Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2105529838
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.***

[x] A scaled site and sampling diagram as described in 19.15.29.11 NMAC

[x] 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)

[x] Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

[x] 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: Arsenio Jones Title: RES Specialist

Signature: Date: 5/28/2021

email: arsenio.jones@matadorresources.com Telephone: 575-361-4333

OCD Only

Received by: Robert Hamlet Date: 7/22/2021

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: Robert Hamlet Date: 7/22/2021

Printed Name: Robert Hamlet Title: Environmental Specialist - Advanced

VERTEX

May 25, 2021 Vertex Project #: 21E-00087-007

Spill Closure Report: Coleman North Facility
Unit H, Section 14, Township 23 South, Range 27 East
County: Eddy
Tracking Number: nAPP2105529838

Prepared For: Matador Production Company
5400 Lyndon B Johnson Freeway
Suite 1500
Dallas, Texas 75240

New Mexico Oil Conservation Division – District 2 – Artesia
811 South First Street
Artesia, New Mexico 88210

Matador Production Company (Matador) retained Vertex Resource Services Inc. (Vertex) to conduct a spill assessment and remediation for a produced water release that occurred on February 23, 2021, at Coleman North Facility (hereafter referred to as "Coleman"). Matador provided notification of the spill to New Mexico Oil Conservation Division (NMOCD) District 2 and a private landowner, who owns the land, via submission of an initial C-141 Release Notification (Attachment 1) on February 23, 2021. The NMOCD tracking number assigned to this incident is nAPP2105529838.

This letter provides a description of the spill assessment and remediation activities, and demonstrates that closure criteria established in 19.15.29.12 *New Mexico Administrative Code* (NMAC; New Mexico Oil Conservation Division, 2018) have been met and all applicable regulations are being followed. This document is intended to serve as a final report to obtain approval from NMOCD for closure of this release.

Incident Description

On February 23, 2021, a release occurred at Matador's Coleman site when a flowline coming from the separator corroded. This incident resulted in the release of approximately 20 barrels (bbls) of produced water onto the engineered pad area. A vacuum truck was dispatched to the site and approximately 8 barrels (bbls) of produced water were recovered. No produced water was released into undisturbed areas or waterways.

Site Characterization

The release at Coleman occurred on privately-owned land, N 32.305821, W 104.153737, approximately 3.6 miles northwest of Loving, New Mexico. The legal description for the site is Unit H, Section 14, Township 23 South, Range 27 East, Eddy County, New Mexico. This location is within the Permian Basin in southeast New Mexico and has historically been used for oil and gas exploration and production, and farmland. An aerial photograph and site schematic are included in Attachment 2 (Figure 1).

The Coleman complex consists of production equipment, a tank battery, and nearby oil and gas exploration and

production wellpads, and is typical of oil and gas-related sites in the western portion of the Permian Basin. The following sections specifically describe the release area on the engineered pad in between production equipment and the compressor.

The surrounding landscape is associated with the alluvial fans, hills, plains, and ridges typical of elevations between 1,250 and 5,300 feet above sea level. The climate is semi-arid with an average annual precipitation ranging between 10 and 25 inches. Historically, the plant communities in this area have been dominated by black grama, tobosa, bunch grasses, midgrasses and other forbs. Tarbrush, creosote and mesquite can be invaders and can dominate the area. Litter is small and its movement is low across bare patches (United States Department of Agriculture, Natural Resources Conservation Service, 2020). Limited to no vegetation is allowed to grow on the compacted facility pad area.

The Geological Map of New Mexico indicates the surface geology at Coleman is comprised of Qa – Alluvium, Holocene to upper Pleistocene (New Mexico Bureau of Geology and Mineral Resources, 2020). The Natural Resources Conservation Service (NRCS) *Web Soil Survey* characterizes the soil at Coleman as Reeves loam and Karro loam with a profile of gypsum and calcium carbonate. This soil tends to be well drained with medium to high runoff and high to very low water storage in the soil profile (United States Department of Agriculture, Natural Resources Conservation Service, 2020). There is medium potential for karst geology to be present near Coleman (United States Department of the Interior, Bureau of Land Management, 2020).

There is no surface water located on-site. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 NMAC, is the Pecos River, located approximately 3 miles west of the site (United States Fish and Wildlife Service, 2020). There are no continuously flowing watercourses, lakebeds, sinkholes, playa lakes, or other critical water or community features at Coleman, as outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

The nearest recent well to the site is a United States Geological Survey-identified well, located approximately 0.34 miles north northeast of Coleman, with a depth to groundwater of 77 feet below ground surface (bgs; United States Department of the Interior, United States Geological Survey, 2020). Documentation pertaining to site characterization and depth to groundwater determination is included in Attachment 3.

Closure Criteria Determination

Using site characterization information, a closure criteria determination worksheet (Attachment 3) was completed to determine if the release was subject to any of the special case scenarios outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

Based on data included in the closure criteria determination worksheet, the release at Coleman is not subject to the requirements of Paragraph (4) of Subsection C of 19.15.29.12 NMAC and the closure criteria for the site are determined to be associated with the following constituent concentration limits based on depth to groundwater. As Coleman is located in an area with gypsum and calcium carbonate soils, and within an area of old farmland, background samples were collected to determine if there were naturally occurring chlorides within the area.

Table 1. Closure Criteria for Soils Impacted by a Release		
Depth to Groundwater	**Constituent**	**Limit**
51-100 feet	Chloride	10,000 mg/kg
	TPH[1] (GRO + DRO + MRO)	2,500 mg/kg
	BTEX[2]	50 mg/kg
	Benzene	10 mg/kg

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

Background Chloride

Based on site research on the historical agricultural use of the area where Coleman is located, as well as information from the NRCS *Web Soil Survey* report included in Attachment 3, Vertex determined there may be potential for existing background chlorides to exceed remediation criteria as outlined in Table 1. At the time of the initial site visit, background samples were collected for laboratory analysis to determine if background chloride levels exceeded the applicable NMOCD closure criteria. These background samples were obtained from two borehole locations (BG21-01 and BG21-02), selected outside of the release footprint per guidance provided in the NMOCD *Procedures for Implementation of the Spill Rule* (19.15.29 NMAC; New Mexico Energy, Minerals and Natural Resources Department, 2019). The samples were collected at intervals, to a depth of 2 feet bgs, which was expected to exceed the projected final depth of remediation. The location of the background samples in relation to the release footprint is presented on Figure 1 (Attachment 2).

Table 2. Adjusted Closure Criteria for Soils Impacted by the Coleman North Facility			
Depth to Groundwater	**Constituent**	**Depth Below Ground Surface**	**Limit**
50 - 100 feet	Chloride	0 feet	14,000 mg/kg
		0.5 foot	10,000 mg/kg
		1 foot	5,600 mg/kg
		2 feet	3,000 mg/kg
	TPH (GRO + DRO + MRO)	All	2,500 mg/kg
	BTEX	All	50 mg/kg
	Benzene	All	10 mg/kg

Remedial Actions

On February 23, 2021, Matador contracted with Vertex to complete release delineation and remediation at Coleman through field screen procedures, oversight of the remediation fieldwork and final confirmatory sampling. The initial spill inspection and site characterization activities at Coleman were completed by Vertex on February 25, 2021. The Daily Field Report (DFR) and field screening data associated with the visit are included in Attachment 4. Using initial field screening data, the release was delineated horizontally and vertically, and remediation was started. Hand excavation of impacted soils was conducted on March 31, 2021, after closure criteria exceedances were identified, with a Vertex representative on-site to conduct field screen procedures to determine final horizontal and vertical extents of the minor excavation areas.

On March 9 and 29, 2021, following the completion of excavation activities, Vertex provided notification of confirmation sampling to NMOCD (Attachment 5), as required by Subparagraph (a) of Paragraph (1) of Subsection D 19.15.29.12 NMAC.

On March 15, 2021, Vertex collected a total of 17 five-point composite confirmatory samples from the base and side walls of the excavation, at depths ranging between ground surface and 0.5 feet bgs. Each composite sample was representative of no more than 200 square feet per the alternate sampling method outlined in Subparagraph (c) of Paragraph (1) of Subsection D 19.15.29.12 NMAC, which does not require prior NMOCD approval. The composite samples were placed into laboratory-provided containers, preserved on ice, and submitted to a National Environmental Laboratory Accreditation Program-approved laboratory for chemical analysis. Additional confirmation sampling was completed on March 31, 2021, to address exceedances of closure criteria after hand excavation was completed.

Laboratory analyses included Method 300.0 for chlorides, Method 8021B for volatile organics, including BTEX, and EPA Method 8015 for TPH, including MRO, DRO and GRO. Confirmatory sample analytical data are summarized in Attachment 6. Laboratory data reports and chain of custody forms are included in Attachment 7.

A GeoExplorer 7000 Series Trimble global positioning system (GPS) unit, or equivalent, was used to map the approximate center of each of the five-point composite samples. The confirmatory sample locations are presented on Figure 2 (Attachment 2). Relevant equipment and prominent features/reference points at the site are mapped as well.

On May 24, 2021, Vertex submitted an extension request via email to NMOCD to complete the closure report (Attachment 8).

Closure Request

Vertex recommends no additional action to address the release at Coleman. Laboratory analyses of the final confirmatory samples showed constituent of concern concentration levels below NMOCD closure criteria for areas where depth to groundwater is between 51 and 100 feet bgs as shown in Table 1. There are no anticipated risks to human, ecological or hydrological receptors associated with the release site.

Vertex requests that this incident (nAPP2105529838) be closed as all closure requirements set forth in Subsection E of 19.15.29.12 NMAC have been met. Matador certifies that all information in this report and the attachments is correct, and that they have complied with all applicable closure requirements and conditions specified in Division rules and directives to meet NMOCD requirements to obtain closure on the February 23, 2021, release at Coleman.

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

Sincerely,

Monica Peppin
PROJECT MANAGER

Attachments

References

New Mexico Bureau of Geology and Mineral Resources. (2020). *Interactive Geologic Map.* Retrieved from http://geoinfo.nmt.edu

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

United States Department of Agriculture, Natural Resources Conservation Service. (2020). *Web Soil Survey*. Retrieved from https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

United States Department of the Interior, Bureau of Land Management. (2020). *New Mexico Cave/Karsts*. Retrieved from https://www.blm.gov/programs/recreation/recreation-programs/caves/new-mexico

United States Department of the Interior, United States Geological Survey. (2020). *Groundwater for New Mexico: Water Levels*. Retrieved from https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?

United States Fish and Wildlife Service. (2020). *National Wetlands Inventory*. Retrieved from https://www.fws.gov/wetlands/Data/Mapper.html

Limitations

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

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

ATTACHMENT 1

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	nAPP2105529838
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: Matador Production Company	OGRID: 228937
Contact Name: John Hurt	Contact Telephone: 972-371-5200
Contact email: JHurt@matadorresources.com	Incident # *(assigned by OCD)* nAPP2105529838
Contact mailing address: 5400 LBJ Freeway, Suite 1500 Dallas, TX 75240	

Location of Release Source

Latitude 32.305821 Longitude -104.153737
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Coleman North Facility	Site Type: TB
Date Release Discovered: 02/23/2021	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
H	14	23S	27E	Eddy

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (*Name:* _____)

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 20 bbls	Volume Recovered (bbls) 8 bbls
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release:

Flowline coming from separator corroded through causing a fluid release.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2105529838
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

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

☒ The source of the release has been stopped.
☒ The impacted area has been secured to protect human health and the environment.
☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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

Printed Name: Arsenio Jones Title: RES Specialist .

Signature: Date: 5/28/2021

email: arsenio.jones@matadorresources.com Telephone: 575- 361-4333 .

OCD Only

Received by: Date:

Incident ID	nAPP2105529838
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	77 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2105529838
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Printed Name: Arsenio Jones Title: RES Specialist

Signature: Date: 5/28/2021

email: arsenio.jones@matadorresources.com Telephone: _____

OCD Only

Received by: _____ Date: _____

Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2105529838
District RP	
Facility ID	
Application ID	

Closure

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

[X] A scaled site and sampling diagram as described in 19.15.29.11 NMAC

[X] 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)

[X] Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

[X] 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: Arsenio Jones Title: RES Specialist

Signature: _____ Date: 5/28/2021

email: arsenio.jones@matadorresources.com Telephone: 575-361-4333

OCD Only

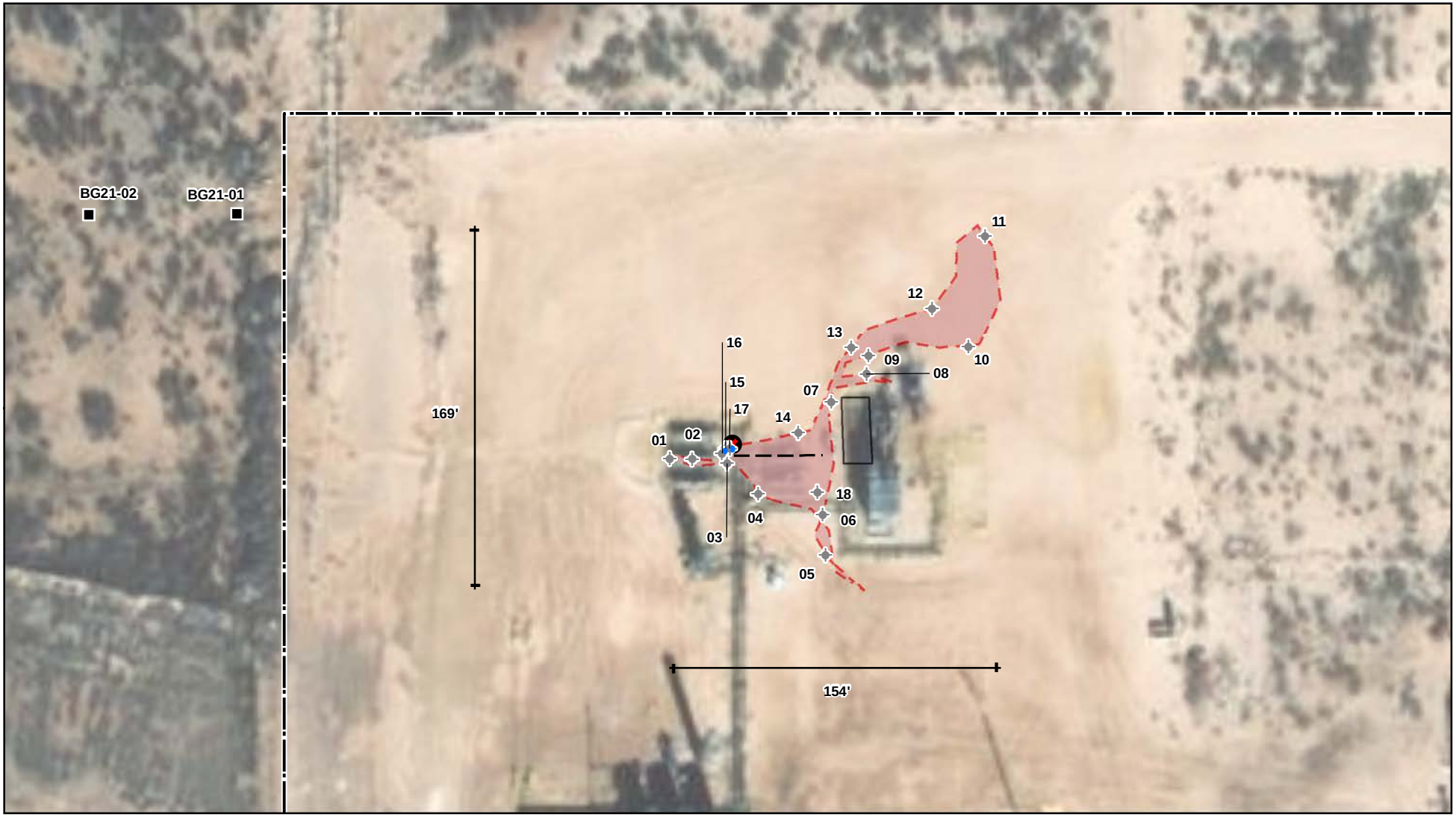
Received by: _____ Date: _____

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: _____

ATTACHMENT 2



Background Sample
Excavated Borehole (Prefixed by "BH21-")
Point of Release
Separator
Aboveground Pipeline
Approximate Lease Boundary
Approximate Spill Extent (3,370 sq. ft.)
Compressor

VERTEX

0 25 50 Feet

Map Center:
Lat/Long: 32.305869, -104.153741

WGS 1984 UTM Zone 13N
Date: Mar 03/21

N

Initial Characterization
Coleman North Facility

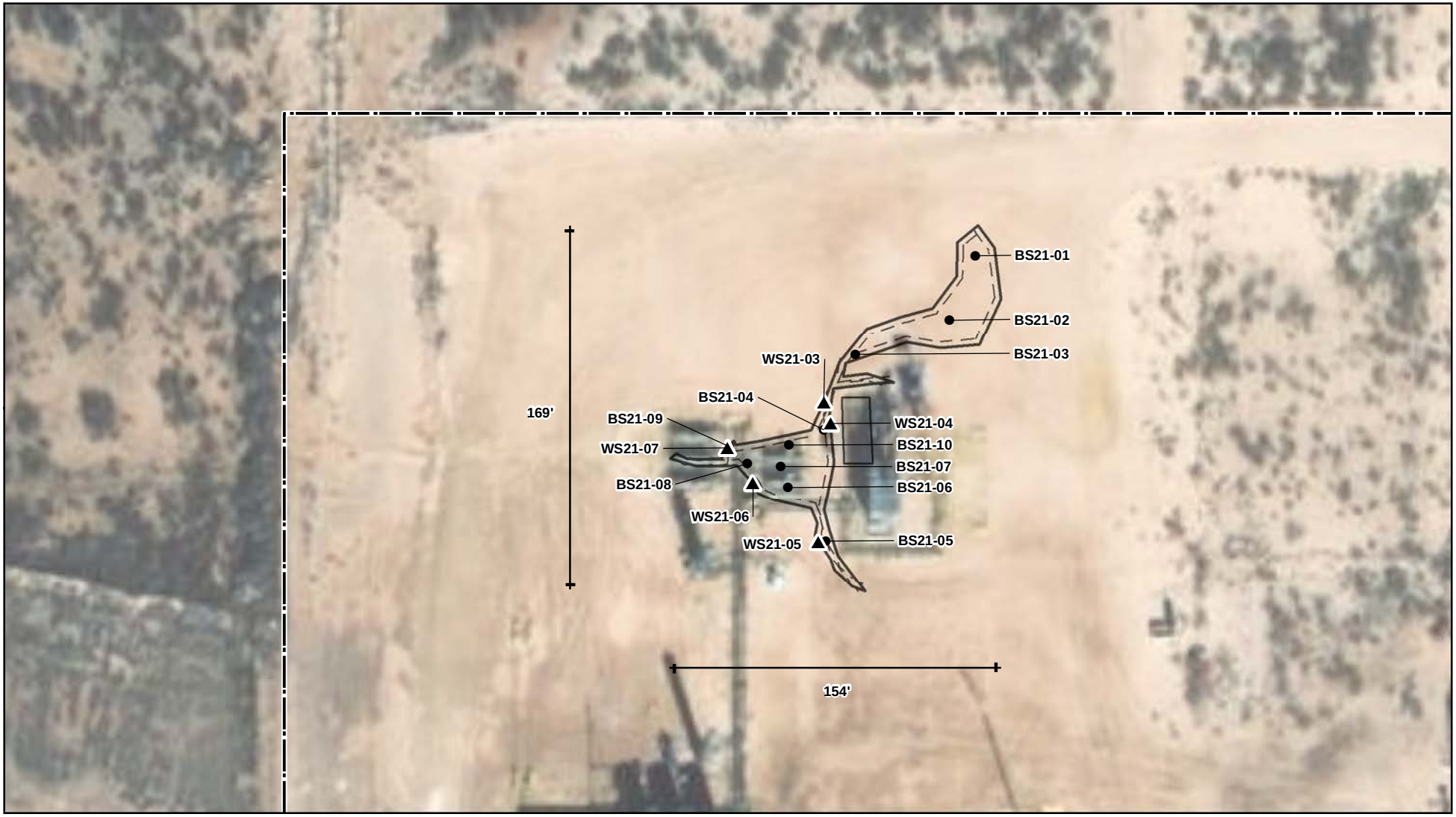
FIGURE:
1

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: Basemap imagery from ESRI 2020.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Matador Resources\21E-00087\007 - Coleman North Facility\Figure 1 Initial Characterization Coleman North Facility.mxd



● Base Sample

▲ Wall Sample

Approximate Lease Boundary

Approximate Excavation Extent (3,499 sq. ft.)

Compressor

VERTEX

0 25 50 Feet

Map Center:
Lat/Long: 32.305869, -104.153741

WGS 1984 UTM Zone 13N

Date: Mar 23/21

N

Confirmatory Schematic
Coleman North Facility

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: Basemap imagery from ESRI 2020.

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Document Path: G:\1-Projects_US PROJECTS\Matador Resources\21E-00087\007 - Coleman North Facility\Figure 2 Confirmatory Schematic Coleman North Facility.mxd

ATTACHMENT 3

Closure Criteria Worksheet			
Site Name: Coleman North Facility			
Spill Coordinates:		X: 32.3055513	Y: -104.1538487
Site Specific Conditions		Value	Unit
1	Depth to Groundwater	**77**	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	15,874	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	15,766	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	1,887	feet
5	i) Within 500 feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, **or**	1,887	feet
	ii) Within 1000 feet of any fresh water well or spring	1,887	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	995	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
9	Within an unstable area (Karst Map)	Medium	Critical High Medium Low
10	Within a 100-year Floodplain	>500	year
11	Soil Type	Reeves Loam and Karro Loam	
12	Ecological Classification	Loamy	
13	Geology	Qa- Alluvium (Holocene to upper Pleistocene)	
NMAC 19.15.29.12 E (Table 1) Closure Criteria		51-100'	<50' 51-100' >100'

National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater | Geographic Area: United States | GO

Click to hideNews Bulletins

- Introducing The Next Generation of USGS Water Data for the Nation
- Full News

Groundwater levels for the Nation

* IMPORTANT: Next Generation Station Page

Search Results -- 1 sites found

site_no list =

- 321840104090301

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

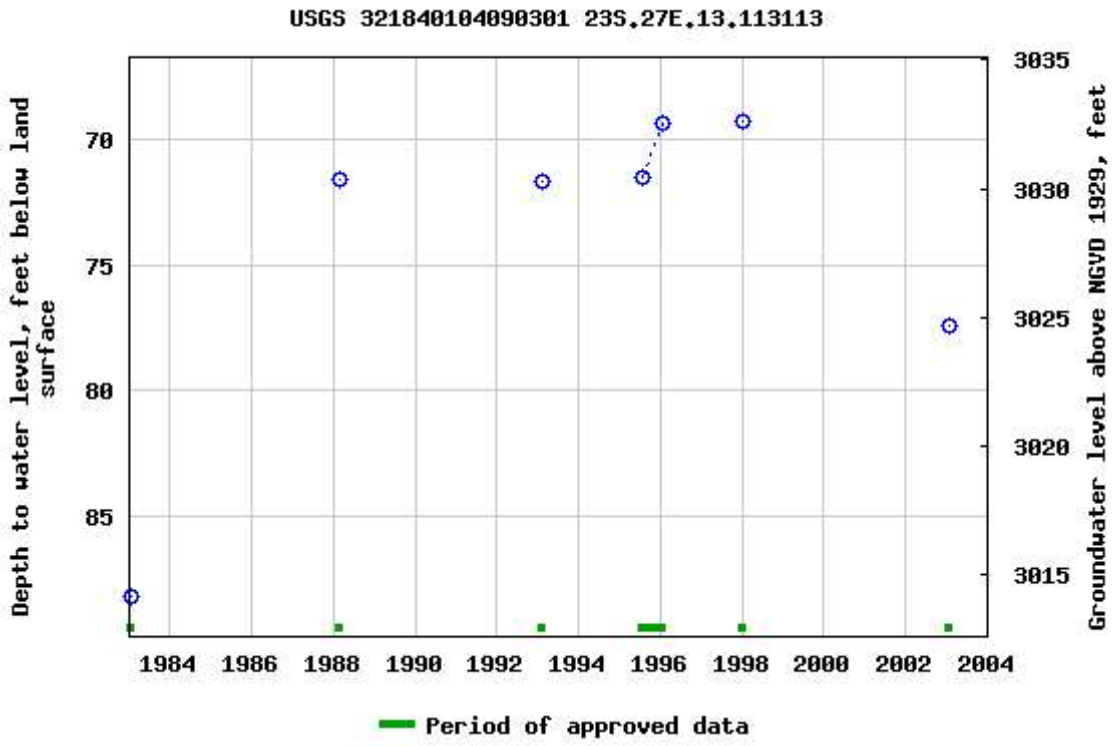
USGS 321840104090301 23S.27E.13.113113

Available data for this site | Groundwater: Field measurements | GO

Eddy County, New Mexico
Hydrologic Unit Code 13060011
Latitude 32°18'37.4", Longitude 104°09'06.9" NAD83
Land-surface elevation 3,102.10 feet above NGVD29
The depth of the well is 200 feet below land surface.
This well is completed in the Other aquifers (N9999OTHER) national aquifer.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period



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

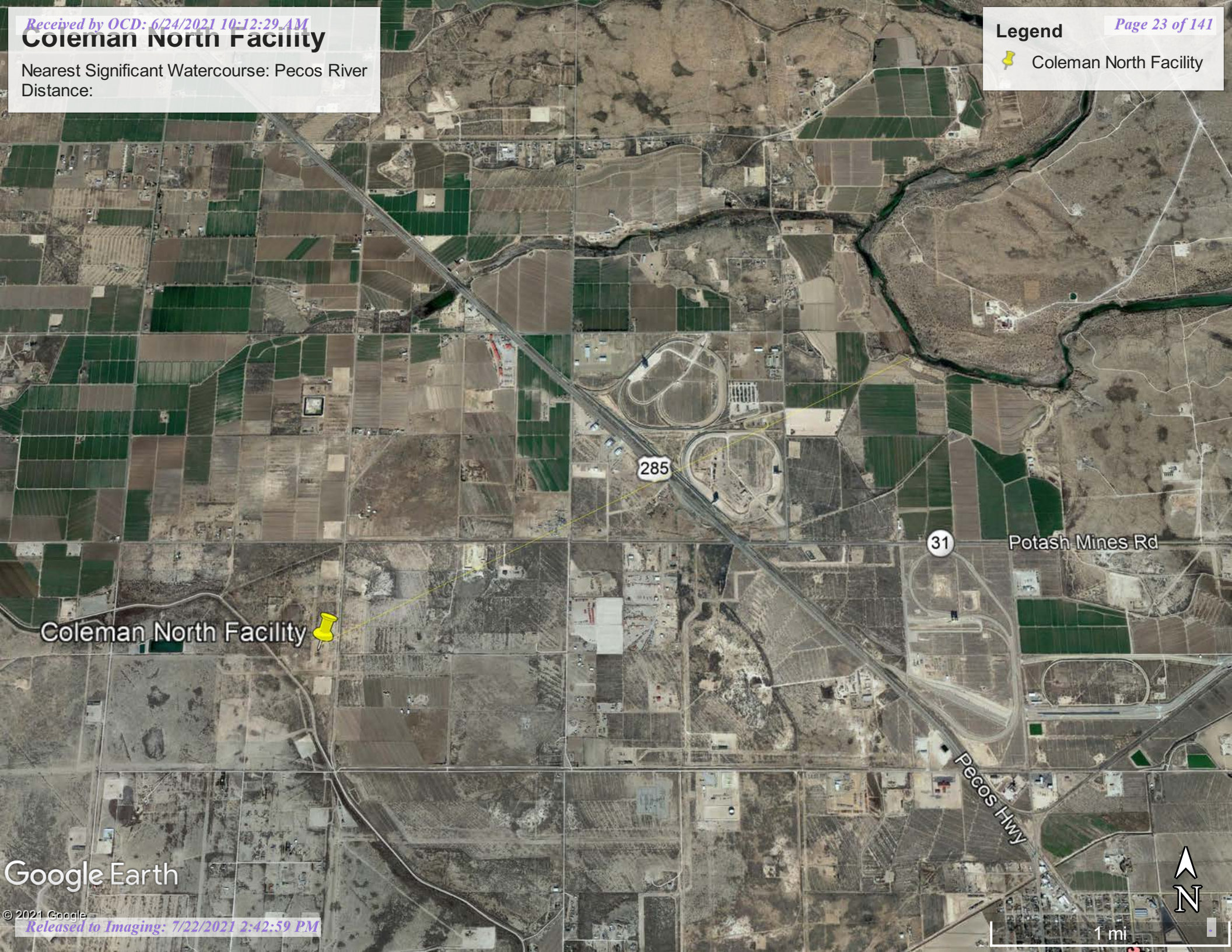
Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

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: 2021-03-08 17:03:39 EST
0.64 0.58 nadww01

Coleman North Facility

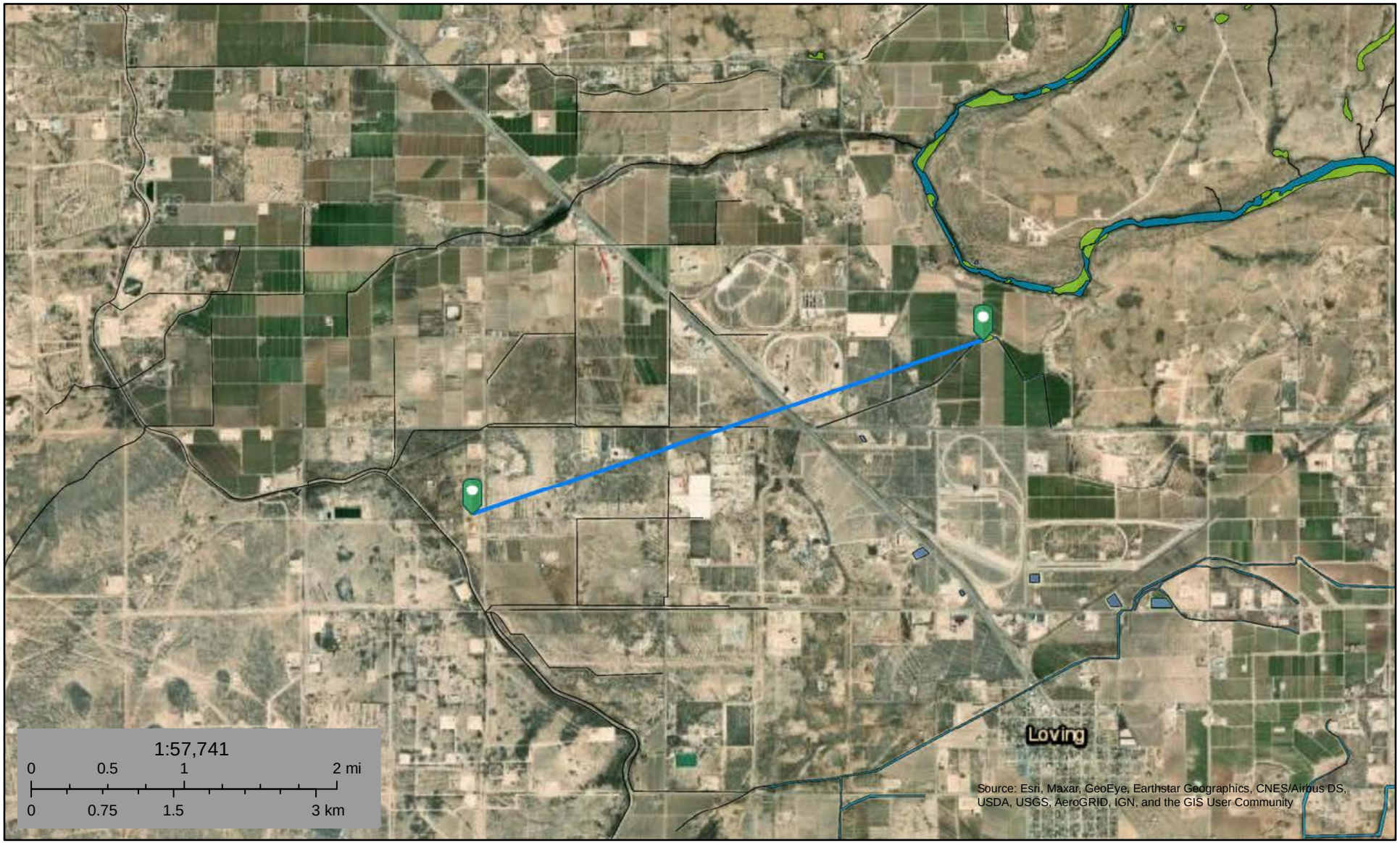
Nearest Significant Watercourse: Pecos River
Distance:



U.S. Fish and Wildlife Service

National Wetlands Inventory

Coleman North Facility



March 8, 2021

Wetlands

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

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

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

Coleman North Facility

Nearest Residence: 1,887 ft

Legend

- Coleman North Facility
- Feature 1

Coleman North Facility

Google Earth

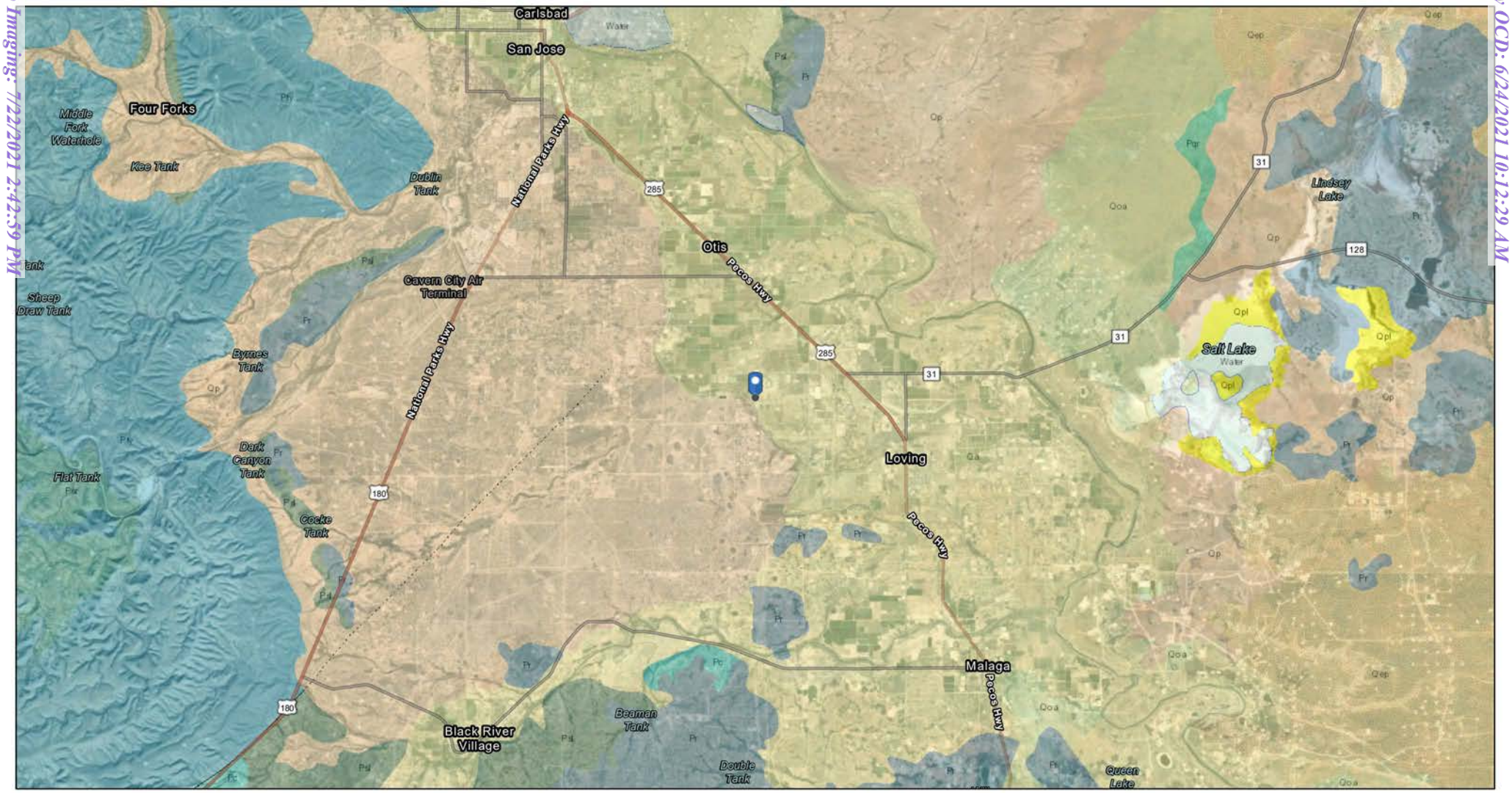
N

1000 ft

Coleman North Facility

Nearest Town: Loving, NM
Distance:19,233 ft 3.64 miles

Coleman North Facility



3/8/2021, 3:31:40 PM

Faults

- Fault, Exposed
- Fault, Intermittent
- Fault, Concealed
- Shere Zone

1:144,448

0 1.5 3 6 mi

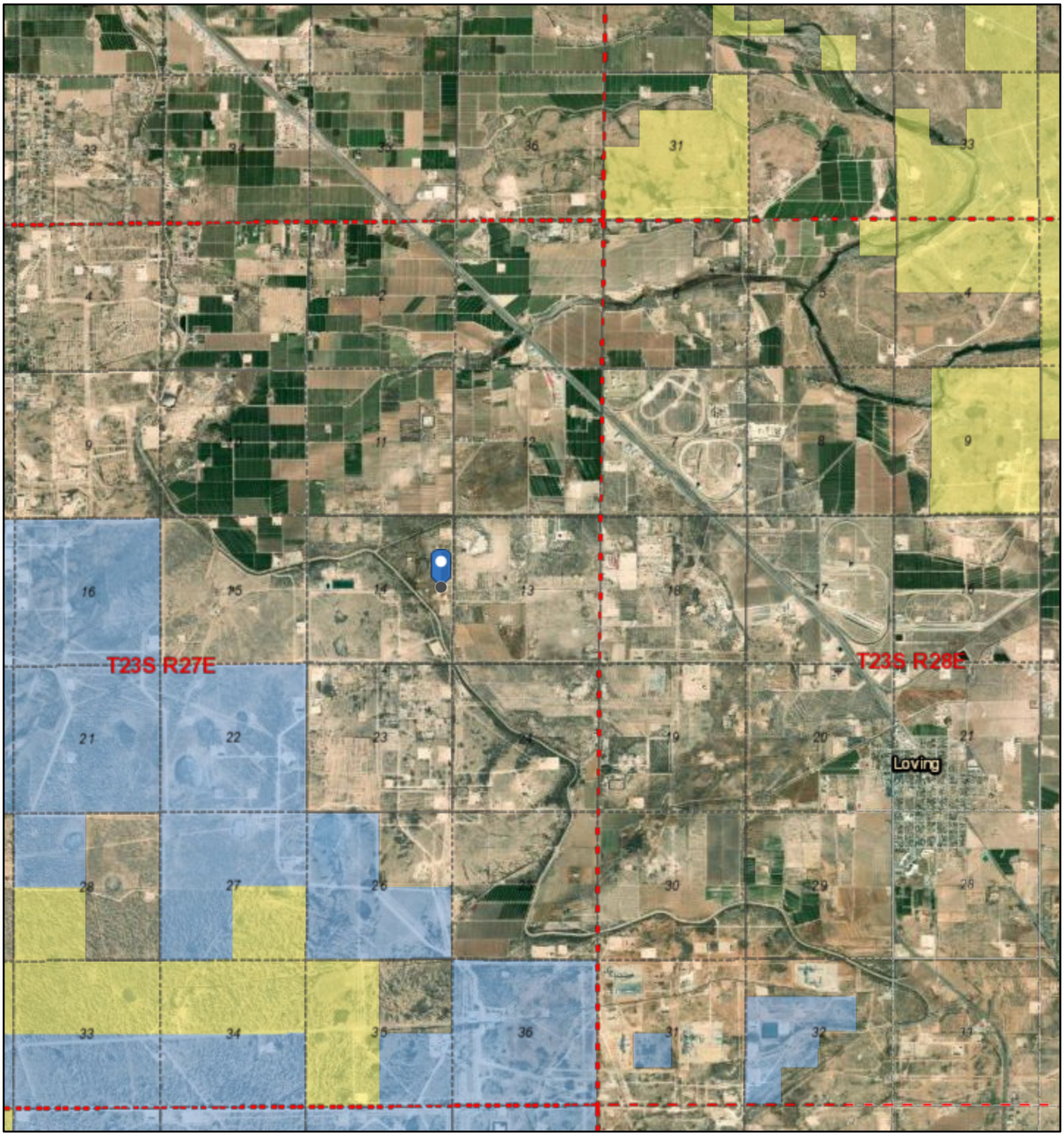
0 2.5 5 10 km

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, NMBGMR, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

ArcGIS Web AppBuilder

Bureau of Land Management, Network Operations Center (NOC) | New Mexico Bureau of Geology & Mineral Resources, Bureau of Land Management | New Mexico Bureau of Geology and Mineral Resources | New Mexico Bureau of Geology & Mineral Resources | NMBGMR | Compiled by the Bureau of Land

Coleman North Facility



5/13/2021, 2:07:54 PM

1:72,224

0 0.5 1 2 mi

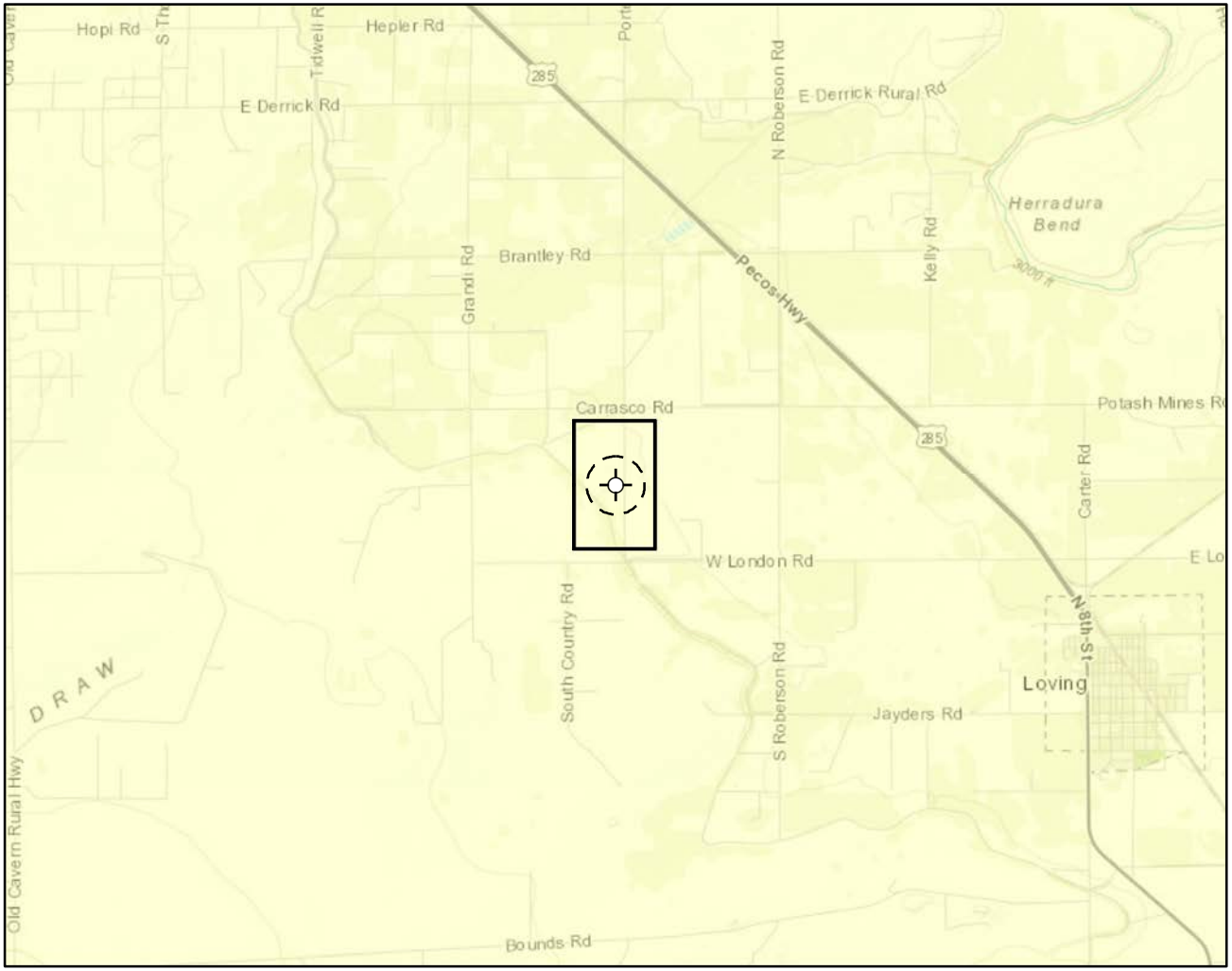
0 0.75 1.5 3 km

Township / Range
Sections

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

Esri, HERE, Garmin, U.S. Bureau of Land Management - New Mexico State Office, Earthstar Geographics

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



Karst Potential

- Critical
- High
- Medium
- Low

Site Location

Site Buffer (1,000 ft.)

Overview Map

0 0.25 0.5 1 mi

Detail Map

0 150 300 600 ft.

VERTEX

Map Center:
Lat/Long: 32.305374, -104.153440

NAD 1983 UTM Zone 13N
Date: Mar 31/21

N

Karst Potential
Coleman North Facility

FIGURE:
X

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

Note: Inset Map, ESRI 20XX; Overview Map: ESRI World Topographic

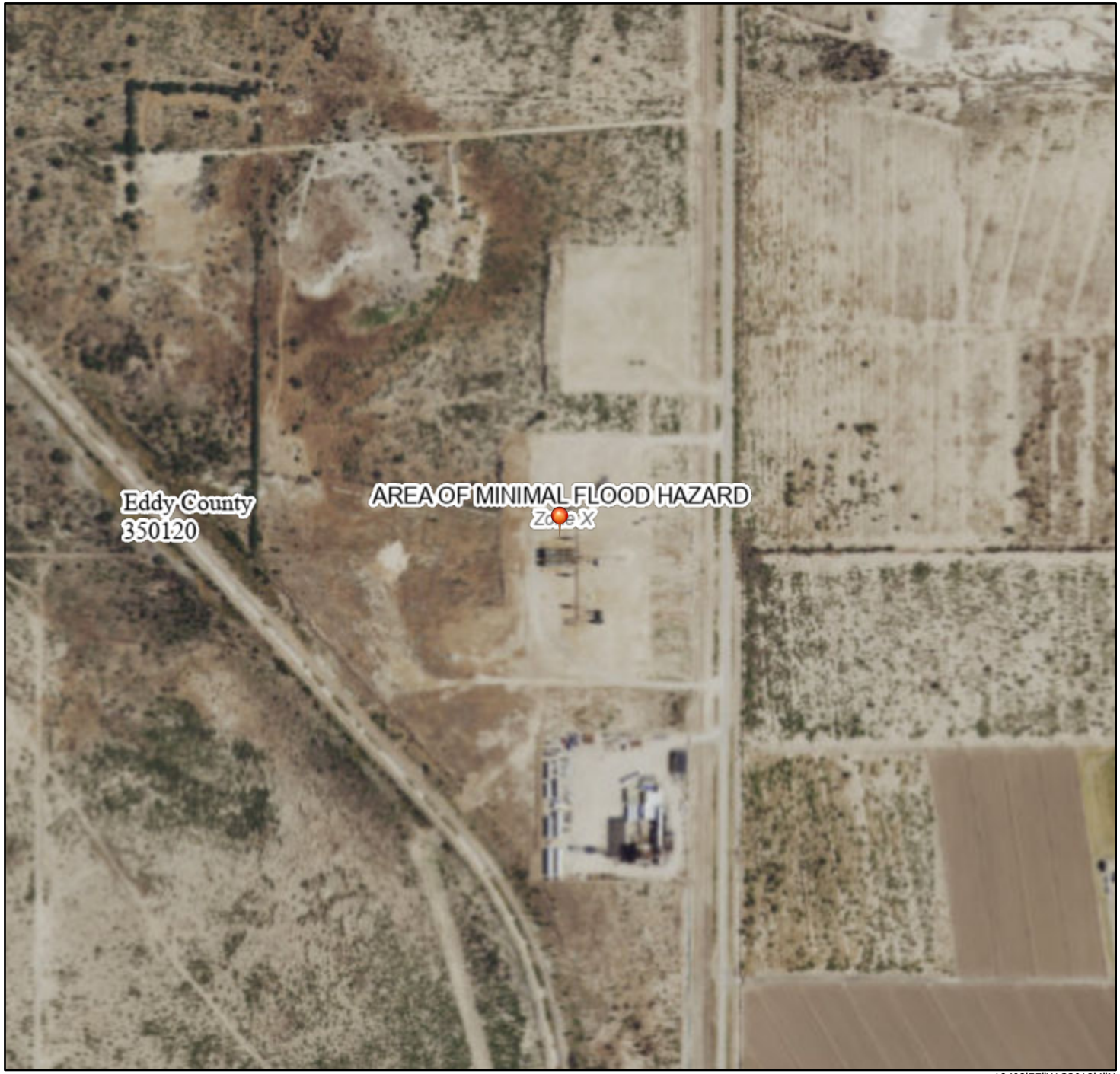
VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Matador Resources\21E-00087\007 - Coleman North Facility\Fig X Karst Potential Coleman North Facility.mxd

National Flood Hazard Layer FIRMette

FEMA

104°9'33"W 32°18'35"N



104°8'55"W 32°18'4"N

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

1:6,000

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

Legend

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

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

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

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

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

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

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

N

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

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/8/2021 at 5:52 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

Soil Map—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 27, 2020—Feb 28, 2020

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Kv	Karro loam, saline, 0 to 1 percent slopes	14.5	74.0%
Rr	Reeves loam, saline, 0 to 1 percent slopes	5.1	26.0%
Totals for Area of Interest		**19.6**	**100.0%**

Eddy Area, New Mexico

Kv—Karro loam, saline, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 1w4x
Elevation: 3,000 to 4,500 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: Farmland of statewide importance

Map Unit Composition

Karro and similar soils: 99 percent
Minor components: 1 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Karro

Setting

Landform: Alluvial fans, plains
Landform position (three-dimensional): Riser, rise, talf
Down-slope shape: Linear, convex
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile

H1 - 0 to 10 inches: loam
H2 - 10 to 90 inches: loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 60 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 13.0
Available water capacity: High (about 10.5 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Ecological site: R042XC036NM - Salt Flats

Hydric soil rating: No

Minor Components

Reeves

Percent of map unit: 1 percent
Ecological site: R042XC007NM - Loamy
Hydric soil rating: No

Data Source Information

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

Eddy Area, New Mexico

Rr—Reeves loam, saline, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 1w5r
Elevation: 1,250 to 5,300 feet
Mean annual precipitation: 10 to 25 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 120 to 230 days
Farmland classification: Not prime farmland

Map Unit Composition

Reeves and similar soils: 97 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Reeves

Setting

Landform: Hills, plains, ridges
Landform position (two-dimensional): Backslope, footslope, shoulder, toeslope
Landform position (three-dimensional): Crest, nose slope, side slope, head slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Residuum weathered from gypsum

Typical profile

Ap1 - 0 to 8 inches: loam
H2 - 8 to 23 inches: clay loam
H3 - 23 to 32 inches: gypsiferous material
H4 - 32 to 60 inches: bedrock

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: 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: 25 percent
Gypsum, maximum content: 80 percent
Maximum salinity: Moderately saline to strongly saline (8.0 to 16.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water capacity: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: C
Ecological site: R042XC036NM - Salt Flats
Hydric soil rating: No

Minor Components

Reeves

Percent of map unit: 1 percent
Ecological site: R042XC007NM - Loamy
Hydric soil rating: No

Karro

Percent of map unit: 1 percent
Ecological site: R042XC036NM - Salt Flats
Hydric soil rating: No

Cottonwood

Percent of map unit: 1 percent
Ecological site: R042XC006NM - Gyp Upland
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: 2/12/2010 **MLRA:** 42.3 **Ecological Site:** Loamy 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.

1. Number and extent of rills There should not be any rills.

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.

2. Presence of water flow patterns: There can be evidence of sheet flow.

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.

3. Number and height of erosional pedestals or terracettes: Pedestals should be rare. Terracettes can occure and should be discontinuous

There can be a few pedestals that should be less than 1 inch high. Terracettes can be common and should be discontinuous. 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.

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

Bare ground can make up to 50% of the ground cover on this site according to the ESD. Bare patch size should be small.

5. Number of gullies and erosion associated with gullies:

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.

6. Extent of wind scoured, blowouts and/or depositional area

There should not be any wind scoured, blowouts and/or depositional areas. However there can be potential for depositional 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 succeptable to wind erosion when vegetation is removed or significantly decreased.

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

Litter should be small (less than "1 in diameter) and its movement should be minimal. This site has adequate vegetation to stop litter movement after short distances. Most of the litter movement on this site will be litter that has been transported onto the site from adjacent sites. Litter produced on this site stays on the site and only travels short distances.

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) :

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 l

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) :

The SOM content should be less than 1%. A--0 to 6 inches; grayish brown (10YR 5/2) loam, dark grayish brown (10YR 4/2) moist; weak fine subangular blocky structure; hard, friable, slightly sticky; surface 1/2 to 2 inches has weak thin to medium platy structure; common very fine and fine pores; common very fine, fine and medium roots; strongly calcareous; slightly alkaline (pH 7.6); clear smooth boundary. (4 to 8 inches thick)

10. Effect of plant community composition (relative proportion of different functional groups) & spatial distribution on infiltration & runoff:

Overall, infiltration rates should be slow for this site but can be higher around bases of grasses than in interspaces and around bases of shrubs. The soils of this site are deep to moderately deep. The moderately deep soils have either a petrocalcic, petrogypsic or gypsum horizon between 30 and 40 inches. Surface textures are loam, silt loam, very fine sandy loam, or clay loam. Substratum textures are loam, silty clay loam, clay loam, or silt loams. Subsoil textures are silt loam , clay loam silty clay loam, gravelly loam, gravelly clay loam or very gravelly loam. Permeability is moderate to slow and the available water holding capacity is high to moderate.

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

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.

12. Functional/Structural Groups (list in order of descending dominance by above-ground weight using symbols: indicate much greater than (>>) , greater than (>) , and equal to (=) :

black grama >> tobosa > C 4 bunch grasses (dropseeds) > C4 midgrasses (threeawns) >= soaptree yucca, ephedra, fourwing saltbush >= forbs (croton, desert marigold, globemallow, > broom snakeweed, prickly pear, = other forbs.

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

Black grama and bunchgrasses can show decadence in centers of plants.

14. Average percent litter cover (_____ %) and depth (_____ inches).

Average 15% cover and 0.75 inch deep. (As per ESD)

15. Expected annual production (this is <u>TOTAL</u> above-ground production, not just forage production):

(Low Production 650 lbs./ac.) (Average RV Production 925 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

Tarbush, creosote and mesquite can be invaders to this site. Invasive plants should not occur in reference plant community. However, lovegrass, Russian thistle, kochia, and other nonnative annuals may initialy invade following extended disturbance. Mesquite and tarbush 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 tarbush 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 C4 midgrasses should have high reproductive potential and rapidly recover from drought in the absence of additional stresses (grazing).

Photograph (s)

MLRA : **Date :**

Ecological Site :

Photo # 1

Comments :

Photo # 2

Comments :

Coleman North Facility

3/8/2021, 3:31:40 PM

1:144,448

Faults

- Fault, Exposed
- Fault, Intermittent
- Fault, Concealed
- Shere Zone

0 1.5 3 6 mi

0 2.5 5 10 km

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, NMBGMR, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

ArcGIS Web AppBuilder

ATTACHMENT 4

Daily Site Visit Report

Client:	Matador Resources	Inspection Date:	2/23/2021
Site Location Name:	Coleman North TB	Report Run Date:	2/24/2021 12:09 AM
Client Contact Name:	John Hurt	API #:	30-015-44608
Client Contact Phone #:			
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	2/23/2021 10:40 AM
Departed Site	2/23/2021 4:50 PM

Field Notes

10:59 Arrived on site, filled out safety paperwork

10:59 Addressed the spill, and find point of release.

11:02 Pressure washing crew had been washing since 8am and used approximately 400 gal mixed with degreaser.

11:35 Release point has about a 2’ deep hole in the ground and the release point is about 1.5” round

Next Steps & Recommendations

1 Submit background samples to lab. Wait for further instructions from PM.

Daily Site Visit Report

Site Photos

Viewing Direction: North	**Viewing Direction**: South
	
Looking north at release	Point of release
Viewing Direction: Southeast	**Viewing Direction**: East
	
Looking at separators	Looking east, behind the compressor

Daily Site Visit Report

Viewing Direction: South	**Viewing Direction**: South
	
Looking south at spill area	Standing to the North east of compressor
Viewing Direction: Northwest	**Viewing Direction**: Southeast
	
Standing in front of compressor	Looking southeast

Daily Site Visit Report

Viewing Direction: South

Looking south at spill

Viewing Direction: South

Looking south, standing on west side of compressor

Viewing Direction: West

Looking wear in between separators

Viewing Direction: Northwest

North west, standing on south side of separators

Daily Site Visit Report

Viewing Direction: North

Looking towards the RP

Viewing Direction: East

Looking east

Viewing Direction: Southeast

Looking at separators

Daily Site Visit Report

Daily Site Visit Signature

Inspector: John Ramirez

Signature:

VERTEX

Spill Response and Sampling

Client:	Matador
Date:	2-23-2021
Site Name:	Coleman North TB
Site Location:	32.3055513, -104.1535487
Project Owner:	
Project Manager:	Monca Kapp
Project #:	215-00235

Initial Spill Information - Record on First Visit	
Spill Date:	
Spill Volume:	
Spill Cause:	Corroded line
Spill Product:	Produced water
Recovered Spill Volume:	7-8 bbls
Recovery Method:	Vac Truck

Sampling							
		Field Screening			Data Collection (Check for Yes)		
Sample ID	Depth (ft)	VOC (PID)	PetroFlag TPH (ppm)	Chloride PPM	Notes	Trimble Coordinates	Marked on Site Sketch
BE/WS/BH - Year - Number Ex. BE18-01	Ex. '2ft	Ex. 400 ppm	200 ppm	Method: Titration - EC Probe			
BH21-17	0			15.35/22.5			
BH21-17	1			10.90/21.9			
BH21-17	1.5			4.61/22.0			
BH21-18	0			8.97/22.6			
BH21-18	0.5			6.13/24.0			
BH21-18	1			6.03/24.1			
BH21-18	2			2.72/24.2			

Spill Response and Sampling

VERTEX

Client:	Matador
Date:	2.23.2021
Site Name:	Coleman North TB
Site Location:	32.3055513, -104.1538487
Project Owner:	
Project Manager:	Monica Peppin
Project #:	21E-00239

Initial Spill Information - Record on First Visit

Spill Date:	
Spill Volume:	
Spill Cause:	Corroded line
Spill Product:	Produced water
Recovered Spill Volume:	7-8 bbls
Recovery Method:	Vac Truck

Sampling

		Field Screening			Data Collection (Check for Yes)			
Sample ID	Depth (ft)	VOC (PID)	PetroFlag TPH (ppm)	Quantab (High/Low) + or -	Lab Analysis	Picture	Trimble Coordinates	Marked on Site Sketch
SS/TP/BH - Year - Number Ex. BH18-03	Ex. '2ft	Ex. 400 ppm	200 ppm	Ex. 'High+	Ex. Hydrocarbon Chloride			
BH21-01	0-6'			0.57/27.9				
BH21-02	0-6			15.43/24.5				
BH21-03	0-6'			16.63/20.6				
BH21-04	0-6			9.96/21.1				
BH21-05	0-0.5			10.04/20.4				
BH21-06	0-0.5			3.61/19.5				
BH21-07	0-0.5			2.64/21.3				
BH21-08	0-0.5			4.50/21.5				
BH21-09	0-0.5			3.24/21.7				
BH21-10	0-0.5			2.08/24.6				
BH21-11	0-0.5			2.01/23.7				
BH21-12	0-0.5			2.50/23.3				
BH21-13	0-0.5			5.24/24.8				
BH21-14	0-0.5			8.00/25.0				
BH21-15	0-0.5			7.75/25.2				
BG21-01	0-0.5			4.30/24.2	70' off pad to west			
BG21-02	0			12.07/23.5	150' off pad to west			
BG21-02	0.5			9.56/22.9				
BG21-02	1			5.58/22.3				
BG21-02	2			3.58/23.3				
BH21-16	0-0.5			8.75/24.1				

Daily Site Visit Report

Client:	Matador Resources	Inspection Date:	3/15/2021
Site Location Name:	Coleman North TB	Report Run Date:	3/15/2021 6:51 PM
Client Contact Name:	John Hurt	API #:	30-015-44608
Client Contact Phone #:			
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	3/15/2021 8:21 AM
Departed Site	3/15/2021 12:20 PM

Field Notes

8:23 Arrived on site, began dfr and filled out safety paperwork

12:16 Collected a total of 17 confirmation samples. 10 base samples and 7 wall samples.

12:19 Took another background sample 21-03 @ 0,1,&2 feet. Just north off the pad in the pasture.

12:20 Will field screen confirmation samples at office, shooting for 10,000 or less ppm on chlorides.

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: East	**Viewing Direction**: East
	
Sample area	Sample area
Viewing Direction: South	**Viewing Direction**: South
	
Samples area	Sample area between separators

Daily Site Visit Report

Viewing Direction: East

Sample area between separators

Viewing Direction: Northeast

Sample area

Viewing Direction: North

Background 21-03 sample area

Daily Site Visit Report

Daily Site Visit Signature

Inspector: John Ramirez

Signature: 

VERTEX

Spill Response and Sampling

Client:	Matador
Date:	3-15-21
Site Name:	Coleman North TB
Site Location:	32.3055513, -104.1538487
Client Contact:	John Hurt 972-371-5200
Project Manager:	Monica Kuykendall
Project #:	21E-00087-007
API:	
Site Wide Picture	(Yes)/No Circle

Initial Spill Information - Record on First Visit	
Spill Date:	2-27-21
Spill Volume:	20 bbls
Spill Cause:	Corroded line
Spill Product:	PW
Recovered Spill Volume:	Vac truck
Recovery Method:	7-8 bbls
On Lease/Off Lease:	on
Site Placard Picture:	(Yes)/No Circle

Sampling

		Field Screening								
		Hydrocarbon		Chloride					'Data Collection (Check for Yes)	
Sample ID	Depth (ft)	VOC (PID)	PetroFlag TPH (ppm)	EC Reading (dS/cm)	Temp (°C)	Chloride (ppm)	Chloride Titration (ppm)	Lab Analysis	Picture	Marked on Site Sketch
SS/TP/BH - Year - Number Ex. BH18-01	Ex. '2ft	400.0	200.0	0.006	25	0		BTEX TPH None		
BS21-01	0.5			2.59	22.3	3583		Lab		
BS21-02	0.5			6.37	22.0	9051		Lab		
BS21-03	0.5			8.05	21.6	11493	9323	Lab		
BS21-04	0.5			7.40	21.4	10564		Lab		
BS21-05	0.5			7.11	21.6	10137		Lab		
BS21-06	0.5			8.82	21.6	12605	12692	Lab		
BS21-07	0.5			6.06	21.2	~~4505~~		chloride 8639 Lab		
BS21-08	0.5			13.27	21.5	19032		Lab		
BS21-09	0.5			7.77	21.4	11098		Lab		
BS21-10	0.5			6.79	20.9	9705		Lab		
WS21-01	0-0.5			9.34	20.9	13386		Lab		
WS21-02	0-0.5			4.92	21.3	6989		Lab		
WS21-03	0-0.5			8.56	21.4	12238		Lab		
WS21-04	0-0.5			2.65	20.9	3730		Lab		
WS21-05	0-0.5			6.19	21.4	8818		Lab		
WS21-06	0-0.5			10.58	21.4	15154		Lab		
WS21-07	0-0.5			12.94	21.4	18560		Lab		
~~BG21-03~~	~~0'~~									
~~BG21-03~~	~~1'~~									
~~BS21-03~~	~~2'~~									

Daily Site Visit Report

Client:	Matador Resources	Inspection Date:	3/31/2021
Site Location Name:	Coleman North TB	Report Run Date:	3/31/2021 7:45 PM
Client Contact Name:	John Hurt	API #:	30-015-44608
Client Contact Phone #:			
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	3/31/2021 7:20 AM
Departed Site	3/31/2021 12:15 PM

Field Notes

7:21 Arrived on site, began dfr and filled out safety paperwork.

7:38 Recollecting B21-05,BS21-06,BS21-08,WS21-06 and WS21-07

9:36 Hand excavation of 0.5in at all 6 relocation of sample points.

12:13 Collected all failed samples and going to run titration on them in the office.

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: Northeast	**Viewing Direction**: East
	
Hand digging to recollect.	Recollection area
Viewing Direction: West	**Viewing Direction**: West
	
Recollection area	Recollection area

Daily Site Visit Report

Viewing Direction: West

Recollection area

Daily Site Visit Report

Daily Site Visit Signature

Inspector: John Ramirez

Signature: 

Spill Response and Sampling

VERTEX

Client: Matador
Date: 3-31-21
Site Name: Coleman North TB
Site Location: 32.3055513 -104.1537487
Client Contact: John Hurt 972-371-5200
Project Manager: Monica Peppin
Project #: 21E-00087-007
API:
Site Wide Picture: Yes/No Circle

Initial Spill Information - Record on First Visit
Spill Date: 2-27-21
Spill Volume: 20 bbls
Spill Cause: Corroded line
Spill Product: PW
Recovered Spill Volume: 7-8 bbls
Recovery Method: Vac Truck
On Lease/Off Lease: On
Site Placard Picture: Yes/No Circle

		Sampling								
		Field Screening							Data Collection (Check for Yes)	
		Hydrocarbon		Chloride						
Sample ID	Depth (ft)	VOC (PID)	PetroFlag TPH (ppm)	EC Reading (dS/cm)	Temp (°C)	Chloride (ppm)	Chloride Titration (ppm)	Lab Analysis	Picture	Marked on Site Sketch
SS/TP/BH - Year Number Ex. BH18-01	Ex. 2ft	400.0	200.0	0.006	25	0		BTEX TPH None		
WS21-06	0-0.5			6.20	20.4	8875	6935			
BS21-00	0.5			8.78	21.8	12538	11985			
BS21-08	0.5			17.94	21.1	25789				
BS21-05	0.5			8.30	20.5	11902				
WS21-07	0-0.5			13.31	21.3	19098				
BH21-19	0.5			7.93	21.2	11338		5' outside spill		
BH21-18	0.5			7.44	21.3	10626		middle of spill		

ATTACHMENT 5

Monica Peppin

From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Sent: Tuesday, March 9, 2021 3:52 PM
To: Enviro, OCD, EMNRD; Bratcher, Mike, EMNRD; Hamlet, Robert, EMNRD; Venegas, Victoria, EMNRD; John Hurt; Monica Peppin
Subject: nAPP2105529838 Coleman North Facililty 48HR Notice of Confirmatory Sampling

All,

Please accept this email as 48-hour notification that Vertex Resource Services has scheduled confirmatory sampled to be conducted at Coleman North Facility for the following release:

nAPP2105529838 DOR: February 23, 2021

On Monday, March 15, 2021 at approximately 8:00 AM, Chance Dixon will be onsite to conduct confirmatory sampling while excavation is ongoing and could go into the following day. He can be reached at 575-988-1472, please do not hesitate to contact him. If you have any questions or concerns regarding this notification, please give me a call at 575-361-9880.

Thank you,
Monica

Monica Peppin
Project Manager in Training

Vertex Resource Group Ltd.
3101 Boyd Drive,
Carlsbad, NM 88220

P 575.725.5001 Ext. 711
C 575.361.9880
F

www.vertex.ca

ATTACHMENT 6

Client Name: Matador Production Company
Site Name: Coleman Noth TB
NM OCD Incident Tracking Numbers: nAPP2105529838
Project #: 21E-00087
Lab Report: 2102C52, 2102B87

Table 3. Characterization Sampling Laboratory Results - Depth to Groundwater 50 ft <100 ft

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
						Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (Petro Flag)	Inorganics (Quantab - High/Low)	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride
			(ppm)	(ppm)	(+/-)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BH21-01	0-0.5	February 25, 2021	-	-	425	<0.025	<0.224	<5.0	<9.6	<48	<14.6	<62.6	410
BH21-02	0-0.5	February 25, 2021	-	-	22,019	-	-	-	-	-	-	-	-
BH21-03	0-0.5	February 25, 2021	-	-	23,920	-	-	-	-	-	-	-	-
BH21-04	0-0.5	February 25, 2021	-	-	14,272	-	-	-	-	-	-	-	-
BH21-05	0-0.5	February 25, 2021	-	-	14,418	-	-	-	-	-	-	-	-
BH21-06	0-0.5	February 25, 2021	-	-	5,176	<0.023	<0.211	<4.7	<9.6	<48	10	10	3,300
BH21-07	0-0.5	February 25, 2021	-	-	3,698	<0.024	<0.219	<4.9	<180	2,100	<184.9	2,100	2,800
BH21-08	0-0.5	February 25, 2021	-	-	6,374	-	-	-	-	-	-	-	-
BH21-09	0-0.5	February 25, 2021	-	-	4,564	<0.025	<0.224	5.7	<9.7	67	6	73	3,100
BH21-10	0-0.5	February 25, 2021	-	-	3,613	<0.024	<0.213	<4.7	<9.7	<49	<14.4	<63.4	2,200
BH21-11	0-0.5	February 25, 2021	-	-	2,685	<0.024	<0.212	<4.7	<10	<50	<14.7	<64.7	1,800
BH21-12	0-0.5	February 25, 2021	-	-	3,409	<0.024	<0.213	<4.7	<9.4	<47	<14.1	<61.1	2,200
BH21-13	0-0.5	February 25, 2021	-	-	7,299	-	-	-	-	-	-	-	-
BH21-14	0-0.5	February 25, 2021	-	-	11,274	<0.024	<0.213	<4.7	30	<48	30	30	8,400
BH21-15	0-0.5	February 25, 2021	-	-	10,905	-	-	-	-	-	-	-	-
BH21-16	0-0.5	February 25, 2021	-	-	12,395	-	-	-	-	-	-	-	-
BH21-17	0	February 25, 2021	-	-	21,991	-	-	-	-	-	-	-	-
BH21-17	1	February 25, 2021	-	-	14,439	-	-	-	-	-	-	-	-
BH21-17	1.5	February 25, 2021	-	-	6,511	-	-	-	-	-	-	-	-
BH21-18	0	February 25, 2021	-	-	12,735	-	-	-	-	-	-	-	-
BH21-18	0.5	February 25, 2021	-	-	8,618	-	-	-	-	-	-	-	-
BH21-18	1	February 25, 2021	-	-	8,470	-	-	-	-	-	-	-	-
BH21-18	2	February 25, 2021	-	-	3,688	-	-	-	-	-	-	-	-
BG21-01	0-0.5	February 25, 2021	-	-	13,185	<0.025	<0.222	<4.9	<10	<50	<14.9	<64.9	12,000
BG21-02	0	February 25, 2021	-	-	17,213	<0.025	<0.224	<5.0	<9.6	<48	<14.6	<62.6	14,000
BG21-02	0.5	February 25, 2021	-	-	13,617	<0.024	<0.217	<4.8	<10	<50	<14.8	<64.8	10,000
BG21-02	1	February 25, 2021	-	-	7,898	<0.024	<0.22	<4.9	<9.9	<49	<14.8	<63.8	5,600
BG21-02	2	February 25, 2021	-	-	4,968	<0.025	<0.224	<5.0	<9.6	<48	<14.6	<62.6	3,000

"-" - Not applicable/assessed

Bold and shaded indicates exceedance outside of applied action level

Client Name: Matador
Site Name: Coleman North TB
NM OCD Incident Tracking Numbers: nAPP2105529838
Project #: 21E-00087-007
Lab Report: 2103813, 2104350

Table 4. Confirmation Sampling Laboratory Results - Depth to Groundwater 51 ft -100 ft

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
						Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (Petro Flag)	Inorganics (Quantab - High/Low)	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride
			(ppm)	(ppm)	(+/-)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BS21-01	0-0.5	March 15, 2021	-	-	3,583	<0.025	<0.225	<5.0	<9.1	<46	<14.1	<60.1	1,700
BS21-02	0-0.5	March 15, 2021	-	-	9,051	<0.024	<0.22	<4.9	<9.1	<45	<14	<59	5,700
BS21-03	0-0.5	March 15, 2021	-	-	11,493	<0.024	<0.22	<4.9	350	200	350	550	8,300
BS21-04	0-0.5	March 15, 2021	-	-	10,564	<0.025	<0.222	5.2	95	68	100.2	168.2	7,300
BS21-05	0-0.5	March 15, 2021	-	-	10,137	<0.12	<1.08	<24	1,400	800	**1,400**	2,200	9,200
BS21-05	0.5	March 31, 2021	-	-	-	<0.024	<0.216	<4.8	<9.4	<47	<14.2	<61.2	7,100
BS21-06	0-0.5	March 15, 2021	-	-	12,605	<0.024	<0.213	5.9	400	230	405.9	636	**15,000**
BS21-06	0.5	March 31, 2021	-	-	-	<0.0230	<0.211	<4.7	16	<50	16	16	4,800
BS21-07	0-0.5	March 15, 2021	-	-	8,639	<0.12	<1.08	<24	420	190	420	610	9,500
BS21-08	0-0.5	March 15, 2021	-	-	19,032	<0.024	0.672	45	1,000	560	**1,045**	1,605	**19,000**
BS21-08	0.5	March 31, 2021	-	-	-	<0.024	<0.216	<4.8	<8.9	<44	<13.7	<57.7	4,900
BS21-09	0-0.5	March 15, 2021	-	-	11,098	<0.023	0.25	20	270	160	290	450	12,000
BS21-10	0-0.5	March 15, 2021	-	-	9,705	<0.12	<1.08	<24	610	370	610	980	8,800
WS21-01	0-0.5	March 15, 2021	-	-	13,386	<0.024	<0.212	<4.7	<9.0	<45	<13.7	<58.7	9,700
WS21-02	0-0.5	March 15, 2021	-	-	6,989	<0.024	<0.22	<4.9	33	62	33	95	4,800
WS21-03	0-0.5	March 15, 2021	-	-	12,238	<0.024	<0.216	<4.8	<9.2	<46	<14	<60	8,900
WS21-04	0-0.5	March 15, 2021	-	-	3,730	<0.12	<1.04	<23	32	660	32	692	3,100
WS21-05	0-0.5	March 15, 2021	-	-	8,818	<0.024	<0.219	<4.9	18	<50	18	18	9,900
WS21-06	0-0.5	March 15, 2021	-	-	15,154	<0.025	<0.225	<5.0	18	<48	18	18	**17,000**
WS21-06	0.5	March 31, 2021	-	-	-	<0.024	<0.216	<4.8	<9.3	<46	<14.1	<60.1	5,900
WS21-07	0-0.5	March 15, 2021	-	-	18,560	<0.025	<0.221	<4.9	230	180	230	410	**17,000**
WS21-07	0.5	March 31, 2021	-	-	-	<0.024	<0.216	<4.8	<9.8	<49	<14.6	<63.6	4,500

"-" - Not applicable/assessed

Bold and shaded indicates exceedance outside of applied action level

Bold and green-shaded indicates re-collection of sample previously in exeedance of NMOCD Closure Criteria

ATTACHMENT 7

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

March 04, 2021

Monica Peppin

Vertex Resource Group Ltd.
3101 Boyd Drive
Carlsbad, NM 88220
TEL: (505) 506-0040
FAX

RE: Coleman North TB OrderNo.: 2102B87

Dear Monica Peppin:

Hall Environmental Analysis Laboratory received 4 sample(s) on 2/26/2021 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2102B87**
Date Reported: **3/4/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** BG21-02 0'
Project: Coleman North TB **Collection Date:** 2/25/2021 8:30:00 AM
Lab ID: 2102B87-001 **Matrix:** SOIL **Received Date:** 2/26/2021 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	3/2/2021 12:15:58 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/2/2021 12:15:58 AM
Surr: DNOP	97.6	70-130		%Rec	1	3/2/2021 12:15:58 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	14000	600		mg/Kg	200	3/3/2021 4:07:52 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.025		mg/Kg	1	3/2/2021 1:48:17 PM
Toluene	ND	0.050		mg/Kg	1	3/2/2021 1:48:17 PM
Ethylbenzene	ND	0.050		mg/Kg	1	3/2/2021 1:48:17 PM
Xylenes, Total	ND	0.099		mg/Kg	1	3/2/2021 1:48:17 PM
Surr: 1,2-Dichloroethane-d4	95.6	70-130		%Rec	1	3/2/2021 1:48:17 PM
Surr: 4-Bromofluorobenzene	98.0	70-130		%Rec	1	3/2/2021 1:48:17 PM
Surr: Dibromofluoromethane	99.1	70-130		%Rec	1	3/2/2021 1:48:17 PM
Surr: Toluene-d8	97.1	70-130		%Rec	1	3/2/2021 1:48:17 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/2/2021 1:48:17 PM
Surr: BFB	94.8	70-130		%Rec	1	3/2/2021 1:48:17 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2102B87**
Date Reported: **3/4/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** BG21-02 0.5'
Project: Coleman North TB **Collection Date:** 2/25/2021 8:35:00 AM
Lab ID: 2102B87-002 **Matrix:** SOIL **Received Date:** 2/26/2021 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/2/2021 12:25:29 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/2/2021 12:25:29 AM
Surr: DNOP	90.2	70-130		%Rec	1	3/2/2021 12:25:29 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	10000	600		mg/Kg	200	3/3/2021 4:20:16 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.024		mg/Kg	1	3/2/2021 2:16:48 PM
Toluene	ND	0.048		mg/Kg	1	3/2/2021 2:16:48 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/2/2021 2:16:48 PM
Xylenes, Total	ND	0.097		mg/Kg	1	3/2/2021 2:16:48 PM
Surr: 1,2-Dichloroethane-d4	87.2	70-130		%Rec	1	3/2/2021 2:16:48 PM
Surr: 4-Bromofluorobenzene	98.2	70-130		%Rec	1	3/2/2021 2:16:48 PM
Surr: Dibromofluoromethane	97.8	70-130		%Rec	1	3/2/2021 2:16:48 PM
Surr: Toluene-d8	99.8	70-130		%Rec	1	3/2/2021 2:16:48 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/2/2021 2:16:48 PM
Surr: BFB	99.9	70-130		%Rec	1	3/2/2021 2:16:48 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2102B87**
Date Reported: **3/4/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** BG21-02 1'
Project: Coleman North TB **Collection Date:** 2/25/2021 8:40:00 AM
Lab ID: 2102B87-003 **Matrix:** SOIL **Received Date:** 2/26/2021 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/2/2021 12:35:07 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/2/2021 12:35:07 AM
Surr: DNOP	95.0	70-130		%Rec	1	3/2/2021 12:35:07 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	5600	300		mg/Kg	100	3/3/2021 4:32:41 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.024		mg/Kg	1	3/2/2021 2:45:23 PM
Toluene	ND	0.049		mg/Kg	1	3/2/2021 2:45:23 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/2/2021 2:45:23 PM
Xylenes, Total	ND	0.098		mg/Kg	1	3/2/2021 2:45:23 PM
Surr: 1,2-Dichloroethane-d4	88.6	70-130		%Rec	1	3/2/2021 2:45:23 PM
Surr: 4-Bromofluorobenzene	98.4	70-130		%Rec	1	3/2/2021 2:45:23 PM
Surr: Dibromofluoromethane	102	70-130		%Rec	1	3/2/2021 2:45:23 PM
Surr: Toluene-d8	104	70-130		%Rec	1	3/2/2021 2:45:23 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/2/2021 2:45:23 PM
Surr: BFB	99.7	70-130		%Rec	1	3/2/2021 2:45:23 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2102B87**
Date Reported: **3/4/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** BG21-02 2'
Project: Coleman North TB **Collection Date:** 2/25/2021 8:45:00 AM
Lab ID: 2102B87-004 **Matrix:** SOIL **Received Date:** 2/26/2021 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	3/2/2021 12:44:44 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/2/2021 12:44:44 AM
Surr: DNOP	86.8	70-130		%Rec	1	3/2/2021 12:44:44 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	3000	150		mg/Kg	50	3/3/2021 4:45:05 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.025		mg/Kg	1	3/2/2021 3:14:12 PM
Toluene	ND	0.050		mg/Kg	1	3/2/2021 3:14:12 PM
Ethylbenzene	ND	0.050		mg/Kg	1	3/2/2021 3:14:12 PM
Xylenes, Total	ND	0.099		mg/Kg	1	3/2/2021 3:14:12 PM
Surr: 1,2-Dichloroethane-d4	83.2	70-130		%Rec	1	3/2/2021 3:14:12 PM
Surr: 4-Bromofluorobenzene	95.4	70-130		%Rec	1	3/2/2021 3:14:12 PM
Surr: Dibromofluoromethane	97.5	70-130		%Rec	1	3/2/2021 3:14:12 PM
Surr: Toluene-d8	102	70-130		%Rec	1	3/2/2021 3:14:12 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/2/2021 3:14:12 PM
Surr: BFB	99.2	70-130		%Rec	1	3/2/2021 3:14:12 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2102B87**
04-Mar-21

Client: Vertex Resource Group Ltd.
Project: Coleman North TB

Sample ID: **MB-58416**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **58416**	RunNo: **75643**							
Prep Date: **3/1/2021**	Analysis Date: **3/2/2021**	SeqNo: **2674814**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-58416**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **58416**	RunNo: **75643**							
Prep Date: **3/1/2021**	Analysis Date: **3/2/2021**	SeqNo: **2674815**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	96.8	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2102B87**
04-Mar-21

Client: Vertex Resource Group Ltd.
Project: Coleman North TB

Sample ID: **MB-58373** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **58373** RunNo: **75595**
Prep Date: **2/27/2021** Analysis Date: **3/1/2021** SeqNo: **2672573** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	12		10.00		117	70	130			

Sample ID: **MB-58379** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **58379** RunNo: **75595**
Prep Date: **2/27/2021** Analysis Date: **3/1/2021** SeqNo: **2672574** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	13		10.00		133	70	130			S

Sample ID: **LCS-58373** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **58373** RunNo: **75595**
Prep Date: **2/27/2021** Analysis Date: **3/1/2021** SeqNo: **2672575** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.3		5.000		105	70	130			

Sample ID: **LCS-58379** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **58379** RunNo: **75595**
Prep Date: **2/27/2021** Analysis Date: **3/1/2021** SeqNo: **2672576** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	6.4		5.000		128	70	130			

Sample ID: **MB-58372** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **58372** RunNo: **75595**
Prep Date: **2/27/2021** Analysis Date: **3/1/2021** SeqNo: **2673430** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	7.5		10.00		75.0	70	130			

Sample ID: **MB-58377** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **58377** RunNo: **75595**
Prep Date: **2/27/2021** Analysis Date: **3/1/2021** SeqNo: **2673431** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	12		10.00		117	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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2102B87**
04-Mar-21

Client: Vertex Resource Group Ltd.
Project: Coleman North TB

Sample ID: **LCS-58377** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **58377** RunNo: **75595**
Prep Date: **2/27/2021** Analysis Date: **3/1/2021** SeqNo: **2673433** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.9		5.000		118	70	130			

Sample ID: **LCS-58372** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **58372** RunNo: **75653**
Prep Date: **2/27/2021** Analysis Date: **3/2/2021** SeqNo: **2675522** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	97.7	68.9	141			
Surr: DNOP	4.8		5.000		96.4	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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2102B87**
04-Mar-21

Client: Vertex Resource Group Ltd.
Project: Coleman North TB

Sample ID: **lcs-58368** SampType: **LCS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC** Batch ID: **58368** RunNo: **75617**
Prep Date: **2/26/2021** Analysis Date: **3/2/2021** SeqNo: **2673807** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	104	80	120			
Toluene	1.0	0.050	1.000	0	104	80	120			
Ethylbenzene	1.1	0.050	1.000	0	106	80	120			
Xylenes, Total	3.3	0.10	3.000	0	110	80	120			
Surr: 1,2-Dichloroethane-d4	0.45		0.5000		90.5	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		94.8	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		104	70	130			
Surr: Toluene-d8	0.52		0.5000		105	70	130			

Sample ID: **mb-58368** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **58368** RunNo: **75617**
Prep Date: **2/26/2021** Analysis Date: **3/2/2021** SeqNo: **2673808** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.46		0.5000		91.9	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.2	70	130			
Surr: Dibromofluoromethane	0.50		0.5000		99.6	70	130			
Surr: Toluene-d8	0.52		0.5000		103	70	130			

Sample ID: **lcs-58378** SampType: **LCS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC** Batch ID: **58378** RunNo: **75661**
Prep Date: **2/27/2021** Analysis Date: **3/2/2021** SeqNo: **2675875** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.48		0.5000		96.3	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		95.7	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		103	70	130			
Surr: Toluene-d8	0.52		0.5000		104	70	130			

Sample ID: **mb-58378** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **58378** RunNo: **75661**
Prep Date: **2/27/2021** Analysis Date: **3/2/2021** SeqNo: **2675876** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.48		0.5000		96.4	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		98.8	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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2102B87**
04-Mar-21

Client: Vertex Resource Group Ltd.
Project: Coleman North TB

Sample ID: **mb-58378** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **58378** RunNo: **75661**
Prep Date: **2/27/2021** Analysis Date: **3/2/2021** SeqNo: **2675876** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	0.50		0.5000		101	70	130			
Surr: Toluene-d8	0.49		0.5000		98.1	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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2102B87**

04-Mar-21

Client: Vertex Resource Group Ltd.

Project: Coleman North TB

Sample ID: **lcs-58368**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **58368**	RunNo: **75617**
Prep Date: **2/26/2021**	Analysis Date: **3/2/2021**	SeqNo: **2673831** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	87.4	70	130			
Surr: BFB	470		500.0		93.7	70	130			

Sample ID: **mb-58368**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **58368**	RunNo: **75617**
Prep Date: **2/26/2021**	Analysis Date: **3/2/2021**	SeqNo: **2673833** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	480		500.0		96.0	70	130			

Sample ID: **lcs-58378**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **58378**	RunNo: **75661**
Prep Date: **2/27/2021**	Analysis Date: **3/2/2021**	SeqNo: **2675911** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	490		500.0		97.3	70	130			

Sample ID: **mb-58378**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **58378**	RunNo: **75661**
Prep Date: **2/27/2021**	Analysis Date: **3/2/2021**	SeqNo: **2675912** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	480		500.0		95.3	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **Vertex Resource Group Ltd.** Work Order Number: **2102B87** RcptNo: 1

Received By: **Juan Rojas** **2/26/2021 7:55:00 AM**

Completed By: **Desiree Dominguez** **2/26/2021 9:14:00 AM**

Reviewed By: JR 2/26/21

Chain of Custody

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

Log In

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

10. TO 2/26/21

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

Adjusted?

Checked by:

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	0.3	Good				

Chain-of-Custody Record

Client: Vertex

Mailing Address: On file

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5-day
☒ Standard ☐ Rush

Project Name: Coleman North TB

Project #: 21E-00087

Project Manager: Monica Peppin

Sampler: JB

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp (including CF): 0.4-0.1=0.3 (°C)

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2102B87	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
2/25	8:30	soil	BG21-02 0'	4oz	ice	-001	✓	✓					✓			
	8:35		BG21-02 0.5'			-002										
	8:40		BG21-02 1'			-003										
	8:45		BG21-02 2'			-004										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
					2/25/21	945
Date: 2/25/21	Time: 1900	Relinquished by:	Received by:	Via: courier	Date 2/26/21	Time 7:55

Remarks: CC: Monica Peppin

Matador

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

March 09, 2021

Monica Peppin

Vertex Resource Group Ltd.
3101 Boyd Drive
Carlsbad, NM 88220
TEL: (505) 506-0040
FAX:

RE: Coleman North TB OrderNo.: 2102C52

Dear Monica Peppin:

Hall Environmental Analysis Laboratory received 9 sample(s) on 2/27/2021 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2102C52**
Date Reported: **3/9/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** BH21-01 0-6'
Project: Coleman North TB **Collection Date:** 2/25/2021
Lab ID: 2102C52-001 **Matrix:** SOIL **Received Date:** 2/27/2021 10:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	3/3/2021 5:25:36 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/3/2021 5:25:36 PM
Surr: DNOP	74.0	70-130		%Rec	1	3/3/2021 5:25:36 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/4/2021 1:00:00 PM
Surr: BFB	93.5	75.3-105		%Rec	1	3/4/2021 1:00:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.025		mg/Kg	1	3/3/2021 6:29:00 PM
Toluene	ND	0.050		mg/Kg	1	3/3/2021 6:29:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	3/3/2021 6:29:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	3/3/2021 6:29:00 PM
Surr: 4-Bromofluorobenzene	92.5	80-120		%Rec	1	3/3/2021 6:29:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	410	60		mg/Kg	20	3/5/2021 10:48:34 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2102C52**
Date Reported: **3/9/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** BH21-06 0-0.5'
Project: Coleman North TB **Collection Date:** 2/25/2021
Lab ID: 2102C52-002 **Matrix:** SOIL **Received Date:** 2/27/2021 10:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	10	9.6		mg/Kg	1	3/3/2021 5:35:19 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/3/2021 5:35:19 PM
Surr: DNOP	90.4	70-130		%Rec	1	3/3/2021 5:35:19 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/4/2021 1:20:00 PM
Surr: BFB	84.6	75.3-105		%Rec	1	3/4/2021 1:20:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.023		mg/Kg	1	3/3/2021 6:49:00 PM
Toluene	ND	0.047		mg/Kg	1	3/3/2021 6:49:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/3/2021 6:49:00 PM
Xylenes, Total	ND	0.094		mg/Kg	1	3/3/2021 6:49:00 PM
Surr: 4-Bromofluorobenzene	91.3	80-120		%Rec	1	3/3/2021 6:49:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	3300	150		mg/Kg	50	3/8/2021 8:25:11 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **2102C52**
Date Reported: **3/9/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** BH21-07 0-0.5'
Project: Coleman North TB **Collection Date:** 2/25/2021
Lab ID: 2102C52-003 **Matrix:** SOIL **Received Date:** 2/27/2021 10:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	180	D	mg/Kg	20	3/4/2021 2:53:09 PM
Motor Oil Range Organics (MRO)	2100	900		mg/Kg	20	3/4/2021 2:53:09 PM
Surr: DNOP	0	70-130	S	%Rec	20	3/4/2021 2:53:09 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/4/2021 1:40:00 PM
Surr: BFB	104	75.3-105		%Rec	1	3/4/2021 1:40:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	3/3/2021 7:09:00 PM
Toluene	ND	0.049		mg/Kg	1	3/3/2021 7:09:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/3/2021 7:09:00 PM
Xylenes, Total	0.12	0.097		mg/Kg	1	3/3/2021 7:09:00 PM
Surr: 4-Bromofluorobenzene	91.2	80-120		%Rec	1	3/3/2021 7:09:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	2800	150		mg/Kg	50	3/8/2021 8:37:36 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2102C52**
Date Reported: **3/9/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** BH21-09 0-0.5'
Project: Coleman North TB **Collection Date:** 2/25/2021
Lab ID: 2102C52-004 **Matrix:** SOIL **Received Date:** 2/27/2021 10:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/4/2021 8:01:07 PM
Motor Oil Range Organics (MRO)	67	49		mg/Kg	1	3/4/2021 8:01:07 PM
Surr: DNOP	88.3	70-130		%Rec	1	3/4/2021 8:01:07 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	5.7	5.0		mg/Kg	1	3/4/2021 1:59:00 PM
Surr: BFB	120	75.3-105	S	%Rec	1	3/4/2021 1:59:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.025		mg/Kg	1	3/3/2021 7:29:00 PM
Toluene	ND	0.050		mg/Kg	1	3/3/2021 7:29:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	3/3/2021 7:29:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	3/3/2021 7:29:00 PM
Surr: 4-Bromofluorobenzene	96.4	80-120		%Rec	1	3/3/2021 7:29:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	3100	150		mg/Kg	50	3/8/2021 8:50:00 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2102C52**
Date Reported: **3/9/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** BH21-10 0-0.5'
Project: Coleman North TB **Collection Date:** 2/25/2021
Lab ID: 2102C52-005 **Matrix:** SOIL **Received Date:** 2/27/2021 10:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/4/2021 8:24:45 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/4/2021 8:24:45 PM
Surr: DNOP	82.5	70-130		%Rec	1	3/4/2021 8:24:45 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/4/2021 2:19:00 PM
Surr: BFB	85.4	75.3-105		%Rec	1	3/4/2021 2:19:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	3/3/2021 7:48:00 PM
Toluene	ND	0.047		mg/Kg	1	3/3/2021 7:48:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/3/2021 7:48:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	3/3/2021 7:48:00 PM
Surr: 4-Bromofluorobenzene	93.2	80-120		%Rec	1	3/3/2021 7:48:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	2200	60		mg/Kg	20	3/6/2021 12:03:00 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2102C52**
Date Reported: **3/9/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** BH21-11 0-0.5'
Project: Coleman North TB **Collection Date:** 2/25/2021
Lab ID: 2102C52-006 **Matrix:** SOIL **Received Date:** 2/27/2021 10:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/3/2021 6:23:57 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/3/2021 6:23:57 PM
Surr: DNOP	115	70-130		%Rec	1	3/3/2021 6:23:57 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/4/2021 2:39:00 PM
Surr: BFB	88.5	75.3-105		%Rec	1	3/4/2021 2:39:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	3/3/2021 8:08:00 PM
Toluene	ND	0.047		mg/Kg	1	3/3/2021 8:08:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/3/2021 8:08:00 PM
Xylenes, Total	ND	0.094		mg/Kg	1	3/3/2021 8:08:00 PM
Surr: 4-Bromofluorobenzene	90.0	80-120		%Rec	1	3/3/2021 8:08:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	1800	61		mg/Kg	20	3/6/2021 12:15:24 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2102C52**
Date Reported: **3/9/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** BH21-12 0-0.5'
Project: Coleman North TB **Collection Date:** 2/25/2021
Lab ID: 2102C52-007 **Matrix:** SOIL **Received Date:** 2/27/2021 10:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	3/3/2021 6:33:43 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/3/2021 6:33:43 PM
Surr: DNOP	102	70-130		%Rec	1	3/3/2021 6:33:43 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/4/2021 2:59:00 PM
Surr: BFB	88.6	75.3-105		%Rec	1	3/4/2021 2:59:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	3/3/2021 8:28:00 PM
Toluene	ND	0.047		mg/Kg	1	3/3/2021 8:28:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/3/2021 8:28:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	3/3/2021 8:28:00 PM
Surr: 4-Bromofluorobenzene	92.6	80-120		%Rec	1	3/3/2021 8:28:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	2200	60		mg/Kg	20	3/6/2021 12:27:48 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **2102C52**
Date Reported: **3/9/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** BH21-14 0-0.5'
Project: Coleman North TB **Collection Date:** 2/25/2021
Lab ID: 2102C52-008 **Matrix:** SOIL **Received Date:** 2/27/2021 10:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	30	9.6		mg/Kg	1	3/3/2021 6:43:29 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/3/2021 6:43:29 PM
Surr: DNOP	121	70-130		%Rec	1	3/3/2021 6:43:29 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/4/2021 3:19:00 PM
Surr: BFB	95.8	75.3-105		%Rec	1	3/4/2021 3:19:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	3/3/2021 8:48:00 PM
Toluene	ND	0.047		mg/Kg	1	3/3/2021 8:48:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/3/2021 8:48:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	3/3/2021 8:48:00 PM
Surr: 4-Bromofluorobenzene	95.4	80-120		%Rec	1	3/3/2021 8:48:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	8400	300		mg/Kg	100	3/8/2021 9:02:25 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2102C52**
Date Reported: **3/9/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** BG21-01 0-0.5'
Project: Coleman North TB **Collection Date:** 2/25/2021
Lab ID: 2102C52-009 **Matrix:** SOIL **Received Date:** 2/27/2021 10:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/3/2021 7:12:52 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/3/2021 7:12:52 PM
Surr: DNOP	85.9	70-130		%Rec	1	3/3/2021 7:12:52 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/3/2021 11:16:00 PM
Surr: BFB	98.2	75.3-105		%Rec	1	3/3/2021 11:16:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/3/2021 11:16:00 PM
Toluene	ND	0.049		mg/Kg	1	3/3/2021 11:16:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/3/2021 11:16:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	3/3/2021 11:16:00 PM
Surr: 4-Bromofluorobenzene	92.6	80-120		%Rec	1	3/3/2021 11:16:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	12000	600		mg/Kg	200	3/8/2021 9:14:50 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2102C52**
09-Mar-21

Client: Vertex Resource Group Ltd.
Project: Coleman North TB

Sample ID: **MB-58516**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **58516**	RunNo: **75731**							
Prep Date: **3/4/2021**	Analysis Date: **3/5/2021**	SeqNo: **2679440**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-58516**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **58516**	RunNo: **75731**							
Prep Date: **3/4/2021**	Analysis Date: **3/5/2021**	SeqNo: **2679441**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.6	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2102C52**
09-Mar-21

Client: Vertex Resource Group Ltd.
Project: Coleman North TB

Sample ID: **MB-58423**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **58423**	RunNo: **75663**							
Prep Date: **3/2/2021**	Analysis Date: **3/3/2021**	SeqNo: **2676738**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.0		10.00		79.9	70	130			

Sample ID: **MB-58439**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **58439**	RunNo: **75663**							
Prep Date: **3/2/2021**	Analysis Date: **3/3/2021**	SeqNo: **2676739**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.1		10.00		81.2	70	130			

Sample ID: **LCS-58439**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **58439**	RunNo: **75663**							
Prep Date: **3/2/2021**	Analysis Date: **3/3/2021**	SeqNo: **2676742**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	66	10	50.00	0	131	68.9	141			
Surr: DNOP	5.4		5.000		108	70	130			

Sample ID: **2102C52-009AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **BG21-01 0-0.5'**	Batch ID: **58439**	RunNo: **75663**							
Prep Date: **3/2/2021**	Analysis Date: **3/3/2021**	SeqNo: **2676816**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	61	9.9	49.36	5.027	113	15	184			
Surr: DNOP	5.1		4.936		104	70	130			

Sample ID: **2102C52-009AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **BG21-01 0-0.5'**	Batch ID: **58439**	RunNo: **75663**							
Prep Date: **3/2/2021**	Analysis Date: **3/3/2021**	SeqNo: **2676819**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	59	9.1	45.54	5.027	118	15	184	3.70	23.9	
Surr: DNOP	6.2		4.554		136	70	130	0	0	S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2102C52**

09-Mar-21

Client: Vertex Resource Group Ltd.

Project: Coleman North TB

Sample ID: **LCS-58423**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **58423**	RunNo: **75713**
Prep Date: **3/2/2021**	Analysis Date: **3/4/2021**	SeqNo: **2678309** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	50.00	0	105	68.9	141			
Surr: DNOP	4.6		5.000		91.0	70	130			

Sample ID: **MB-58463**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **58463**	RunNo: **75711**
Prep Date: **3/3/2021**	Analysis Date: **3/5/2021**	SeqNo: **2678458** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	12		10.00		123	70	130			

Sample ID: **LCS-58463**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **58463**	RunNo: **75711**
Prep Date: **3/3/2021**	Analysis Date: **3/5/2021**	SeqNo: **2678459** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.6		5.000		112	70	130			

Sample ID: **MB-58461**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **58461**	RunNo: **75713**
Prep Date: **3/3/2021**	Analysis Date: **3/5/2021**	SeqNo: **2678875** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	7.7		10.00		77.2	70	130			

Sample ID: **LCS-58461**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **58461**	RunNo: **75713**
Prep Date: **3/3/2021**	Analysis Date: **3/5/2021**	SeqNo: **2678876** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	3.7		5.000		74.0	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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2102C52**
09-Mar-21

Client: Vertex Resource Group Ltd.
Project: Coleman North TB

Sample ID: **mb-58418**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **58418**	RunNo: **75660**							
Prep Date: **3/1/2021**	Analysis Date: **3/4/2021**	SeqNo: **2676610**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		100	75.3	105			

Sample ID: **lcs-58418**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **58418**	RunNo: **75660**							
Prep Date: **3/1/2021**	Analysis Date: **3/3/2021**	SeqNo: **2676611**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	101	80	120			
Surr: BFB	1100		1000		109	75.3	105			S

Sample ID: **2102c52-009ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **BG21-01 0-0.5'**	Batch ID: **58418**	RunNo: **75660**							
Prep Date: **3/1/2021**	Analysis Date: **3/3/2021**	SeqNo: **2676613**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	4.8	23.92	0	115	61.3	114			S
Surr: BFB	1100		956.9		115	75.3	105			S

Sample ID: **2102c52-009amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **BG21-01 0-0.5'**	Batch ID: **58418**	RunNo: **75660**							
Prep Date: **3/1/2021**	Analysis Date: **3/4/2021**	SeqNo: **2676614**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	4.7	23.26	0	108	61.3	114	9.24	20	
Surr: BFB	1100		930.2		114	75.3	105	0	0	S

Sample ID: **LCS-58417**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **58417**	RunNo: **75690**							
Prep Date: **3/1/2021**	Analysis Date: **3/3/2021**	SeqNo: **2676977**	Units: **mg/Kg**						
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	80	120			
Surr: BFB	950		1000		95.1	75.3	105			

Sample ID: **MB-58417**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **58417**	RunNo: **75690**							
Prep Date: **3/1/2021**	Analysis Date: **3/3/2021**	SeqNo: **2676978**	Units: **mg/Kg**						
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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2102C52**
09-Mar-21

Client: Vertex Resource Group Ltd.
Project: Coleman North TB

Sample ID: **MB-58417**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **58417**	RunNo: **75690**
Prep Date: **3/1/2021**	Analysis Date: **3/3/2021**	SeqNo: **2676978** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	880		1000		88.2	75.3	105			

Sample ID: **mb1**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **B75721**	RunNo: **75721**
Prep Date:	Analysis Date: **3/4/2021**	SeqNo: **2678105** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		100	75.3	105			

Sample ID: **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **B75721**	RunNo: **75721**
Prep Date:	Analysis Date: **3/4/2021**	SeqNo: **2678106** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1200		1000		116	75.3	105			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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2102C52**
09-Mar-21

Client: Vertex Resource Group Ltd.
Project: Coleman North TB

Sample ID: **mb-58418**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **58418**	RunNo: **75660**
Prep Date: **3/1/2021**	Analysis Date: **3/4/2021**	SeqNo: **2676656** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.94		1.000		94.4	80	120			

Sample ID: **LCS-58418**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **58418**	RunNo: **75660**
Prep Date: **3/1/2021**	Analysis Date: **3/3/2021**	SeqNo: **2676657** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.025	1.000	0	86.8	80	120			
Toluene	0.89	0.050	1.000	0	89.5	80	120			
Ethylbenzene	0.89	0.050	1.000	0	88.8	80	120			
Xylenes, Total	2.6	0.10	3.000	0	87.7	80	120			
Surr: 4-Bromofluorobenzene	0.94		1.000		94.4	80	120			

Sample ID: **LCS-58417**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **58417**	RunNo: **75690**
Prep Date: **3/1/2021**	Analysis Date: **3/3/2021**	SeqNo: **2677024** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	1.000	0	92.1	80	120			
Toluene	0.90	0.050	1.000	0	90.1	80	120			
Ethylbenzene	0.89	0.050	1.000	0	89.1	80	120			
Xylenes, Total	2.6	0.10	3.000	0	87.9	80	120			
Surr: 4-Bromofluorobenzene	0.91		1.000		90.8	80	120			

Sample ID: **MB-58417**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **58417**	RunNo: **75690**
Prep Date: **3/1/2021**	Analysis Date: **3/3/2021**	SeqNo: **2677025** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.91		1.000		91.4	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Vertex Resource Group Ltd. Work Order Number: 2102C52 RcptNo: 1

Received By: **Erin Melendrez** 2/27/2021 10:50:00 AM

Completed By: **Erin Melendrez** 2/27/2021 1:30:06 PM

Reviewed By: 02/27/2021

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: ENM 2/27/21

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	4.0	Good				
2	1.5	Good				
3	4.8	Good				

Chain-of-Custody Record

Client: Vertex

Mailing Address: On file

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5-day
☒ Standard ☐ Rush

Project Name: Coleman North TB

Project #: 21E-00087

Project Manager: Monica Peppin

Sampler: J.B

On Ice: ☒ Yes ☐ No

# of Coolers: 3

Cooler Temp(including CF): 3.8+0.2(CF)= 4.0 (°C)
1.3+0.2(CF)=1.5°, 4.6+0.2(CF)=4.8°

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2102C52	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
2-25		soil	BH21-01 0-6'	4oz	ice	-001										
			BH21-06 0-0.5'			-002										
			BH21-07 0-0.5			-003										
			BH21-09 0-0.5			-004										
			BH21-10 0-0.5			-005										
			BH21-11 0-0.5			-006										
			BH21-12 0-0.5			-007										
			BH21-14 0-0.5			-008										
			BG21-01 0-0.5			-009										

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
					2/24/21	930
2/24/21	1900			Courier	2/27/21	1050

Remarks: CC: Monica Peppin

Matador

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

March 25, 2021

Monica Peppin

Vertex Resource Group Ltd.
3101 Boyd Drive
Carlsbad, NM 88220
TEL: (505) 506-0040
FAX

RE: Coleman North TB OrderNo.: 2103813

Dear Monica Peppin:

Hall Environmental Analysis Laboratory received 17 sample(s) on 3/17/2021 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2103813**
Date Reported: **3/25/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.
Client Sample ID: BS21-01 0-0.5
Project: Coleman North TB
Collection Date: 3/15/2021 9:15:00 AM
Lab ID: 2103813-001 **Matrix:** SOIL
Received Date: 3/17/2021 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	3/18/2021 10:18:45 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/18/2021 10:18:45 AM
Surr: DNOP	91.0	70-130		%Rec	1	3/18/2021 10:18:45 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/20/2021 10:51:28 PM
Surr: BFB	99.3	75.3-105		%Rec	1	3/20/2021 10:51:28 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/20/2021 10:51:28 PM
Toluene	ND	0.050		mg/Kg	1	3/20/2021 10:51:28 PM
Ethylbenzene	ND	0.050		mg/Kg	1	3/20/2021 10:51:28 PM
Xylenes, Total	ND	0.10		mg/Kg	1	3/20/2021 10:51:28 PM
Surr: 4-Bromofluorobenzene	97.7	80-120		%Rec	1	3/20/2021 10:51:28 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	1700	60		mg/Kg	20	3/21/2021 12:26:49 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2103813**
Date Reported: **3/25/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** BS21-02 0-0.5
Project: Coleman North TB **Collection Date:** 3/15/2021 9:20:00 AM
Lab ID: 2103813-002 **Matrix:** SOIL **Received Date:** 3/17/2021 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	3/19/2021 6:10:45 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	3/19/2021 6:10:45 PM
Surr: DNOP	94.1	70-130		%Rec	1	3/19/2021 6:10:45 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/19/2021 7:56:00 PM
Surr: BFB	93.3	75.3-105		%Rec	1	3/19/2021 7:56:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	3/19/2021 7:56:00 PM
Toluene	ND	0.049		mg/Kg	1	3/19/2021 7:56:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/19/2021 7:56:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	3/19/2021 7:56:00 PM
Surr: 4-Bromofluorobenzene	96.4	80-120		%Rec	1	3/19/2021 7:56:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	5700	300		mg/Kg	100	3/21/2021 10:50:31 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2103813**
Date Reported: **3/25/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** BS21-03 0-0.5
Project: Coleman North TB **Collection Date:** 3/15/2021 9:25:00 AM
Lab ID: 2103813-003 **Matrix:** SOIL **Received Date:** 3/17/2021 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	350	9.3		mg/Kg	1	3/19/2021 6:49:48 PM
Motor Oil Range Organics (MRO)	200	47		mg/Kg	1	3/19/2021 6:49:48 PM
Surr: DNOP	97.9	70-130		%Rec	1	3/19/2021 6:49:48 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/19/2021 8:55:00 PM
Surr: BFB	89.0	75.3-105		%Rec	1	3/19/2021 8:55:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	3/19/2021 8:55:00 PM
Toluene	ND	0.049		mg/Kg	1	3/19/2021 8:55:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/19/2021 8:55:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	3/19/2021 8:55:00 PM
Surr: 4-Bromofluorobenzene	90.7	80-120		%Rec	1	3/19/2021 8:55:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	8300	300		mg/Kg	100	3/21/2021 11:02:55 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2103813**
Date Reported: **3/25/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** BS21-04 0-0.5
Project: Coleman North TB **Collection Date:** 3/15/2021 9:30:00 AM
Lab ID: 2103813-004 **Matrix:** SOIL **Received Date:** 3/17/2021 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	95	9.3		mg/Kg	1	3/21/2021 7:19:55 AM
Motor Oil Range Organics (MRO)	68	47		mg/Kg	1	3/21/2021 7:19:55 AM
Surr: DNOP	109	70-130		%Rec	1	3/21/2021 7:19:55 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	5.2	4.9		mg/Kg	1	3/19/2021 9:54:00 PM
Surr: BFB	119	75.3-105	S	%Rec	1	3/19/2021 9:54:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.025		mg/Kg	1	3/19/2021 9:54:00 PM
Toluene	ND	0.049		mg/Kg	1	3/19/2021 9:54:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/19/2021 9:54:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	3/19/2021 9:54:00 PM
Surr: 4-Bromofluorobenzene	98.9	80-120		%Rec	1	3/19/2021 9:54:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	7300	300		mg/Kg	100	3/21/2021 11:15:19 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2103813**
Date Reported: **3/25/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** BS21-05 0-0.5
Project: Coleman North TB **Collection Date:** 3/15/2021 9:35:00 AM
Lab ID: 2103813-005 **Matrix:** SOIL **Received Date:** 3/17/2021 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	1400	94		mg/Kg	10	3/21/2021 7:43:23 AM
Motor Oil Range Organics (MRO)	800	470		mg/Kg	10	3/21/2021 7:43:23 AM
Surr: DNOP	0	70-130	S	%Rec	10	3/21/2021 7:43:23 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	24		mg/Kg	5	3/19/2021 10:14:00 PM
Surr: BFB	130	75.3-105	S	%Rec	5	3/19/2021 10:14:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.12		mg/Kg	5	3/19/2021 10:14:00 PM
Toluene	ND	0.24		mg/Kg	5	3/19/2021 10:14:00 PM
Ethylbenzene	ND	0.24		mg/Kg	5	3/19/2021 10:14:00 PM
Xylenes, Total	ND	0.48		mg/Kg	5	3/19/2021 10:14:00 PM
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	5	3/19/2021 10:14:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	9200	300		mg/Kg	100	3/21/2021 11:27:44 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2103813**
Date Reported: **3/25/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** BS21-06 0-0.5
Project: Coleman North TB **Collection Date:** 3/15/2021 9:40:00 AM
Lab ID: 2103813-006 **Matrix:** SOIL **Received Date:** 3/17/2021 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	400	9.1		mg/Kg	1	3/21/2021 8:06:49 AM
Motor Oil Range Organics (MRO)	230	46		mg/Kg	1	3/21/2021 8:06:49 AM
Surr: DNOP	120	70-130		%Rec	1	3/21/2021 8:06:49 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	5.9	4.7		mg/Kg	1	3/19/2021 10:34:00 PM
Surr: BFB	123	75.3-105	S	%Rec	1	3/19/2021 10:34:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	3/19/2021 10:34:00 PM
Toluene	ND	0.047		mg/Kg	1	3/19/2021 10:34:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/19/2021 10:34:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	3/19/2021 10:34:00 PM
Surr: 4-Bromofluorobenzene	97.7	80-120		%Rec	1	3/19/2021 10:34:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	15000	600		mg/Kg	200	3/21/2021 11:40:08 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2103813**
Date Reported: **3/25/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** BS21-07 0-0.5
Project: Coleman North TB **Collection Date:** 3/15/2021 9:45:00 AM
Lab ID: 2103813-007 **Matrix:** SOIL **Received Date:** 3/17/2021 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	420	9.4		mg/Kg	1	3/19/2021 7:41:41 PM
Motor Oil Range Organics (MRO)	190	47		mg/Kg	1	3/19/2021 7:41:41 PM
Surr: DNOP	104	70-130		%Rec	1	3/19/2021 7:41:41 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	24		mg/Kg	5	3/19/2021 10:54:00 PM
Surr: BFB	110	75.3-105	S	%Rec	5	3/19/2021 10:54:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.12		mg/Kg	5	3/19/2021 10:54:00 PM
Toluene	ND	0.24		mg/Kg	5	3/19/2021 10:54:00 PM
Ethylbenzene	ND	0.24		mg/Kg	5	3/19/2021 10:54:00 PM
Xylenes, Total	ND	0.48		mg/Kg	5	3/19/2021 10:54:00 PM
Surr: 4-Bromofluorobenzene	98.8	80-120		%Rec	5	3/19/2021 10:54:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	9500	300		mg/Kg	100	3/21/2021 11:52:33 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2103813**
Date Reported: **3/25/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** BS21-08 0-0.5
Project: Coleman North TB **Collection Date:** 3/15/2021 9:50:00 AM
Lab ID: 2103813-008 **Matrix:** SOIL **Received Date:** 3/17/2021 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	1000	49		mg/Kg	5	3/21/2021 8:53:44 AM
Motor Oil Range Organics (MRO)	560	240		mg/Kg	5	3/21/2021 8:53:44 AM
Surr: DNOP	122	70-130		%Rec	5	3/21/2021 8:53:44 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	45	4.9		mg/Kg	1	3/19/2021 11:14:00 PM
Surr: BFB	329	75.3-105	S	%Rec	1	3/19/2021 11:14:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	3/19/2021 11:14:00 PM
Toluene	ND	0.049		mg/Kg	1	3/19/2021 11:14:00 PM
Ethylbenzene	0.082	0.049		mg/Kg	1	3/19/2021 11:14:00 PM
Xylenes, Total	0.59	0.097		mg/Kg	1	3/19/2021 11:14:00 PM
Surr: 4-Bromofluorobenzene	141	80-120	S	%Rec	1	3/19/2021 11:14:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	19000	1500		mg/Kg	500	3/22/2021 12:04:57 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2103813**
Date Reported: **3/25/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** BS21-09 0-0.5
Project: Coleman North TB **Collection Date:** 3/15/2021 9:55:00 AM
Lab ID: 2103813-009 **Matrix:** SOIL **Received Date:** 3/17/2021 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	270	9.3		mg/Kg	1	3/21/2021 9:17:15 AM
Motor Oil Range Organics (MRO)	160	47		mg/Kg	1	3/21/2021 9:17:15 AM
Surr: DNOP	114	70-130		%Rec	1	3/21/2021 9:17:15 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	20	4.7		mg/Kg	1	3/19/2021 11:34:00 PM
Surr: BFB	199	75.3-105	S	%Rec	1	3/19/2021 11:34:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.023		mg/Kg	1	3/19/2021 11:34:00 PM
Toluene	ND	0.047		mg/Kg	1	3/19/2021 11:34:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/19/2021 11:34:00 PM
Xylenes, Total	0.25	0.093		mg/Kg	1	3/19/2021 11:34:00 PM
Surr: 4-Bromofluorobenzene	113	80-120		%Rec	1	3/19/2021 11:34:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	12000	600		mg/Kg	200	3/24/2021 10:58:21 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2103813**
Date Reported: **3/25/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** BS21-10 0-0.5
Project: Coleman North TB **Collection Date:** 3/15/2021 10:00:00 AM
Lab ID: 2103813-010 **Matrix:** SOIL **Received Date:** 3/17/2021 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	610	9.8		mg/Kg	1	3/19/2021 8:20:31 PM
Motor Oil Range Organics (MRO)	370	49		mg/Kg	1	3/19/2021 8:20:31 PM
Surr: DNOP	106	70-130		%Rec	1	3/19/2021 8:20:31 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	24		mg/Kg	5	3/19/2021 11:54:00 PM
Surr: BFB	128	75.3-105	S	%Rec	5	3/19/2021 11:54:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.12		mg/Kg	5	3/19/2021 11:54:00 PM
Toluene	ND	0.24		mg/Kg	5	3/19/2021 11:54:00 PM
Ethylbenzene	ND	0.24		mg/Kg	5	3/19/2021 11:54:00 PM
Xylenes, Total	ND	0.48		mg/Kg	5	3/19/2021 11:54:00 PM
Surr: 4-Bromofluorobenzene	99.5	80-120		%Rec	5	3/19/2021 11:54:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	8800	300		mg/Kg	100	3/22/2021 12:29:46 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2103813**
Date Reported: **3/25/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** WS21-01 0-0.5
Project: Coleman North TB **Collection Date:** 3/15/2021 10:10:00 AM
Lab ID: 2103813-011 **Matrix:** SOIL **Received Date:** 3/17/2021 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	3/21/2021 10:04:30 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	3/21/2021 10:04:30 AM
Surr: DNOP	101	70-130		%Rec	1	3/21/2021 10:04:30 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/20/2021 12:13:00 AM
Surr: BFB	89.1	75.3-105		%Rec	1	3/20/2021 12:13:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	3/20/2021 12:13:00 AM
Toluene	ND	0.047		mg/Kg	1	3/20/2021 12:13:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	3/20/2021 12:13:00 AM
Xylenes, Total	ND	0.094		mg/Kg	1	3/20/2021 12:13:00 AM
Surr: 4-Bromofluorobenzene	93.0	80-120		%Rec	1	3/20/2021 12:13:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	9700	300		mg/Kg	100	3/22/2021 12:42:10 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2103813**
Date Reported: **3/25/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** WS21-02 0-0.5
Project: Coleman North TB **Collection Date:** 3/15/2021 10:15:00 AM
Lab ID: 2103813-012 **Matrix:** SOIL **Received Date:** 3/17/2021 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	33	9.2		mg/Kg	1	3/19/2021 8:46:12 PM
Motor Oil Range Organics (MRO)	62	46		mg/Kg	1	3/19/2021 8:46:12 PM
Surr: DNOP	102	70-130		%Rec	1	3/19/2021 8:46:12 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/20/2021 1:33:00 AM
Surr: BFB	90.5	75.3-105		%Rec	1	3/20/2021 1:33:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	3/20/2021 1:33:00 AM
Toluene	ND	0.049		mg/Kg	1	3/20/2021 1:33:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	3/20/2021 1:33:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	3/20/2021 1:33:00 AM
Surr: 4-Bromofluorobenzene	93.2	80-120		%Rec	1	3/20/2021 1:33:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	4800	150		mg/Kg	50	3/22/2021 1:19:23 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2103813**
Date Reported: **3/25/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** WS21-03 0-0.5
Project: Coleman North TB **Collection Date:** 3/15/2021 10:20:00 AM
Lab ID: 2103813-013 **Matrix:** SOIL **Received Date:** 3/17/2021 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	3/19/2021 8:58:56 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/19/2021 8:58:56 PM
Surr: DNOP	113	70-130		%Rec	1	3/19/2021 8:58:56 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/20/2021 1:53:00 AM
Surr: BFB	95.2	75.3-105		%Rec	1	3/20/2021 1:53:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	3/20/2021 1:53:00 AM
Toluene	ND	0.048		mg/Kg	1	3/20/2021 1:53:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	3/20/2021 1:53:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	3/20/2021 1:53:00 AM
Surr: 4-Bromofluorobenzene	98.1	80-120		%Rec	1	3/20/2021 1:53:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	8900	600		mg/Kg	200	3/22/2021 1:31:47 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2103813**
Date Reported: **3/25/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** WS21-04 0-0.5
Project: Coleman North TB **Collection Date:** 3/15/2021 10:25:00 AM
Lab ID: 2103813-014 **Matrix:** SOIL **Received Date:** 3/17/2021 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	32	9.8		mg/Kg	1	3/19/2021 9:11:35 PM
Motor Oil Range Organics (MRO)	660	49		mg/Kg	1	3/19/2021 9:11:35 PM
Surr: DNOP	107	70-130		%Rec	1	3/19/2021 9:11:35 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	23		mg/Kg	5	3/20/2021 2:13:00 AM
Surr: BFB	94.2	75.3-105		%Rec	5	3/20/2021 2:13:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.12		mg/Kg	5	3/20/2021 2:13:00 AM
Toluene	ND	0.23		mg/Kg	5	3/20/2021 2:13:00 AM
Ethylbenzene	ND	0.23		mg/Kg	5	3/20/2021 2:13:00 AM
Xylenes, Total	ND	0.46		mg/Kg	5	3/20/2021 2:13:00 AM
Surr: 4-Bromofluorobenzene	95.3	80-120		%Rec	5	3/20/2021 2:13:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	3100	150		mg/Kg	50	3/22/2021 1:44:11 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2103813**
Date Reported: **3/25/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** WS21-05 0-0.5
Project: Coleman North TB **Collection Date:** 3/15/2021 10:30:00 AM
Lab ID: 2103813-015 **Matrix:** SOIL **Received Date:** 3/17/2021 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	18	10		mg/Kg	1	3/21/2021 10:28:15 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/21/2021 10:28:15 AM
Surr: DNOP	104	70-130		%Rec	1	3/21/2021 10:28:15 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/20/2021 2:33:00 AM
Surr: BFB	92.1	75.3-105		%Rec	1	3/20/2021 2:33:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	3/20/2021 2:33:00 AM
Toluene	ND	0.049		mg/Kg	1	3/20/2021 2:33:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	3/20/2021 2:33:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	3/20/2021 2:33:00 AM
Surr: 4-Bromofluorobenzene	94.4	80-120		%Rec	1	3/20/2021 2:33:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	9900	300		mg/Kg	100	3/22/2021 1:56:36 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2103813**
Date Reported: **3/25/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** WS21-06 0-0.5
Project: Coleman North TB **Collection Date:** 3/15/2021 10:35:00 AM
Lab ID: 2103813-016 **Matrix:** SOIL **Received Date:** 3/17/2021 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	18	9.7		mg/Kg	1	3/21/2021 11:15:37 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/21/2021 11:15:37 AM
Surr: DNOP	105	70-130		%Rec	1	3/21/2021 11:15:37 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/20/2021 2:52:00 AM
Surr: BFB	88.6	75.3-105		%Rec	1	3/20/2021 2:52:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.025		mg/Kg	1	3/20/2021 2:52:00 AM
Toluene	ND	0.050		mg/Kg	1	3/20/2021 2:52:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	3/20/2021 2:52:00 AM
Xylenes, Total	ND	0.10		mg/Kg	1	3/20/2021 2:52:00 AM
Surr: 4-Bromofluorobenzene	90.8	80-120		%Rec	1	3/20/2021 2:52:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	17000	1500		mg/Kg	500	3/22/2021 2:09:00 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2103813**
Date Reported: **3/25/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** WS21-07 0-0.5
Project: Coleman North TB **Collection Date:** 3/15/2021 10:40:00 AM
Lab ID: 2103813-017 **Matrix:** SOIL **Received Date:** 3/17/2021 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	230	9.8		mg/Kg	1	3/19/2021 9:49:24 PM
Motor Oil Range Organics (MRO)	180	49		mg/Kg	1	3/19/2021 9:49:24 PM
Surr: DNOP	91.9	70-130		%Rec	1	3/19/2021 9:49:24 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/20/2021 3:12:00 AM
Surr: BFB	92.2	75.3-105		%Rec	1	3/20/2021 3:12:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.025		mg/Kg	1	3/20/2021 3:12:00 AM
Toluene	ND	0.049		mg/Kg	1	3/20/2021 3:12:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	3/20/2021 3:12:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	3/20/2021 3:12:00 AM
Surr: 4-Bromofluorobenzene	92.9	80-120		%Rec	1	3/20/2021 3:12:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	17000	600		mg/Kg	200	3/22/2021 2:21:25 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2103813**
25-Mar-21

Client: Vertex Resource Group Ltd.
Project: Coleman North TB

Sample ID: **MB-58866**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **58866**	RunNo: **76086**							
Prep Date: **3/20/2021**	Analysis Date: **3/20/2021**	SeqNo: **2693748**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-58866**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **58866**	RunNo: **76086**							
Prep Date: **3/20/2021**	Analysis Date: **3/20/2021**	SeqNo: **2693749**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.2	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2103813**
25-Mar-21

Client: Vertex Resource Group Ltd.
Project: Coleman North TB

Sample ID: **MB-58794** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **58794** RunNo: **76025**
Prep Date: **3/17/2021** Analysis Date: **3/18/2021** SeqNo: **2691573** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.2		10.00		91.5	70	130			

Sample ID: **LCS-58794** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **58794** RunNo: **76025**
Prep Date: **3/17/2021** Analysis Date: **3/18/2021** SeqNo: **2691575** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	98.1	68.9	141			
Surr: DNOP	4.2		5.000		83.3	70	130			

Sample ID: **MB-58798** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **58798** RunNo: **76064**
Prep Date: **3/18/2021** Analysis Date: **3/19/2021** SeqNo: **2693658** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.7		10.00		97.0	70	130			

Sample ID: **LCS-58798** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **58798** RunNo: **76064**
Prep Date: **3/18/2021** Analysis Date: **3/19/2021** SeqNo: **2693659** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	90.0	68.9	141			
Surr: DNOP	4.5		5.000		90.8	70	130			

Sample ID: **2103813-002AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BS21-02 0-0.5** Batch ID: **58798** RunNo: **76064**
Prep Date: **3/18/2021** Analysis Date: **3/19/2021** SeqNo: **2693661** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	9.2	45.91	5.098	93.5	15	184			
Surr: DNOP	4.2		4.591		92.0	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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2103813**

25-Mar-21

Client: Vertex Resource Group Ltd.

Project: Coleman North TB

Sample ID: **2103813-002AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **BS21-02 0-0.5** Batch ID: **58798** RunNo: **76064**

Prep Date: **3/18/2021** Analysis Date: **3/19/2021** SeqNo: **2693662** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	9.5	47.44	5.098	96.9	15	184	6.16	23.9	
Surr: DNOP	4.3		4.744		89.6	70	130	0	0	

Sample ID: **MB-58838** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **58838** RunNo: **76095**

Prep Date: **3/19/2021** Analysis Date: **3/20/2021** SeqNo: **2694074** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		107	70	130			

Sample ID: **LCS-58838** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **58838** RunNo: **76095**

Prep Date: **3/19/2021** Analysis Date: **3/20/2021** SeqNo: **2694076** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.9		5.000		98.5	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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2103813**
25-Mar-21

Client: Vertex Resource Group Ltd.
Project: Coleman North TB

Sample ID: **LCS-58797**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **58797**	RunNo: **76069**							
Prep Date: **3/17/2021**	Analysis Date: **3/19/2021**	SeqNo: **2693582**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	5.0	25.00	0	118	80	120			
Surr: BFB	1100		1000		107	75.3	105			S

Sample ID: **MB-58797**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **58797**	RunNo: **76069**							
Prep Date: **3/17/2021**	Analysis Date: **3/19/2021**	SeqNo: **2693583**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	900		1000		90.5	75.3	105			

Sample ID: **2103813-002ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **BS21-02 0-0.5**	Batch ID: **58797**	RunNo: **76069**							
Prep Date: **3/17/2021**	Analysis Date: **3/19/2021**	SeqNo: **2693585**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	31	4.8	23.81	0	128	61.3	114			S
Surr: BFB	1000		952.4		110	75.3	105			S

Sample ID: **2103813-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **BS21-02 0-0.5**	Batch ID: **58797**	RunNo: **76069**							
Prep Date: **3/17/2021**	Analysis Date: **3/19/2021**	SeqNo: **2693586**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	4.8	23.90	0	114	61.3	114	11.9	20	
Surr: BFB	980		956.0		102	75.3	105	0	0	

Sample ID: **mb-58791**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **58791**	RunNo: **76071**							
Prep Date: **3/17/2021**	Analysis Date: **3/19/2021**	SeqNo: **2693921**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	980		1000		97.5	75.3	105			

Sample ID: **lcs-58791**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **58791**	RunNo: **76071**							
Prep Date: **3/17/2021**	Analysis Date: **3/19/2021**	SeqNo: **2693922**	Units: **mg/Kg**						
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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2103813**

25-Mar-21

Client: Vertex Resource Group Ltd.

Project: Coleman North TB

Sample ID: **lcs-58791** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **LCSS** Batch ID: **58791** RunNo: **76071**

Prep Date: **3/17/2021** Analysis Date: **3/19/2021** SeqNo: **2693922** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	97.4	80	120			
Surr: BFB	1100		1000		108	75.3	105			S

Sample ID: **LCS-58803** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **LCSS** Batch ID: **58803** RunNo: **76105**

Prep Date: **3/17/2021** Analysis Date: **3/21/2021** SeqNo: **2694555** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		104	75.3	105			

Sample ID: **MB-58803** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **PBS** Batch ID: **58803** RunNo: **76105**

Prep Date: **3/17/2021** Analysis Date: **3/21/2021** SeqNo: **2694556** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	930		1000		93.5	75.3	105			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2103813**

25-Mar-21

Client: Vertex Resource Group Ltd.

Project: Coleman North TB

Sample ID: **LCS-58797** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **58797** RunNo: **76069**

Prep Date: **3/17/2021** Analysis Date: **3/19/2021** SeqNo: **2693623** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	1.000	0	92.9	80	120			
Toluene	0.92	0.050	1.000	0	91.6	80	120			
Ethylbenzene	0.91	0.050	1.000	0	91.4	80	120			
Xylenes, Total	2.7	0.10	3.000	0	90.5	80	120			
Surr: 4-Bromofluorobenzene	0.95		1.000		94.7	80	120			

Sample ID: **MB-58797** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBS** Batch ID: **58797** RunNo: **76069**

Prep Date: **3/17/2021** Analysis Date: **3/19/2021** SeqNo: **2693624** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.95		1.000		95.0	80	120			

Sample ID: **2103813-003ams** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **BS21-03 0-0.5** Batch ID: **58797** RunNo: **76069**

Prep Date: **3/17/2021** Analysis Date: **3/19/2021** SeqNo: **2693627** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.024	0.9794	0	94.9	76.3	120			
Toluene	0.94	0.049	0.9794	0	95.6	78.5	120			
Ethylbenzene	0.94	0.049	0.9794	0	96.4	78.1	124			
Xylenes, Total	2.8	0.098	2.938	0	94.4	79.3	125			
Surr: 4-Bromofluorobenzene	0.90		0.9794		92.0	80	120			

Sample ID: **2103813-003amsd** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **BS21-03 0-0.5** Batch ID: **58797** RunNo: **76069**

Prep Date: **3/17/2021** Analysis Date: **3/19/2021** SeqNo: **2693628** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	0.9930	0	98.1	76.3	120	4.73	20	
Toluene	0.97	0.050	0.9930	0	97.8	78.5	120	3.69	20	
Ethylbenzene	0.97	0.050	0.9930	0	98.1	78.1	124	3.17	20	
Xylenes, Total	2.9	0.099	2.979	0	96.8	79.3	125	3.89	20	
Surr: 4-Bromofluorobenzene	0.94		0.9930		94.4	80	120	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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2103813**

25-Mar-21

Client: Vertex Resource Group Ltd.

Project: Coleman North TB

Sample ID: **mb-58791** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBS** Batch ID: **58791** RunNo: **76071**

Prep Date: **3/17/2021** Analysis Date: **3/19/2021** SeqNo: **2693972** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.98		1.000		98.2	80	120			

Sample ID: **LCS-58791** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **58791** RunNo: **76071**

Prep Date: **3/17/2021** Analysis Date: **3/19/2021** SeqNo: **2693973** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	1.000	0	92.5	80	120			
Toluene	0.93	0.050	1.000	0	93.0	80	120			
Ethylbenzene	0.93	0.050	1.000	0	92.6	80	120			
Xylenes, Total	2.7	0.10	3.000	0	91.2	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		100	80	120			

Sample ID: **LCS-58803** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **58803** RunNo: **76105**

Prep Date: **3/17/2021** Analysis Date: **3/21/2021** SeqNo: **2694598** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.95		1.000		94.7	80	120			

Sample ID: **MB-58803** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBS** Batch ID: **58803** RunNo: **76105**

Prep Date: **3/17/2021** Analysis Date: **3/21/2021** SeqNo: **2694599** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.93		1.000		92.8	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **Vertex Resource Group Ltd.** Work Order Number: **2103813** RcptNo: 1

Received By: **Cheyenne Cason** **3/17/2021 8:00:00 AM**

Completed By: **Desiree Dominguez** **3/17/2021 8:20:02 AM** DD

Reviewed By: SPA 3.17.21

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 ☑	TO
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: 3/17/21 (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by:

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	1.4	Good				

Chain-of-Custody Record

Client: Vertex

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 Day
☐ Standard ☐ Rush

Project Name: Coleman North TB

Project #: 21E-

Project Manager: Monica Peppin

Sampler: JR

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 1.4±0=1.4 (°C)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2103813	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	(Cl) F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
3/15	9:15	Soil	BS21-010-0.5	4oz	ice	-001	✓	✓					✓			
	9:20		BS21-020-0.5			-002										
	9:25		BS21-030-0.5			-003										
	9:30		BS21-040-0.5			-004										
	9:35		BS21-050-0.5			-005										
	9:40		BS21-060-0.5			-006										
	9:45		BS21-070-0.5			-007										
	9:50		BS21-080-0.5			-008										
	9:55		BS21-090-0.5			-009										
	10:00		BS21-100-0.5			-010	✓	✓					✓			
			~~BS22~~													
			~~BS23~~													

Date	Time	Relinquished by:	Received by	Via:	Date	Time
3/15/21	1300				3/16/21	1300
3/16/21	1900				3/17/21	0800

Remarks: Matador

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

Chain-of-Custody Record

Client: Vertex

Mailing Address:

Phone #:

email or Fax#:

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

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

Turn-Around Time: 5 Day
☑ Standard ☐ Rush

Project Name: Coleman North T13

Project #: 21E-

Project Manager: Monica Peppin

Sampler: JR

On Ice: ☑ Yes ☐ No

# of Coolers: ~~2~~ 1 on 3/17/21 1.4+0=1.4

Cooler Temp(including CF): ~~See first page~~ on 3/17/21 (°C)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2103813	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
3/15	10:10	Soil	WS21-01 0-0.5	4 oz	Ice	-011	✓	✓					✓			
	10:15		WS21-02 0-0.5			-012										
	10:20		WS21-03 0-0.5			-013										
	10:25		WS21-04 0-0.5			-014										
	10:30		WS21-05 0-0.5			-015										
	10:35		WS21-06 0-0.5			-016										
	10:40		WS21-07 0-0.5			-017	✓	✓					✓			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
3/16/21	1300				3/16/21	1300
3/16/21	1910		on counter		3/17/21	0800

Remarks: Matador

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

April 16, 2021

Monica Peppin

Vertex Resource Group Ltd.
3101 Boyd Drive
Carlsbad, NM 88220
TEL: (505) 506-0040
FAX

RE: Coleman North TB OrderNo.: 2104350

Dear Monica Peppin:

Hall Environmental Analysis Laboratory received 5 sample(s) on 4/8/2021 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2104350**
Date Reported: **4/16/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** BS21-05 0.5
Project: Coleman North TB **Collection Date:** 3/31/2021 8:30:00 AM
Lab ID: 2104350-001 **Matrix:** SOIL **Received Date:** 4/8/2021 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/10/2021 5:48:44 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/10/2021 5:48:44 PM
Surr: DNOP	97.2	70-130		%Rec	1	4/10/2021 5:48:44 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/10/2021 3:34:00 AM
Surr: BFB	95.2	70-130		%Rec	1	4/10/2021 3:34:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	4/10/2021 3:34:00 AM
Toluene	ND	0.048		mg/Kg	1	4/10/2021 3:34:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/10/2021 3:34:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	4/10/2021 3:34:00 AM
Surr: 4-Bromofluorobenzene	86.8	70-130		%Rec	1	4/10/2021 3:34:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	7100	300		mg/Kg	100	4/15/2021 3:28:41 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2104350**
Date Reported: **4/16/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** BS21-06 0.5
Project: Coleman North TB **Collection Date:** 3/31/2021 8:35:00 AM
Lab ID: 2104350-002 **Matrix:** SOIL **Received Date:** 4/8/2021 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	16	10		mg/Kg	1	4/10/2021 5:58:54 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/10/2021 5:58:54 PM
Surr: DNOP	78.5	70-130		%Rec	1	4/10/2021 5:58:54 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/10/2021 3:54:00 AM
Surr: BFB	92.8	70-130		%Rec	1	4/10/2021 3:54:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.023		mg/Kg	1	4/10/2021 3:54:00 AM
Toluene	ND	0.047		mg/Kg	1	4/10/2021 3:54:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	4/10/2021 3:54:00 AM
Xylenes, Total	ND	0.094		mg/Kg	1	4/10/2021 3:54:00 AM
Surr: 4-Bromofluorobenzene	85.6	70-130		%Rec	1	4/10/2021 3:54:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	4800	150		mg/Kg	50	4/15/2021 3:41:06 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2104350**
Date Reported: **4/16/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.
Client Sample ID: BS21-08 0.5
Project: Coleman North TB
Collection Date: 3/31/2021 8:40:00 AM
Lab ID: 2104350-003 **Matrix:** SOIL **Received Date:** 4/8/2021 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	4/10/2021 6:09:03 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	4/10/2021 6:09:03 PM
Surr: DNOP	82.3	70-130		%Rec	1	4/10/2021 6:09:03 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/10/2021 5:13:00 AM
Surr: BFB	95.4	70-130		%Rec	1	4/10/2021 5:13:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	4/10/2021 5:13:00 AM
Toluene	ND	0.048		mg/Kg	1	4/10/2021 5:13:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/10/2021 5:13:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	4/10/2021 5:13:00 AM
Surr: 4-Bromofluorobenzene	86.8	70-130		%Rec	1	4/10/2021 5:13:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	4900	150		mg/Kg	50	4/15/2021 3:53:31 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2104350**
Date Reported: **4/16/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** WS21-06 0-0.5
Project: Coleman North TB **Collection Date:** 3/31/2021 8:45:00 AM
Lab ID: 2104350-004 **Matrix:** SOIL **Received Date:** 4/8/2021 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	4/10/2021 6:19:11 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/10/2021 6:19:11 PM
Surr: DNOP	91.4	70-130		%Rec	1	4/10/2021 6:19:11 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/10/2021 5:33:00 AM
Surr: BFB	94.4	70-130		%Rec	1	4/10/2021 5:33:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	4/10/2021 5:33:00 AM
Toluene	ND	0.048		mg/Kg	1	4/10/2021 5:33:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/10/2021 5:33:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	4/10/2021 5:33:00 AM
Surr: 4-Bromofluorobenzene	85.4	70-130		%Rec	1	4/10/2021 5:33:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	5900	300		mg/Kg	100	4/15/2021 4:05:56 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **2104350**
Date Reported: **4/16/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. **Client Sample ID:** WS21-07 0-0.5
Project: Coleman North TB **Collection Date:** 3/31/2021 8:50:00 AM
Lab ID: 2104350-005 **Matrix:** SOIL **Received Date:** 4/8/2021 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/10/2021 6:29:16 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/10/2021 6:29:16 PM
Surr: DNOP	87.0	70-130		%Rec	1	4/10/2021 6:29:16 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/10/2021 5:53:00 AM
Surr: BFB	95.0	70-130		%Rec	1	4/10/2021 5:53:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	4/10/2021 5:53:00 AM
Toluene	ND	0.048		mg/Kg	1	4/10/2021 5:53:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/10/2021 5:53:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	4/10/2021 5:53:00 AM
Surr: 4-Bromofluorobenzene	86.4	70-130		%Rec	1	4/10/2021 5:53:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	4500	150		mg/Kg	50	4/15/2021 4:18:20 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2104350**
16-Apr-21

Client: Vertex Resource Group Ltd.
Project: Coleman North TB

Sample ID: **MB-59378**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **59378**	RunNo: **76649**							
Prep Date: **4/13/2021**	Analysis Date: **4/13/2021**	SeqNo: **2716001**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-59378**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **59378**	RunNo: **76649**							
Prep Date: **4/13/2021**	Analysis Date: **4/13/2021**	SeqNo: **2716002**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.9	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2104350**

16-Apr-21

Client: Vertex Resource Group Ltd.

Project: Coleman North TB

Sample ID: **MB-59325**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **59325**	RunNo: **76589**
Prep Date: **4/9/2021**	Analysis Date: **4/10/2021**	SeqNo: **2713882** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.9		10.00		88.6	70	130			

Sample ID: **MB-59328**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **59328**	RunNo: **76589**
Prep Date: **4/9/2021**	Analysis Date: **4/10/2021**	SeqNo: **2713883** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.3		10.00		92.9	70	130			

Sample ID: **LCS-59325**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **59325**	RunNo: **76589**
Prep Date: **4/9/2021**	Analysis Date: **4/10/2021**	SeqNo: **2713885** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	100	68.9	141			
Surr: DNOP	4.6		5.000		91.6	70	130			

Sample ID: **LCS-59328**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **59328**	RunNo: **76589**
Prep Date: **4/9/2021**	Analysis Date: **4/10/2021**	SeqNo: **2713886** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.0		5.000		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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2104350**

16-Apr-21

Client: Vertex Resource Group Ltd.

Project: Coleman North TB

Sample ID: **lcs-59307**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **59307**	RunNo: **76587**
Prep Date: **4/8/2021**	Analysis Date: **4/9/2021**	SeqNo: **2713384** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	98.3	78.6	131			
Surr: BFB	1100		1000		111	70	130			

Sample ID: **mb-59307**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **59307**	RunNo: **76587**
Prep Date: **4/8/2021**	Analysis Date: **4/9/2021**	SeqNo: **2713385** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	950		1000		95.2	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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2104350**

16-Apr-21

Client: Vertex Resource Group Ltd.

Project: Coleman North TB

Sample ID: **lcs-59307**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **59307**	RunNo: **76587**
Prep Date: **4/8/2021**	Analysis Date: **4/9/2021**	SeqNo: **2713434** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	1.000	0	89.9	80	120			
Toluene	0.89	0.050	1.000	0	88.6	80	120			
Ethylbenzene	0.90	0.050	1.000	0	89.7	80	120			
Xylenes, Total	2.6	0.10	3.000	0	88.2	80	120			
Surr: 4-Bromofluorobenzene	0.86		1.000		85.7	70	130			

Sample ID: **mb-59307**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **59307**	RunNo: **76587**
Prep Date: **4/8/2021**	Analysis Date: **4/9/2021**	SeqNo: **2713435** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.87		1.000		87.4	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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **Vertex Resource Group Ltd.** Work Order Number: **2104350** RcptNo: **1**

Received By: **Juan Rojas** **4/8/2021 7:35:00 AM**

Completed By: **Cheyenne Cason** **4/8/2021 8:35:27 AM**

Reviewed By: JR 4/8/21

Chain of Custody

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

Log In

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

10. JO 4/8/21

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

Adjusted?

Checked by:

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	0.2	Good				

Chain-of-Custody Record

Client: Vertex

Mailing Address:

Phone #:

email or Fax#:

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

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

Turn-Around Time: 5 Day
☐ Standard ☐ **Rush**

Project Name: Coleman North TB

Project #: 21E-00087

Project Manager: Monica Peppin

Sampler: JR

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 0.2-0=0.2 (°C)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2104350	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
3/31	8:30	Soil	BS21-05 0.5	4 oz	Ice	001	✓	✓					✓			
"	8:35	"	BS21-06 0.5	"	"	002	"	"					"			
"	8:40	"	BS21-08 0.5	"	"	003	"	"					"			
"	8:45	"	WS21-06 0-0.5	"	"	004	"	"					"			
	8:50		WS21-07 0-0.5	↓	↓	005	"	"					"			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
4/7/21	745				4/7/21	745
4/7/21	1900			courier	4/8/21	7:35

Remarks: Matador

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

ATTACHMENT 8

Monica Peppin

From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Sent: Monday, May 24, 2021 11:35 AM
To: Monica Peppin
Subject: Fwd: nAPP2105529838 Extension Request Coleman North Facility

---------- Forwarded message ---------
From: **Dhugal Hanton** <vertexresourcegroupusa@gmail.com>
Date: Mon, May 24, 2021 at 11:33 AM
Subject: nAPP2105529838 Extension Request Coleman North Facility
To: Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>
Cc: Arsenio Jones <arsenio.jones@matadorresources.com>, <csnow@matadorresources.com>

Good afternoon,

Vertex Resources is requesting a 30-day extension for the Coleman North Facility. The closure report is under review and will be completed by the end of week.

Incident # nAPP2105529838 DOR: February 23, 2021.

Thank you,
Monica

Monica Peppin
Project Manager

Vertex Resource Group Ltd.
3101 Boyd Drive,
Carlsbad, NM 88220

P 575.725.5001 Ext. 711
C 575.361.9880
F

www.vertex.ca

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 28501

CONDITIONS

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 28501
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your closure report and final C-141 for Incident #NAPP2105529838 COLEMAN NORTH FACILITY, thank you. This closure is approved.	7/22/2021