10/24/2022</b>	SeqNo: <b>3303075</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.0	90	110			

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2210A34

28-Oct-22

**Client:** Vertex Resources Services, Inc.

**Project:** Todd 36 State 1 Pasture

Sample ID: <b>MB-71020</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>71020</b>	RunNo: <b>92056</b>								
Prep Date: <b>10/24/2022</b>	Analysis Date: <b>10/26/2022</b>	SeqNo: <b>3307150</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.8		10.00		88.3	21	129			

Sample ID: <b>LCS-71020</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>71020</b>	RunNo: <b>92056</b>								
Prep Date: <b>10/24/2022</b>	Analysis Date: <b>10/26/2022</b>	SeqNo: <b>3307151</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	15	50.00	0	103	64.4	127			
Surr: DNOP	4.3		5.000		85.8	21	129			

Sample ID: <b>2210A34-001AMS</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>BH22-07 10'</b>	Batch ID: <b>71020</b>	RunNo: <b>92056</b>								
Prep Date: <b>10/24/2022</b>	Analysis Date: <b>10/26/2022</b>	SeqNo: <b>3307153</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	15	49.07	0	88.7	36.1	154			
Surr: DNOP	4.4		4.907		89.7	21	129			

Sample ID: <b>2210A34-001AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>BH22-07 10'</b>	Batch ID: <b>71020</b>	RunNo: <b>92056</b>								
Prep Date: <b>10/24/2022</b>	Analysis Date: <b>10/26/2022</b>	SeqNo: <b>3307154</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	15	49.16	0	95.3	36.1	154	7.34	33.9	
Surr: DNOP	4.3		4.916		88.2	21	129	0	0	

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2210A34

28-Oct-22

**Client:** Vertex Resources Services, Inc.

**Project:** Todd 36 State 1 Pasture

Sample ID: <b>mb</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>PBS</b>	Batch ID: <b>G92027</b>	RunNo: <b>92027</b>								
Prep Date:	Analysis Date: <b>10/24/2022</b>	SeqNo: <b>3302526</b>	Units: <b>%Rec</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	950		1000		95.1	37.7	212			

Sample ID: <b>2.5ug gro lcs</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>G92027</b>	RunNo: <b>92027</b>								
Prep Date:	Analysis Date: <b>10/24/2022</b>	SeqNo: <b>3302527</b>	Units: <b>%Rec</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1900		1000		190	37.7	212			

Sample ID: <b>mb-71003</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>PBS</b>	Batch ID: <b>71003</b>	RunNo: <b>92027</b>								
Prep Date: <b>10/23/2022</b>	Analysis Date: <b>10/24/2022</b>	SeqNo: <b>3302540</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		100	37.7	212			

Sample ID: <b>lcs-71003</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>71003</b>	RunNo: <b>92027</b>								
Prep Date: <b>10/23/2022</b>	Analysis Date: <b>10/24/2022</b>	SeqNo: <b>3302541</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	112	72.3	137			
Surr: BFB	2000		1000		204	37.7	212			

Sample ID: <b>2210a34-001ams</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>BH22-07 10'</b>	Batch ID: <b>71003</b>	RunNo: <b>92027</b>								
Prep Date: <b>10/23/2022</b>	Analysis Date: <b>10/24/2022</b>	SeqNo: <b>3302543</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	31	4.9	24.70	0	124	70	130			
Surr: BFB	2200		988.1		221	37.7	212			S

Sample ID: <b>2210a34-001amsd</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>BH22-07 10'</b>	Batch ID: <b>71003</b>	RunNo: <b>92027</b>								
Prep Date: <b>10/23/2022</b>	Analysis Date: <b>10/24/2022</b>	SeqNo: <b>3302544</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	31	4.9	24.65	0	127	70	130	1.84	20	
Surr: BFB	2100		986.2		216	37.7	212	0	0	S

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2210A34

28-Oct-22

**Client:** Vertex Resources Services, Inc.

**Project:** Todd 36 State 1 Pasture

Sample ID: <b>mb-71003</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>71003</b>	RunNo: <b>92027</b>								
Prep Date: <b>10/23/2022</b>	Analysis Date: <b>10/24/2022</b>	SeqNo: <b>3302586</b>	Units: <b>mg/Kg</b>							
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		105	70	130			

Sample ID: <b>LCS-71003</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>71003</b>	RunNo: <b>92027</b>								
Prep Date: <b>10/23/2022</b>	Analysis Date: <b>10/24/2022</b>	SeqNo: <b>3302587</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	102	80	120			
Toluene	1.1	0.050	1.000	0	105	80	120			
Ethylbenzene	1.1	0.050	1.000	0	105	80	120			
Xylenes, Total	3.2	0.10	3.000	0	105	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		105	70	130			

Sample ID: <b>2210a34-002ams</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>BH22-12 0'</b>	Batch ID: <b>71003</b>	RunNo: <b>92027</b>								
Prep Date: <b>10/23/2022</b>	Analysis Date: <b>10/24/2022</b>	SeqNo: <b>3302590</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	0.9843	0	109	68.8	120			
Toluene	1.1	0.049	0.9843	0	112	73.6	124			
Ethylbenzene	1.1	0.049	0.9843	0	112	72.7	129			
Xylenes, Total	3.3	0.098	2.953	0	112	75.7	126			
Surr: 4-Bromofluorobenzene	1.0		0.9843		106	70	130			

Sample ID: <b>2210a34-002amsd</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>BH22-12 0'</b>	Batch ID: <b>71003</b>	RunNo: <b>92027</b>								
Prep Date: <b>10/23/2022</b>	Analysis Date: <b>10/24/2022</b>	SeqNo: <b>3302591</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	0.9814	0	105	68.8	120	4.44	20	
Toluene	1.1	0.049	0.9814	0	108	73.6	124	3.92	20	
Ethylbenzene	1.1	0.049	0.9814	0	109	72.7	129	3.06	20	
Xylenes, Total	3.2	0.098	2.944	0	109	75.7	126	3.04	20	
Surr: 4-Bromofluorobenzene	1.0		0.9814		103	70	130	0	0	

**Qualifiers:**

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



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: 2210A34 RcptNo: 1

Received By: Juan Rojas 10/18/2022 9:00:00 AM *Juan Rojas*

Completed By: Tracy Casarrubias 10/20/2022 8:27:54 AM

Reviewed By: *SR 10/20/22*

### Chain of Custody

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

### Log In

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

# of preserved bottles checked for pH: \_\_\_\_\_  
(<2 or >12 unless noted)  
Adjusted? \_\_\_\_\_  
Checked by: *KPC 10.20.22*

### 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	2.4	Good	Yes			

### Chain-of-Custody Record

Client: Vertex (Devon)

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: Todd 36 State 1 "Pasture"

Project #: 21E-02816

Project Manager: K. Stallings

Sampler: S. Reta

On Ice:  Yes  No

# of Coolers: 1

Cooler Temp (including CP): 7.3 to 10.2 y (°C)

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
10/18	9:00	Soil	BH22-07	4oz Jar	Ice	2210A34
	9:05		BH22-12			001
	9:10		BH22-12			002
	9:15		BH22-12			003
	9:20		BH22-13			004
	9:25		BH22-13			005
	9:30		BH22-13			006
	13:00		BH22-15			007
	13:05		BH22-15			008
	13:10		BH22-15			009
						010

Analysis Request	Result
BTEX / MTBE / TMB's (8021)	
TPH:8015D(GRO / DRO / MRO)	
8081 Pesticides/8082 PCBs	
EDB (Method 504.1)	
PAHs by 8310 or 8270SIMS	
RCRA 8 Metals	
Cl, F, Br, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub>	
8260 (VOA)	
8270 (Semi-VOA)	
Total Coliform (Present/Absent)	

Received by: [Signature] Date: 10/19/22 Time: 1700

Relinquished by: S. Reta

Received by: [Signature] Date: 10/20/22 Time: 7:50

Relinquished by: [Signature]

Remarks: Direct Bill to Devon

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



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

October 28, 2022

Kent Stallings

Vertex Resources Services, Inc.

3101 Boyd Drive

Carlsbad, NM 88220

TEL: (505) 506-0040

FAX:

RE: Todd 36 State 1 Pasture

OrderNo.: 2210B05

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 12 sample(s) on 10/21/2022 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](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

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

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

**Analytical Report**

Lab Order **2210B05**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-16 0'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/19/2022 9:30:00 AM

**Lab ID:** 2210B05-001

**Matrix:** SOIL

**Received Date:** 10/21/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	10/26/2022 3:25:18 AM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	10/26/2022 3:25:18 AM
Surr: DNOP	90.6	21-129		%Rec	1	10/26/2022 3:25:18 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/25/2022 2:56:00 AM
Surr: BFB	98.9	37.7-212		%Rec	1	10/25/2022 2:56:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	10/25/2022 2:56:00 AM
Toluene	ND	0.048		mg/Kg	1	10/25/2022 2:56:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	10/25/2022 2:56:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	10/25/2022 2:56:00 AM
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	10/25/2022 2:56:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	59		mg/Kg	20	10/26/2022 10:49:46 AM

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

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

**Analytical Report**

Lab Order **2210B05**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-16 2'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/19/2022 9:35:00 AM

**Lab ID:** 2210B05-002

**Matrix:** SOIL

**Received Date:** 10/21/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/26/2022 3:38:57 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/26/2022 3:38:57 AM
Surr: DNOP	85.6	21-129		%Rec	1	10/26/2022 3:38:57 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/25/2022 3:16:00 AM
Surr: BFB	97.1	37.7-212		%Rec	1	10/25/2022 3:16:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	10/25/2022 3:16:00 AM
Toluene	ND	0.050		mg/Kg	1	10/25/2022 3:16:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	10/25/2022 3:16:00 AM
Xylenes, Total	ND	0.10		mg/Kg	1	10/25/2022 3:16:00 AM
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	10/25/2022 3:16:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	10/26/2022 5:05:37 PM

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

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

**Analytical Report**

Lab Order **2210B05**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-16 4'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/19/2022 9:40:00 AM

**Lab ID:** 2210B05-003

**Matrix:** SOIL

**Received Date:** 10/21/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/26/2022 3:52:05 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	10/26/2022 3:52:05 AM
Surr: DNOP	79.8	21-129		%Rec	1	10/26/2022 3:52:05 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/25/2022 3:36:00 AM
Surr: BFB	97.8	37.7-212		%Rec	1	10/25/2022 3:36:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	10/25/2022 3:36:00 AM
Toluene	ND	0.049		mg/Kg	1	10/25/2022 3:36:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	10/25/2022 3:36:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	10/25/2022 3:36:00 AM
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	10/25/2022 3:36:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	10/26/2022 12:45:01 PM

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

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

**Analytical Report**

Lab Order **2210B05**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-18 0'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/19/2022 10:00:00 AM

**Lab ID:** 2210B05-004

**Matrix:** SOIL

**Received Date:** 10/21/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/26/2022 4:05:20 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/26/2022 4:05:20 AM
Surr: DNOP	85.4	21-129		%Rec	1	10/26/2022 4:05:20 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/25/2022 3:55:00 AM
Surr: BFB	98.5	37.7-212		%Rec	1	10/25/2022 3:55:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	10/25/2022 3:55:00 AM
Toluene	ND	0.050		mg/Kg	1	10/25/2022 3:55:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	10/25/2022 3:55:00 AM
Xylenes, Total	ND	0.10		mg/Kg	1	10/25/2022 3:55:00 AM
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	10/25/2022 3:55:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	10/26/2022 12:57:25 PM

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

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

**Analytical Report**

Lab Order **2210B05**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-18 2'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/19/2022 10:05:00 AM

**Lab ID:** 2210B05-005

**Matrix:** SOIL

**Received Date:** 10/21/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/26/2022 4:18:26 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/26/2022 4:18:26 AM
Surr: DNOP	72.0	21-129		%Rec	1	10/26/2022 4:18:26 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/25/2022 4:15:00 AM
Surr: BFB	99.3	37.7-212		%Rec	1	10/25/2022 4:15:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	10/25/2022 4:15:00 AM
Toluene	ND	0.049		mg/Kg	1	10/25/2022 4:15:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	10/25/2022 4:15:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	10/25/2022 4:15:00 AM
Surr: 4-Bromofluorobenzene	107	70-130		%Rec	1	10/25/2022 4:15:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	10/26/2022 1:09:49 PM

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

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

**Analytical Report**

Lab Order **2210B05**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-18 4'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/19/2022 10:10:00 AM

**Lab ID:** 2210B05-006

**Matrix:** SOIL

**Received Date:** 10/21/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/26/2022 11:46:43 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/26/2022 11:46:43 AM
Surr: DNOP	112	21-129		%Rec	1	10/26/2022 11:46:43 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/25/2022 12:45:00 PM
Surr: BFB	95.1	37.7-212		%Rec	1	10/25/2022 12:45:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	10/25/2022 12:45:00 PM
Toluene	ND	0.049		mg/Kg	1	10/25/2022 12:45:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	10/25/2022 12:45:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	10/25/2022 12:45:00 PM
Surr: 4-Bromofluorobenzene	107	70-130		%Rec	1	10/25/2022 12:45:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	10/26/2022 1:22:14 PM

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

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

**Analytical Report**

Lab Order **2210B05**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-19 0'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/19/2022 10:30:00 AM

**Lab ID:** 2210B05-007

**Matrix:** SOIL

**Received Date:** 10/21/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/26/2022 12:58:36 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	10/26/2022 12:58:36 PM
Surr: DNOP	104	21-129		%Rec	1	10/26/2022 12:58:36 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/25/2022 1:05:00 PM
Surr: BFB	101	37.7-212		%Rec	1	10/25/2022 1:05:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.023		mg/Kg	1	10/25/2022 1:05:00 PM
Toluene	ND	0.047		mg/Kg	1	10/25/2022 1:05:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	10/25/2022 1:05:00 PM
Xylenes, Total	ND	0.094		mg/Kg	1	10/25/2022 1:05:00 PM
Surr: 4-Bromofluorobenzene	109	70-130		%Rec	1	10/25/2022 1:05:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	10/26/2022 1:34:39 PM

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

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

**Analytical Report**

Lab Order **2210B05**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-19 2'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/19/2022 10:35:00 AM

**Lab ID:** 2210B05-008

**Matrix:** SOIL

**Received Date:** 10/21/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	10/26/2022 1:22:43 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/26/2022 1:22:43 PM
Surr: DNOP	102	21-129		%Rec	1	10/26/2022 1:22:43 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/25/2022 1:25:00 PM
Surr: BFB	99.4	37.7-212		%Rec	1	10/25/2022 1:25:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	10/25/2022 1:25:00 PM
Toluene	ND	0.047		mg/Kg	1	10/25/2022 1:25:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	10/25/2022 1:25:00 PM
Xylenes, Total	ND	0.094		mg/Kg	1	10/25/2022 1:25:00 PM
Surr: 4-Bromofluorobenzene	110	70-130		%Rec	1	10/25/2022 1:25:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	74	59		mg/Kg	20	10/26/2022 2:11:52 PM

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

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

**Analytical Report**

Lab Order **2210B05**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-19 4'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/19/2022 10:40:00 AM

**Lab ID:** 2210B05-009

**Matrix:** SOIL

**Received Date:** 10/21/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/26/2022 1:46:57 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/26/2022 1:46:57 PM
Surr: DNOP	117	21-129		%Rec	1	10/26/2022 1:46:57 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/25/2022 1:44:00 PM
Surr: BFB	101	37.7-212		%Rec	1	10/25/2022 1:44:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	10/25/2022 1:44:00 PM
Toluene	ND	0.047		mg/Kg	1	10/25/2022 1:44:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	10/25/2022 1:44:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	10/25/2022 1:44:00 PM
Surr: 4-Bromofluorobenzene	108	70-130		%Rec	1	10/25/2022 1:44:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	59		mg/Kg	20	10/26/2022 2:24:16 PM

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

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

**Analytical Report**

Lab Order **2210B05**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-21 0'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/19/2022 1:05:00 PM

**Lab ID:** 2210B05-010

**Matrix:** SOIL

**Received Date:** 10/21/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	10/26/2022 2:42:01 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/26/2022 2:42:01 PM
Surr: DNOP	88.5	21-129		%Rec	1	10/26/2022 2:42:01 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/25/2022 2:04:00 PM
Surr: BFB	99.6	37.7-212		%Rec	1	10/25/2022 2:04:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	10/25/2022 2:04:00 PM
Toluene	ND	0.048		mg/Kg	1	10/25/2022 2:04:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	10/25/2022 2:04:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	10/25/2022 2:04:00 PM
Surr: 4-Bromofluorobenzene	111	70-130		%Rec	1	10/25/2022 2:04:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	10/26/2022 2:36:41 PM

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

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

**Analytical Report**

Lab Order **2210B05**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-21 2'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/19/2022 1:10:00 PM

**Lab ID:** 2210B05-011

**Matrix:** SOIL

**Received Date:** 10/21/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	10/26/2022 3:06:10 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/26/2022 3:06:10 PM
Surr: DNOP	97.0	21-129		%Rec	1	10/26/2022 3:06:10 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/25/2022 2:24:00 PM
Surr: BFB	104	37.7-212		%Rec	1	10/25/2022 2:24:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	10/25/2022 2:24:00 PM
Toluene	ND	0.048		mg/Kg	1	10/25/2022 2:24:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	10/25/2022 2:24:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	10/25/2022 2:24:00 PM
Surr: 4-Bromofluorobenzene	113	70-130		%Rec	1	10/25/2022 2:24:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	10/26/2022 2:49:05 PM

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

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

**Analytical Report**

Lab Order **2210B05**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-21 4'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/19/2022 1:15:00 PM

**Lab ID:** 2210B05-012

**Matrix:** SOIL

**Received Date:** 10/21/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	10/26/2022 3:30:22 PM
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	10/26/2022 3:30:22 PM
Surr: DNOP	104	21-129		%Rec	1	10/26/2022 3:30:22 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/25/2022 2:43:00 PM
Surr: BFB	105	37.7-212		%Rec	1	10/25/2022 2:43:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	10/25/2022 2:43:00 PM
Toluene	ND	0.049		mg/Kg	1	10/25/2022 2:43:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	10/25/2022 2:43:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	10/25/2022 2:43:00 PM
Surr: 4-Bromofluorobenzene	113	70-130		%Rec	1	10/25/2022 2:43:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	10/26/2022 3:01:30 PM

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

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2210B05

28-Oct-22

**Client:** Vertex Resources Services, Inc.

**Project:** Todd 36 State 1 Pasture

Sample ID: <b>MB-71072</b>	SampType: <b>mblk</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>71072</b>	RunNo: <b>92082</b>								
Prep Date: <b>10/26/2022</b>	Analysis Date: <b>10/26/2022</b>	SeqNo: <b>3306560</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-71072</b>	SampType: <b>lcs</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>71072</b>	RunNo: <b>92082</b>								
Prep Date: <b>10/26/2022</b>	Analysis Date: <b>10/26/2022</b>	SeqNo: <b>3306561</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.1	90	110			

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2210B05

28-Oct-22

**Client:** Vertex Resources Services, Inc.

**Project:** Todd 36 State 1 Pasture

Sample ID: <b>MB-71054</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>71054</b>	RunNo: <b>92087</b>								
Prep Date: <b>10/25/2022</b>	Analysis Date: <b>10/26/2022</b>	SeqNo: <b>3305152</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		111	21	129			

Sample ID: <b>LCS-71054</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>71054</b>	RunNo: <b>92087</b>								
Prep Date: <b>10/25/2022</b>	Analysis Date: <b>10/26/2022</b>	SeqNo: <b>3305153</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	15	50.00	0	107	64.4	127			
Surr: DNOP	5.1		5.000		103	21	129			

Sample ID: <b>2210B05-006AMS</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>BH22-18 4'</b>	Batch ID: <b>71054</b>	RunNo: <b>92087</b>								
Prep Date: <b>10/25/2022</b>	Analysis Date: <b>10/26/2022</b>	SeqNo: <b>3305155</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	55	15	48.69	0	113	36.1	154			
Surr: DNOP	5.3		4.869		110	21	129			

Sample ID: <b>2210B05-006AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>BH22-18 4'</b>	Batch ID: <b>71054</b>	RunNo: <b>92087</b>								
Prep Date: <b>10/25/2022</b>	Analysis Date: <b>10/26/2022</b>	SeqNo: <b>3305156</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	14	46.95	0	111	36.1	154	4.70	33.9	
Surr: DNOP	5.0		4.695		107	21	129	0	0	

Sample ID: <b>MB-71021</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>71021</b>	RunNo: <b>92056</b>								
Prep Date: <b>10/24/2022</b>	Analysis Date: <b>10/25/2022</b>	SeqNo: <b>3307123</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.0		10.00		80.1	21	129			

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2210B05

28-Oct-22

**Client:** Vertex Resources Services, Inc.

**Project:** Todd 36 State 1 Pasture

Sample ID: <b>LCS-71021</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>71021</b>		RunNo: <b>92056</b>							
Prep Date: <b>10/24/2022</b>	Analysis Date: <b>10/25/2022</b>		SeqNo: <b>3307124</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	15	50.00	0	104	64.4	127			
Surr: DNOP	3.9		5.000		78.1	21	129			

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2210B05

28-Oct-22

**Client:** Vertex Resources Services, Inc.

**Project:** Todd 36 State 1 Pasture

Sample ID: <b>mb-71005</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>71005</b>		RunNo: <b>92041</b>							
Prep Date: <b>10/23/2022</b>	Analysis Date: <b>10/24/2022</b>		SeqNo: <b>3302845</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	990		1000		98.8	37.7	212			

Sample ID: <b>lcs-71005</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>71005</b>		RunNo: <b>92041</b>							
Prep Date: <b>10/23/2022</b>	Analysis Date: <b>10/24/2022</b>		SeqNo: <b>3303528</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	103	72.3	137			
Surr: BFB	2200		1000		223	37.7	212			S

Sample ID: <b>lcs-71014</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>71014</b>		RunNo: <b>92075</b>							
Prep Date: <b>10/24/2022</b>	Analysis Date: <b>10/25/2022</b>		SeqNo: <b>3304536</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	102	72.3	137			
Surr: BFB	2300		1000		226	37.7	212			S

Sample ID: <b>mb-71014</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>71014</b>		RunNo: <b>92075</b>							
Prep Date: <b>10/24/2022</b>	Analysis Date: <b>10/25/2022</b>		SeqNo: <b>3304537</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		104	37.7	212			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.

- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2210B05

28-Oct-22

**Client:** Vertex Resources Services, Inc.

**Project:** Todd 36 State 1 Pasture

Sample ID: <b>ics-71005</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>71005</b>		RunNo: <b>92041</b>							
Prep Date: <b>10/23/2022</b>	Analysis Date: <b>10/24/2022</b>		SeqNo: <b>3302911</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	105	80	120			
Toluene	1.1	0.050	1.000	0	106	80	120			
Ethylbenzene	1.1	0.050	1.000	0	106	80	120			
Xylenes, Total	3.2	0.10	3.000	0	106	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	70	130			

Sample ID: <b>mb-71005</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>71005</b>		RunNo: <b>92041</b>							
Prep Date: <b>10/23/2022</b>	Analysis Date: <b>10/24/2022</b>		SeqNo: <b>3302912</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		107	70	130			

Sample ID: <b>ics-71014</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>71014</b>		RunNo: <b>92075</b>							
Prep Date: <b>10/24/2022</b>	Analysis Date: <b>10/25/2022</b>		SeqNo: <b>3304669</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	110	80	120			
Toluene	1.1	0.050	1.000	0	111	80	120			
Ethylbenzene	1.1	0.050	1.000	0	110	80	120			
Xylenes, Total	3.3	0.10	3.000	0	109	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		113	70	130			

Sample ID: <b>mb-71014</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>71014</b>		RunNo: <b>92075</b>							
Prep Date: <b>10/24/2022</b>	Analysis Date: <b>10/25/2022</b>		SeqNo: <b>3304670</b>		Units: <b>mg/Kg</b>					
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		114	70	130			

**Qualifiers:**

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



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

# Sample Log-In Check List

Client Name: Vertex Resources Services, Inc.      Work Order Number: 2210B05      RcptNo: 1

Received By: Juan Rojas      10/21/2022 7:20:00 AM

*Juan Rojas*

Completed By: Tracy Casarrubias      10/21/2022 8:21:47 AM

Reviewed By: *SEA 10/21/22*

**Chain of Custody**

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

**Log In**

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

# of preserved bottles checked for pH: \_\_\_\_\_  
 (<2 or >12 unless noted)  
 Adjusted? \_\_\_\_\_  
 Checked by: *RPC 10.21.22*

**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	0.4	Good	Yes			







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

October 28, 2022

Kent Stallings

Vertex Resources Services, Inc.

3101 Boyd Drive

Carlsbad, NM 88220

TEL: (505) 506-0040

FAX:

RE: Todd 36 State 1 Pasture

OrderNo.: 2210930

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 23 sample(s) on 10/19/2022 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](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

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

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

**Analytical Report**

Lab Order **2210930**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-01 0'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/14/2022 9:30:00 AM

**Lab ID:** 2210930-001

**Matrix:** SOIL

**Received Date:** 10/19/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	10/24/2022 6:02:13 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/24/2022 6:02:13 PM
Surr: DNOP	98.9	21-129		%Rec	1	10/24/2022 6:02:13 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/23/2022 4:39:00 AM
Surr: BFB	98.4	37.7-212		%Rec	1	10/23/2022 4:39:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	10/23/2022 4:39:00 AM
Toluene	ND	0.047		mg/Kg	1	10/23/2022 4:39:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	10/23/2022 4:39:00 AM
Xylenes, Total	ND	0.094		mg/Kg	1	10/23/2022 4:39:00 AM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	10/23/2022 4:39:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	10/25/2022 12:51:29 AM

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

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

**Analytical Report**

Lab Order **2210930**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-01 2'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/14/2022 9:35:00 AM

**Lab ID:** 2210930-002

**Matrix:** SOIL

**Received Date:** 10/19/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	10/24/2022 6:15:42 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/24/2022 6:15:42 PM
Surr: DNOP	90.9	21-129		%Rec	1	10/24/2022 6:15:42 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/23/2022 4:59:00 AM
Surr: BFB	99.5	37.7-212		%Rec	1	10/23/2022 4:59:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.023		mg/Kg	1	10/23/2022 4:59:00 AM
Toluene	ND	0.047		mg/Kg	1	10/23/2022 4:59:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	10/23/2022 4:59:00 AM
Xylenes, Total	ND	0.094		mg/Kg	1	10/23/2022 4:59:00 AM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	10/23/2022 4:59:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	1400	60		mg/Kg	20	10/25/2022 1:28:31 AM

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

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

**Analytical Report**

Lab Order **2210930**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-01 4'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/14/2022 9:40:00 AM

**Lab ID:** 2210930-003

**Matrix:** SOIL

**Received Date:** 10/19/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	10/24/2022 6:28:55 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/24/2022 6:28:55 PM
Surr: DNOP	93.6	21-129		%Rec	1	10/24/2022 6:28:55 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/23/2022 5:18:00 AM
Surr: BFB	94.9	37.7-212		%Rec	1	10/23/2022 5:18:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	10/23/2022 5:18:00 AM
Toluene	ND	0.048		mg/Kg	1	10/23/2022 5:18:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	10/23/2022 5:18:00 AM
Xylenes, Total	ND	0.095		mg/Kg	1	10/23/2022 5:18:00 AM
Surr: 4-Bromofluorobenzene	99.4	70-130		%Rec	1	10/23/2022 5:18:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	10/25/2022 2:30:14 AM

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

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

**Analytical Report**

Lab Order **2210930**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-03 0'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/14/2022 10:00:00 AM

**Lab ID:** 2210930-004

**Matrix:** SOIL

**Received Date:** 10/19/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	10/24/2022 6:42:17 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/24/2022 6:42:17 PM
Surr: DNOP	81.9	21-129		%Rec	1	10/24/2022 6:42:17 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	10/23/2022 5:38:00 AM
Surr: BFB	99.7	37.7-212		%Rec	1	10/23/2022 5:38:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.023		mg/Kg	1	10/23/2022 5:38:00 AM
Toluene	ND	0.046		mg/Kg	1	10/23/2022 5:38:00 AM
Ethylbenzene	ND	0.046		mg/Kg	1	10/23/2022 5:38:00 AM
Xylenes, Total	ND	0.093		mg/Kg	1	10/23/2022 5:38:00 AM
Surr: 4-Bromofluorobenzene	99.4	70-130		%Rec	1	10/23/2022 5:38:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	10/25/2022 2:42:35 AM

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

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

**Analytical Report**

Lab Order **2210930**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-03 2'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/14/2022 10:05:00 AM

**Lab ID:** 2210930-005

**Matrix:** SOIL

**Received Date:** 10/19/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/24/2022 6:55:29 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/24/2022 6:55:29 PM
Surr: DNOP	75.3	21-129		%Rec	1	10/24/2022 6:55:29 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	10/23/2022 5:58:00 AM
Surr: BFB	99.5	37.7-212		%Rec	1	10/23/2022 5:58:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.023		mg/Kg	1	10/23/2022 5:58:00 AM
Toluene	ND	0.046		mg/Kg	1	10/23/2022 5:58:00 AM
Ethylbenzene	ND	0.046		mg/Kg	1	10/23/2022 5:58:00 AM
Xylenes, Total	ND	0.092		mg/Kg	1	10/23/2022 5:58:00 AM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	10/23/2022 5:58:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	10/25/2022 2:54:57 AM

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

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

**Analytical Report**

Lab Order **2210930**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-03 4'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/14/2022 10:10:00 AM

**Lab ID:** 2210930-006

**Matrix:** SOIL

**Received Date:** 10/19/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	10/24/2022 7:08:47 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/24/2022 7:08:47 PM
Surr: DNOP	77.0	21-129		%Rec	1	10/24/2022 7:08:47 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/23/2022 6:18:00 AM
Surr: BFB	102	37.7-212		%Rec	1	10/23/2022 6:18:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.023		mg/Kg	1	10/23/2022 6:18:00 AM
Toluene	ND	0.047		mg/Kg	1	10/23/2022 6:18:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	10/23/2022 6:18:00 AM
Xylenes, Total	ND	0.093		mg/Kg	1	10/23/2022 6:18:00 AM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	10/23/2022 6:18:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	62	60		mg/Kg	20	10/25/2022 3:07:18 AM

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

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

**Analytical Report**

Lab Order **2210930**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-05 0'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/14/2022 10:30:00 AM

**Lab ID:** 2210930-007

**Matrix:** SOIL

**Received Date:** 10/19/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/25/2022 3:29:40 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/25/2022 3:29:40 PM
Surr: DNOP	88.0	21-129		%Rec	1	10/25/2022 3:29:40 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/23/2022 6:37:00 AM
Surr: BFB	106	37.7-212		%Rec	1	10/23/2022 6:37:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	10/23/2022 6:37:00 AM
Toluene	ND	0.049		mg/Kg	1	10/23/2022 6:37:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	10/23/2022 6:37:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	10/23/2022 6:37:00 AM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	10/23/2022 6:37:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	10/25/2022 3:19:38 AM

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

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

**Analytical Report**

Lab Order **2210930**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-05 2'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/14/2022 10:35:00 AM

**Lab ID:** 2210930-008

**Matrix:** SOIL

**Received Date:** 10/19/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	10/24/2022 7:35:00 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/24/2022 7:35:00 PM
Surr: DNOP	75.7	21-129		%Rec	1	10/24/2022 7:35:00 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/23/2022 7:17:00 AM
Surr: BFB	105	37.7-212		%Rec	1	10/23/2022 7:17:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	10/23/2022 7:17:00 AM
Toluene	ND	0.048		mg/Kg	1	10/23/2022 7:17:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	10/23/2022 7:17:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	10/23/2022 7:17:00 AM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	10/23/2022 7:17:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	860	60		mg/Kg	20	10/25/2022 3:31:58 AM

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

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

**Analytical Report**

Lab Order **2210930**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-05 4'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/14/2022 10:40:00 AM

**Lab ID:** 2210930-009

**Matrix:** SOIL

**Received Date:** 10/19/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	10/24/2022 7:48:15 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/24/2022 7:48:15 PM
Surr: DNOP	71.2	21-129		%Rec	1	10/24/2022 7:48:15 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/23/2022 7:36:00 AM
Surr: BFB	99.3	37.7-212		%Rec	1	10/23/2022 7:36:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	10/23/2022 7:36:00 AM
Toluene	ND	0.048		mg/Kg	1	10/23/2022 7:36:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	10/23/2022 7:36:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	10/23/2022 7:36:00 AM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	10/23/2022 7:36:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	87	60		mg/Kg	20	10/25/2022 3:44:18 AM

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

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

**Analytical Report**

Lab Order **2210930**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-06 0'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/14/2022 10:45:00 AM

**Lab ID:** 2210930-010

**Matrix:** SOIL

**Received Date:** 10/19/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/24/2022 8:01:19 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	10/24/2022 8:01:19 PM
Surr: DNOP	65.4	21-129		%Rec	1	10/24/2022 8:01:19 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	10/23/2022 7:56:00 AM
Surr: BFB	105	37.7-212		%Rec	1	10/23/2022 7:56:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.023		mg/Kg	1	10/23/2022 7:56:00 AM
Toluene	ND	0.046		mg/Kg	1	10/23/2022 7:56:00 AM
Ethylbenzene	ND	0.046		mg/Kg	1	10/23/2022 7:56:00 AM
Xylenes, Total	ND	0.093		mg/Kg	1	10/23/2022 7:56:00 AM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	10/23/2022 7:56:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	10/25/2022 3:56:38 AM

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

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

**Analytical Report**

Lab Order **2210930**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-06 2'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/14/2022 10:50:00 AM

**Lab ID:** 2210930-011

**Matrix:** SOIL

**Received Date:** 10/19/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	10/24/2022 8:14:28 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/24/2022 8:14:28 PM
Surr: DNOP	67.1	21-129		%Rec	1	10/24/2022 8:14:28 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/23/2022 8:16:00 AM
Surr: BFB	98.3	37.7-212		%Rec	1	10/23/2022 8:16:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	10/23/2022 8:16:00 AM
Toluene	ND	0.048		mg/Kg	1	10/23/2022 8:16:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	10/23/2022 8:16:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	10/23/2022 8:16:00 AM
Surr: 4-Bromofluorobenzene	99.7	70-130		%Rec	1	10/23/2022 8:16:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	10/25/2022 4:33:40 AM

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

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

**Analytical Report**

Lab Order **2210930**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-06 4'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/14/2022 10:55:00 AM

**Lab ID:** 2210930-012

**Matrix:** SOIL

**Received Date:** 10/19/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/24/2022 8:27:32 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/24/2022 8:27:32 PM
Surr: DNOP	71.0	21-129		%Rec	1	10/24/2022 8:27:32 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/23/2022 8:36:00 AM
Surr: BFB	97.4	37.7-212		%Rec	1	10/23/2022 8:36:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	10/23/2022 8:36:00 AM
Toluene	ND	0.048		mg/Kg	1	10/23/2022 8:36:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	10/23/2022 8:36:00 AM
Xylenes, Total	ND	0.095		mg/Kg	1	10/23/2022 8:36:00 AM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	10/23/2022 8:36:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	63	60		mg/Kg	20	10/25/2022 4:46:01 AM

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

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

**Analytical Report**

Lab Order **2210930**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-09 0'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/14/2022 1:05:00 PM

**Lab ID:** 2210930-013

**Matrix:** SOIL

**Received Date:** 10/19/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	10/24/2022 8:40:38 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/24/2022 8:40:38 PM
Surr: DNOP	61.9	21-129		%Rec	1	10/24/2022 8:40:38 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/23/2022 8:55:00 AM
Surr: BFB	99.6	37.7-212		%Rec	1	10/23/2022 8:55:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	10/23/2022 8:55:00 AM
Toluene	ND	0.048		mg/Kg	1	10/23/2022 8:55:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	10/23/2022 8:55:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	10/23/2022 8:55:00 AM
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	10/23/2022 8:55:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	10/25/2022 4:58:22 AM

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

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

**Analytical Report**

Lab Order **2210930**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-09 2'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/14/2022 1:10:00 PM

**Lab ID:** 2210930-014

**Matrix:** SOIL

**Received Date:** 10/19/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/24/2022 8:53:38 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/24/2022 8:53:38 PM
Surr: DNOP	68.5	21-129		%Rec	1	10/24/2022 8:53:38 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/23/2022 9:15:00 AM
Surr: BFB	106	37.7-212		%Rec	1	10/23/2022 9:15:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	10/23/2022 9:15:00 AM
Toluene	ND	0.050		mg/Kg	1	10/23/2022 9:15:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	10/23/2022 9:15:00 AM
Xylenes, Total	ND	0.10		mg/Kg	1	10/23/2022 9:15:00 AM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	10/23/2022 9:15:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	2600	150		mg/Kg	50	10/26/2022 8:58:04 AM

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

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

**Analytical Report**

Lab Order **2210930**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-09 4'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/14/2022 1:15:00 PM

**Lab ID:** 2210930-015

**Matrix:** SOIL

**Received Date:** 10/19/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/24/2022 9:06:42 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/24/2022 9:06:42 PM
Surr: DNOP	64.3	21-129		%Rec	1	10/24/2022 9:06:42 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/23/2022 9:35:00 AM
Surr: BFB	99.2	37.7-212		%Rec	1	10/23/2022 9:35:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.023		mg/Kg	1	10/23/2022 9:35:00 AM
Toluene	ND	0.047		mg/Kg	1	10/23/2022 9:35:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	10/23/2022 9:35:00 AM
Xylenes, Total	ND	0.094		mg/Kg	1	10/23/2022 9:35:00 AM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	10/23/2022 9:35:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	1600	60		mg/Kg	20	10/25/2022 10:53:55 AM

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

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

**Analytical Report**

Lab Order **2210930**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-07 0'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/14/2022 11:00:00 AM

**Lab ID:** 2210930-016

**Matrix:** SOIL

**Received Date:** 10/19/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/24/2022 9:19:34 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/24/2022 9:19:34 PM
Surr: DNOP	67.1	21-129		%Rec	1	10/24/2022 9:19:34 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/23/2022 9:55:00 AM
Surr: BFB	103	37.7-212		%Rec	1	10/23/2022 9:55:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	10/23/2022 9:55:00 AM
Toluene	ND	0.050		mg/Kg	1	10/23/2022 9:55:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	10/23/2022 9:55:00 AM
Xylenes, Total	ND	0.10		mg/Kg	1	10/23/2022 9:55:00 AM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	10/23/2022 9:55:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	610	60		mg/Kg	20	10/25/2022 11:31:08 AM

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

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

**Analytical Report**

Lab Order **2210930**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-07 2'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/14/2022 11:05:00 AM

**Lab ID:** 2210930-017

**Matrix:** SOIL

**Received Date:** 10/19/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	10/24/2022 9:32:36 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/24/2022 9:32:36 PM
Surr: DNOP	69.0	21-129		%Rec	1	10/24/2022 9:32:36 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/23/2022 10:14:00 AM
Surr: BFB	102	37.7-212		%Rec	1	10/23/2022 10:14:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	10/23/2022 10:14:00 AM
Toluene	ND	0.048		mg/Kg	1	10/23/2022 10:14:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	10/23/2022 10:14:00 AM
Xylenes, Total	ND	0.095		mg/Kg	1	10/23/2022 10:14:00 AM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	10/23/2022 10:14:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	13000	600		mg/Kg	200	10/26/2022 9:10:29 AM

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

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

**Analytical Report**

Lab Order **2210930**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-07 4'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/14/2022 11:10:00 AM

**Lab ID:** 2210930-018

**Matrix:** SOIL

**Received Date:** 10/19/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/21/2022 9:40:52 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	10/21/2022 9:40:52 PM
Surr: DNOP	96.9	21-129		%Rec	1	10/21/2022 9:40:52 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/22/2022 7:39:48 AM
Surr: BFB	92.1	37.7-212		%Rec	1	10/22/2022 7:39:48 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	10/22/2022 7:39:48 AM
Toluene	ND	0.049		mg/Kg	1	10/22/2022 7:39:48 AM
Ethylbenzene	ND	0.049		mg/Kg	1	10/22/2022 7:39:48 AM
Xylenes, Total	ND	0.097		mg/Kg	1	10/22/2022 7:39:48 AM
Surr: 4-Bromofluorobenzene	97.3	70-130		%Rec	1	10/22/2022 7:39:48 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	4700	150		mg/Kg	50	10/26/2022 9:22:54 AM

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

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

**Analytical Report**

Lab Order **2210930**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-07 6'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/14/2022 11:15:00 AM

**Lab ID:** 2210930-019

**Matrix:** SOIL

**Received Date:** 10/19/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	10/21/2022 9:55:09 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/21/2022 9:55:09 PM
Surr: DNOP	89.7	21-129		%Rec	1	10/21/2022 9:55:09 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/22/2022 8:50:35 AM
Surr: BFB	93.4	37.7-212		%Rec	1	10/22/2022 8:50:35 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	10/22/2022 8:50:35 AM
Toluene	ND	0.047		mg/Kg	1	10/22/2022 8:50:35 AM
Ethylbenzene	ND	0.047		mg/Kg	1	10/22/2022 8:50:35 AM
Xylenes, Total	ND	0.095		mg/Kg	1	10/22/2022 8:50:35 AM
Surr: 4-Bromofluorobenzene	97.7	70-130		%Rec	1	10/22/2022 8:50:35 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	3700	150		mg/Kg	50	10/26/2022 9:35:18 AM

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

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

**Analytical Report**

Lab Order **2210930**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-10 0'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/14/2022 1:20:00 PM

**Lab ID:** 2210930-020

**Matrix:** SOIL

**Received Date:** 10/19/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/21/2022 10:09:21 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	10/21/2022 10:09:21 PM
Surr: DNOP	91.0	21-129		%Rec	1	10/21/2022 10:09:21 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	10/22/2022 10:01:41 AM
Surr: BFB	91.2	37.7-212		%Rec	1	10/22/2022 10:01:41 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.023		mg/Kg	1	10/22/2022 10:01:41 AM
Toluene	ND	0.046		mg/Kg	1	10/22/2022 10:01:41 AM
Ethylbenzene	ND	0.046		mg/Kg	1	10/22/2022 10:01:41 AM
Xylenes, Total	ND	0.092		mg/Kg	1	10/22/2022 10:01:41 AM
Surr: 4-Bromofluorobenzene	95.8	70-130		%Rec	1	10/22/2022 10:01:41 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	970	60		mg/Kg	20	10/25/2022 12:20:45 PM

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

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

**Analytical Report**

Lab Order **2210930**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-10 2'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/14/2022 1:25:00 PM

**Lab ID:** 2210930-021

**Matrix:** SOIL

**Received Date:** 10/19/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	10/21/2022 10:23:43 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/21/2022 10:23:43 PM
Surr: DNOP	93.3	21-129		%Rec	1	10/21/2022 10:23:43 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/22/2022 10:25:20 AM
Surr: BFB	89.9	37.7-212		%Rec	1	10/22/2022 10:25:20 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	10/22/2022 10:25:20 AM
Toluene	ND	0.050		mg/Kg	1	10/22/2022 10:25:20 AM
Ethylbenzene	ND	0.050		mg/Kg	1	10/22/2022 10:25:20 AM
Xylenes, Total	ND	0.10		mg/Kg	1	10/22/2022 10:25:20 AM
Surr: 4-Bromofluorobenzene	93.1	70-130		%Rec	1	10/22/2022 10:25:20 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	110	60		mg/Kg	20	10/25/2022 12:57:57 PM

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

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

**Analytical Report**

Lab Order **2210930**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-10 4'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/14/2022 1:30:00 PM

**Lab ID:** 2210930-022

**Matrix:** SOIL

**Received Date:** 10/19/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/25/2022 12:16:55 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/25/2022 12:16:55 AM
Surr: DNOP	98.4	21-129		%Rec	1	10/25/2022 12:16:55 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/22/2022 10:48:58 AM
Surr: BFB	94.1	37.7-212		%Rec	1	10/22/2022 10:48:58 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	10/22/2022 10:48:58 AM
Toluene	ND	0.047		mg/Kg	1	10/22/2022 10:48:58 AM
Ethylbenzene	ND	0.047		mg/Kg	1	10/22/2022 10:48:58 AM
Xylenes, Total	ND	0.095		mg/Kg	1	10/22/2022 10:48:58 AM
Surr: 4-Bromofluorobenzene	98.6	70-130		%Rec	1	10/22/2022 10:48:58 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	94	60		mg/Kg	20	10/25/2022 1:10:21 PM

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

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

**Analytical Report**

Lab Order **2210930**

Date Reported: **10/28/2022**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Vertex Resources Services, Inc.

**Client Sample ID:** BH22-10 6'

**Project:** Todd 36 State 1 Pasture

**Collection Date:** 10/14/2022 1:35:00 PM

**Lab ID:** 2210930-023

**Matrix:** SOIL

**Received Date:** 10/19/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	10/25/2022 12:40:20 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/25/2022 12:40:20 AM
Surr: DNOP	96.3	21-129		%Rec	1	10/25/2022 12:40:20 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/22/2022 11:12:33 AM
Surr: BFB	89.7	37.7-212		%Rec	1	10/22/2022 11:12:33 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	10/22/2022 11:12:33 AM
Toluene	ND	0.050		mg/Kg	1	10/22/2022 11:12:33 AM
Ethylbenzene	ND	0.050		mg/Kg	1	10/22/2022 11:12:33 AM
Xylenes, Total	ND	0.099		mg/Kg	1	10/22/2022 11:12:33 AM
Surr: 4-Bromofluorobenzene	93.0	70-130		%Rec	1	10/22/2022 11:12:33 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	130	60		mg/Kg	20	10/25/2022 1:22:45 PM

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

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2210930

28-Oct-22

**Client:** Vertex Resources Services, Inc.

**Project:** Todd 36 State 1 Pasture

Sample ID: <b>MB-71033</b>	SampType: <b>mblk</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>71033</b>	RunNo: <b>92046</b>								
Prep Date: <b>10/24/2022</b>	Analysis Date: <b>10/24/2022</b>	SeqNo: <b>3303106</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-71033</b>	SampType: <b>lcs</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>71033</b>	RunNo: <b>92046</b>								
Prep Date: <b>10/24/2022</b>	Analysis Date: <b>10/24/2022</b>	SeqNo: <b>3303107</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.2	90	110			

Sample ID: <b>MB-71047</b>	SampType: <b>mblk</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>71047</b>	RunNo: <b>92054</b>								
Prep Date: <b>10/25/2022</b>	Analysis Date: <b>10/25/2022</b>	SeqNo: <b>3304316</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-71047</b>	SampType: <b>lcs</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>71047</b>	RunNo: <b>92054</b>								
Prep Date: <b>10/25/2022</b>	Analysis Date: <b>10/25/2022</b>	SeqNo: <b>3304317</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	99.4	90	110			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.

- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2210930

28-Oct-22

**Client:** Vertex Resources Services, Inc.

**Project:** Todd 36 State 1 Pasture

Sample ID: <b>MB-70965</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>70965</b>	RunNo: <b>91984</b>								
Prep Date: <b>10/20/2022</b>	Analysis Date: <b>10/21/2022</b>	SeqNo: <b>3301050</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.9		10.00		99.5	21	129			

Sample ID: <b>LCS-70965</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>70965</b>	RunNo: <b>91984</b>								
Prep Date: <b>10/20/2022</b>	Analysis Date: <b>10/21/2022</b>	SeqNo: <b>3301051</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	15	50.00	0	98.0	64.4	127			
Surr: DNOP	4.7		5.000		93.1	21	129			

Sample ID: <b>MB-70991</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>70991</b>	RunNo: <b>92014</b>								
Prep Date: <b>10/21/2022</b>	Analysis Date: <b>10/24/2022</b>	SeqNo: <b>3302745</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		102	21	129			

Sample ID: <b>LCS-70991</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>70991</b>	RunNo: <b>92014</b>								
Prep Date: <b>10/21/2022</b>	Analysis Date: <b>10/24/2022</b>	SeqNo: <b>3302746</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	15	50.00	0	88.6	64.4	127			
Surr: DNOP	4.1		5.000		82.1	21	129			

Sample ID: <b>MB-70967</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>70967</b>	RunNo: <b>92021</b>								
Prep Date: <b>10/20/2022</b>	Analysis Date: <b>10/24/2022</b>	SeqNo: <b>3303279</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.9		10.00		89.1	21	129			

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2210930

28-Oct-22

**Client:** Vertex Resources Services, Inc.

**Project:** Todd 36 State 1 Pasture

Sample ID: <b>LCS-70967</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>70967</b>		RunNo: <b>92021</b>							
Prep Date: <b>10/20/2022</b>	Analysis Date: <b>10/24/2022</b>		SeqNo: <b>3303280</b>				Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	15	50.00	0	98.1	64.4	127			
Surr: DNOP	4.6		5.000		92.8	21	129			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.

- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2210930

28-Oct-22

**Client:** Vertex Resources Services, Inc.

**Project:** Todd 36 State 1 Pasture

Sample ID: <b>mb-70932</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>70932</b>		RunNo: <b>92004</b>							
Prep Date: <b>10/19/2022</b>	Analysis Date: <b>10/22/2022</b>		SeqNo: <b>3300881</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	900		1000		89.6	37.7	212			

Sample ID: <b>lcs-70932</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>70932</b>		RunNo: <b>92004</b>							
Prep Date: <b>10/19/2022</b>	Analysis Date: <b>10/22/2022</b>		SeqNo: <b>3300882</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	106	72.3	137			
Surr: BFB	2000		1000		196	37.7	212			

Sample ID: <b>2210930-018AMS</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>BH22-07 4'</b>	Batch ID: <b>70932</b>		RunNo: <b>92004</b>							
Prep Date: <b>10/19/2022</b>	Analysis Date: <b>10/22/2022</b>		SeqNo: <b>3300884</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	4.9	24.46	0	103	70	130			
Surr: BFB	1900		978.5		195	37.7	212			

Sample ID: <b>2210930-018AMSD</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>BH22-07 4'</b>	Batch ID: <b>70932</b>		RunNo: <b>92004</b>							
Prep Date: <b>10/19/2022</b>	Analysis Date: <b>10/22/2022</b>		SeqNo: <b>3300885</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	4.9	24.41	0	102	70	130	0.742	20	
Surr: BFB	1900		976.6		192	37.7	212	0	0	

Sample ID: <b>lcs-70927</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>70927</b>		RunNo: <b>92005</b>							
Prep Date: <b>10/19/2022</b>	Analysis Date: <b>10/23/2022</b>		SeqNo: <b>3301107</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	97.3	72.3	137			
Surr: BFB	2200		1000		216	37.7	212			S

Sample ID: <b>mb-70927</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>70927</b>		RunNo: <b>92005</b>							
Prep Date: <b>10/19/2022</b>	Analysis Date: <b>10/23/2022</b>		SeqNo: <b>3301108</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2210930

28-Oct-22

**Client:** Vertex Resources Services, Inc.

**Project:** Todd 36 State 1 Pasture

Sample ID: <b>mb-70927</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>PBS</b>	Batch ID: <b>70927</b>	RunNo: <b>92005</b>								
Prep Date: <b>10/19/2022</b>	Analysis Date: <b>10/23/2022</b>	SeqNo: <b>3301108</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	990		1000		98.6	37.7	212			

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2210930

28-Oct-22

**Client:** Vertex Resources Services, Inc.

**Project:** Todd 36 State 1 Pasture

Sample ID: <b>mb-70932</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>70932</b>		RunNo: <b>92004</b>							
Prep Date: <b>10/19/2022</b>	Analysis Date: <b>10/22/2022</b>		SeqNo: <b>3300943</b>		Units: <b>mg/Kg</b>					
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	0.96		1.000		95.5	70	130			

Sample ID: <b>LCS-70932</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>70932</b>		RunNo: <b>92004</b>							
Prep Date: <b>10/19/2022</b>	Analysis Date: <b>10/22/2022</b>		SeqNo: <b>3300944</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	101	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.0	0.10	3.000	0	102	80	120			
Surr: 4-Bromofluorobenzene	0.96		1.000		96.5	70	130			

Sample ID: <b>2210930-019AMS</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>BH22-07 6'</b>	Batch ID: <b>70932</b>		RunNo: <b>92004</b>							
Prep Date: <b>10/19/2022</b>	Analysis Date: <b>10/22/2022</b>		SeqNo: <b>3300947</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.024	0.9461	0	96.0	68.8	120			
Toluene	0.93	0.047	0.9461	0	97.9	73.6	124			
Ethylbenzene	0.92	0.047	0.9461	0	97.2	72.7	129			
Xylenes, Total	2.7	0.095	2.838	0	96.5	75.7	126			
Surr: 4-Bromofluorobenzene	0.94		0.9461		99.6	70	130			

Sample ID: <b>2210930-019AMSD</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>BH22-07 6'</b>	Batch ID: <b>70932</b>		RunNo: <b>92004</b>							
Prep Date: <b>10/19/2022</b>	Analysis Date: <b>10/22/2022</b>		SeqNo: <b>3300948</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.024	0.9425	0	101	68.8	120	4.74	20	
Toluene	0.99	0.047	0.9425	0	105	73.6	124	6.18	20	
Ethylbenzene	0.98	0.047	0.9425	0	104	72.7	129	6.55	20	
Xylenes, Total	3.0	0.094	2.828	0	105	75.7	126	8.39	20	
Surr: 4-Bromofluorobenzene	0.94		0.9425		99.8	70	130	0	0	

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2210930

28-Oct-22

**Client:** Vertex Resources Services, Inc.

**Project:** Todd 36 State 1 Pasture

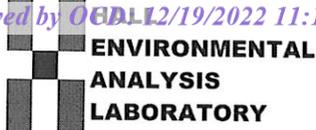
Sample ID: <b>ics-70927</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>70927</b>		RunNo: <b>92005</b>							
Prep Date: <b>10/19/2022</b>	Analysis Date: <b>10/23/2022</b>		SeqNo: <b>3301155</b>				Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	102	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.0	0.10	3.000	0	99.9	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		100	70	130			

Sample ID: <b>mb-70927</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>70927</b>		RunNo: <b>92005</b>							
Prep Date: <b>10/19/2022</b>	Analysis Date: <b>10/23/2022</b>		SeqNo: <b>3301156</b>				Units: <b>mg/Kg</b>			
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		101	70	130			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
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- J Analyte detected below quantitation limits
- P Sample pH Not In Range
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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: 2210930

RcptNo: 1

Received By: Juan Rojas 10/19/2022 7:40:00 AM

Completed By: Tracy Casarrubias 10/19/2022 8:02:10 AM

Reviewed By: *TRC* 10.19.22

### Chain of Custody

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

### Log In

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

# of preserved bottles checked for pH: \_\_\_\_\_  
(<2 or >12 unless noted)  
Adjusted? \_\_\_\_\_  
Checked by: *JN 10/19/22*

### 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	2.6	Good	Yes			

### Chain-of-Custody Record

Client: Vertex (Devon)  
 Mailing Address: GA file  
 Phone #: \_\_\_\_\_  
 email or Fax#: \_\_\_\_\_  
 QA/QC Package:  
 Standard  Level 4 (Full Validation)  
 Accreditation:  Az Compliance  
 NELAC  Other  
 EDD (Type) \_\_\_\_\_

Turn-Around Time:  
 Standard  Rush 5 Days  
 Project Name: " Todd 36 State 1 Pasture "  
 Project #: 21E - 02816

Project Manager:  
Kent Stallings  
 Sampler:  
 On Ice:  Yes  No  
 # of Coolers: 1  
 Cooler Temp (including CF): 2-574.1-2-6 (°C)

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
10/14	9:30	Soil	BH22-01	402 Jar	Ice	7710930
	9:35		BH22-01			001
	9:40		BH22-01			002
	10:00		BH22-03			003
	10:05		BH22-03			004
	10:10		BH22-03			005
	10:30		BH22-05			006
	10:35		BH22-05			007
	10:40		BH22-05			008
	10:45		BH22-06			009
	10:50		BH22-06			010
	10:55		BH22-06			011
						012

Date: 10/14 Time: 14:30 Relinquished by: S. Retta  
 Date: 10/18/22 Time: 19:00 Relinquished by: [Signature]  
 Received by: [Signature] Date: 10/18/22 Time: 8:15  
 Received by: [Signature] Date: 10/19/22 Time: 7:40



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

### Analysis Request

<input checked="" type="checkbox"/> BTEX / MTBE / TMB's (8021)	<input type="checkbox"/> TPH:8015D(GRO / DRO / MRO)	<input type="checkbox"/> 8081 Pesticides/8082 PCB's	<input type="checkbox"/> EDB (Method 504.1)	<input type="checkbox"/> PAHs by 8310 or 8270SIMS	<input type="checkbox"/> RCRA 8 Metals	<input type="checkbox"/> Cl, F, Br, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub>	<input type="checkbox"/> 8260 (VOA)	<input type="checkbox"/> 8270 (Semi-VOA)	<input type="checkbox"/> Total Coliform (Present/Absent)
--	---	---	---	---	--	---	-------------------------------------	--	--

Remarks: Direct Bill to Devon  
 cc: Monica Peppin. Devon/Horward.

### Chain-of-Custody Record

Client: Vortex (Devon)  
 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: "Pasture"  
Todd 36 State 1  
 Project #: 21E-02816

Project Manager: Kent Stallings  
 Sampler: S. Reta  
 On Ice:  Yes  No  
 # of Coolers: 1  
 Cooler Temp (including CF): 2.5-4.1 = 2.6 (°C)

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
10/14	13:05	Soil	BH22-09	4.02 Jr	Ice	2210930
	13:10		BH22-09			013
	13:15		BH22-09			014
	11:00		BH22-07			015
	11:05		BH22-07			016
	11:10		BH22-07			017
	11:15		BH22-07			018
	13:20		BH22-10			019
	13:25		BH22-10			020
	13:30		BH22-10			021
	13:35		BH22-10			022
						023

Date: 10/14 Time: 14:30 Relinquished by: S. Reta  
 Date: 10/14 Time: 14:00 Relinquished by: [Signature]

**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	
CF, F, Br, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub>	
8260 (VOA)	
8270 (Semi-VOA)	
Total Coliform (Present/Absent)	

Remarks: Direct Bill to Devon  
 CC: Monica Peppm. Daron/Harvard



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

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.

**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 168244

**CONDITIONS**

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 168244
	Action Type: [C-141] Release Corrective Action (C-141)

**CONDITIONS**

Created By	Condition	Condition Date
bhall	Variance request of five-point composite confirmation samples representative of 1,000 square feet denied. OCD approves a variance of five-point composite samples confirmation samples representative of no more than 500 square feet. Confirmation samples must be analyzed for all constituents list in Table 1. Revegetation must occur per 19.15.29.13 NMAC once the excavation is backfilled.	12/28/2022