Page 1 of 211

Incident ID	NRM2012930770
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 must be notified 2 days prior to liner inspection)	of the liner integrity if applicable (Note: appropriate OCD District office	
X Laboratory analyses of final sampling (Note: appropriate ODC	C District office must be notified 2 days prior to final sampling)	
X Description of remediation activities		
and regulations all operators are required to report and/or file certain may endanger public health or the environment. The acceptance of should their operations have failed to adequately investigate and rerhuman health or the environment. In addition, OCD acceptance of compliance with any other federal, state, or local laws and/or regular restore, reclaim, and re-vegetate the impacted surface area to the coaccordance with 19.15.29.13 NMAC including notification to the OP Printed Name: Clinton Talley	nediate contamination that pose a threat to groundwater, surface water, a C-141 report does not relieve the operator of responsibility for tions. The responsible party acknowledges they must substantially neditions that existed prior to the release or their final land use in CD when reclamation and re-vegetation are complete. Title: RES Specialist	
Signature: Clint Talley		
email:clinton.talley@matadorresources.com	Telephone: 337-319-8398	
OCD Only		
Received by: Robert Hamlet	Date: 4/24/2023	
	of liability should their operations have failed to adequately investigate and water, human health, or the environment nor does not relieve the responsible or regulations.	
Closure Approved by: Robert Hamlet	Date: 4/24/2023	
Printed Name: Robert Hamlet	Title: Environmental Specialist - Advanced	

Page 2 of 211

Incident ID	NRM2012930770
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no taler than 90 days after the release discovery date.	
What is the shallowest depth to groundwater beneath the area affected by the release?	(ft bgs)
Did this release impact groundwater or surface water?	Yes X No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes X 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 X No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes X 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 X No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes X No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes X No
Are the lateral extents of the release within 300 feet of a wetland?	Yes X No
Are the lateral extents of the release overlying a subsurface mine?	Yes X No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes X No
Are the lateral extents of the release within a 100-year floodplain?	Yes X No
Did the release impact areas not on an exploration, development, production, or storage site?	X Yes No
Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and ver contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.	tical extents of soil
Characterization Report Checklist. Fach of the following items must be included in the report	

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

- X Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- X Field data
- X Data table of soil contaminant concentration data
- X Depth to water determination
- \(\overline{\text{\tin}}}}}}}}}} \encomessmillimity} \end{tiketa}}} } } \end{tiketiting}}} } \end{tiketit{\texi}\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\t
- X Boring or excavation logs
- X Photographs including date and GIS information
- X Topographic/Aerial maps
- X 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.

Received by OCD: 12/5/2022 11:37:32 AM Form C-141 State of New Mexico Page 4 Oil Conservation Division

P	ag	e	3	o	f,	2	1	1	

Incident ID	NRM2012930770
District RP	
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the regulations all operators are required to report and/or file certain release not public health or the environment. The acceptance of a C-141 report by the failed to adequately investigate and remediate contamination that pose a thr addition, OCD acceptance of a C-141 report does not relieve the operator of and/or regulations.	ifications and perform corrective actions for releases which may endanger OCD does not relieve the operator of liability should their operations have eat to groundwater, surface water, human health or the environment. In
Printed Name: Clinton Talley	Title: RES Specialist
Signature: Clint Tallsy email:clinton.talley@matadorresources.com	Date: 12/07/2022
email:clinton.talley@matadorresources.com	Telephone:337-319-8398
OCD Only	
Received by:	Date:

	Page 4 of 21	1
Incident ID	NRM2012930770	
District RP		
Facility ID		
Application ID		

Remediation Plan

Remediation Plan Checklist: Each of the following items must b	e included in the plan.
 □ Detailed description of proposed remediation technique □ Scaled sitemap with GPS coordinates showing delineation poin □ Estimated volume of material to be remediated □ Closure criteria is to Table 1 specifications subject to 19.15.29. □ Proposed schedule for remediation (note if remediation plan tin 	12(C)(4) NMAC
Deferral Requests Only: Each of the following items must be con	nfirmed as part of any request for deferral of remediation.
Contamination must be in areas immediately under or around p deconstruction.	roduction equipment where remediation could cause a major facility
☐ Extents of contamination must be fully delineated.	
Contamination does not cause an imminent risk to human health	n, the environment, or groundwater.
	e and remediate contamination that pose a threat to groundwater, acceptance of a C-141 report does not relieve the operator of
Printed Name: Clinton Talley	Title: RES Specialist
Signature: Clint Talley	Date: 12/07/2022
email:clinton.talley@matadorresources.com	Telephone:
OCD Only	
Received by:	Date:
Approved	Approval
Signature:	Date:

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Incident ID	NRM2012930770
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.

	•
\overline{X} A scaled site and sampling diagram as described in 19.15.29	.11 NMAC
Photographs of the remediated site prior to backfill or photomust be notified 2 days prior to liner inspection)	os of the liner integrity if applicable (Note: appropriate OCD District office
X Laboratory analyses of final sampling (Note: appropriate OD	OC District office must be notified 2 days prior to final sampling)
X Description of remediation activities	
and regulations all operators are required to report and/or file certa may endanger public health or the environment. The acceptance of should their operations have failed to adequately investigate and re- human health or the environment. In addition, OCD acceptance of	lations. The responsible party acknowledges they must substantially conditions that existed prior to the release or their final land use in OCD when reclamation and re-vegetation are complete. Title: RES Specialist
OCD Only	
Received by:	Date:
	y of liability should their operations have failed to adequately investigate and e water, human health, or the environment nor does not relieve the responsible d/or regulations.
Closure Approved by:	Date:
Printed Name:	Title:



July 5, 2020 Vertex Project #: 20E-00239-011

Spill Closure Report: Black River Booster Station Riser #5

Unit A, Section 5, Township 24 South, Range 28 East

County: Eddy

Tracking Number: NRM2012930770

Prepared For: Matador Production Company

One Lincoln Center 5400 LBJ Freeway 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 following a produced water release that occurred on May 2, 2020, at Black River Booster Station Riser #5 (hereafter referred to as "Black River"). Matador provided immediate notification of the release to New Mexico Oil Conservation Division (NM OCD) District 2 and the Bureau of Land Management (BLM), who owns the land, on May 4, 2020, followed by submission of the initial C-141 Release Notification on May 7, 2020 (Attachment 1). The NM OCD tracking number assigned to this incident is NRM2012930770.

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 the final report to obtain approval from NM OCD for closure of this release.

Incident Description

On May 3, 2020, a release occurred at Matador's Black River site when a transfer pump connecting to the riser failed. This incident resulted in the release of approximately 58 barrels (bbls) of produced water into the pasture between the booster station and the Jimmy Kone 05 RB# 201/221/241 wellpad. A hydrovac truck was dispatched to the site to recover free fluids; approximately 50 bbls of produced water were recovered. No produced water was released into sensitive areas or waterways.

Site Characterization

The release at Black River occurred on federally-owned land, N 32.253479, W 104.101533, approximately 11 miles south-southeast of Carlsbad, New Mexico. The legal description for the site is Unit A, Section 5, Township 24 South, Range 28 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.

2020 Spill Assessment and Closure July 2020

Black River is typical of oil and gas exploration and production sites in the western portion of the Permian Basin, and is currently used for oil and gas production and transportation. The following sections specifically describe the area around the release site.

The surrounding landscape has historically been associated plains, ridges and hills consisting of mixed alluvium and residuum weathered from gypsum, and is considered farmland of statewide importance. The climate is semi-arid, with average annual precipitation ranging between 10 and 25 inches. The plant community has historically been dominated by alkali sacaton and black grama where the soils have a deeper gypsic horizon, while gyp grama, black grama and gyp dropseed dominate soils with a shallow gypsic horizon. Saltbush is generally an abundant shrub throughout, while mesquite may invade soils with deeper gypsic horizons that are dominated by tobosa or burrograss. While the landscape generally has a grassland aspect, areas of exposed gypsum outcrops harbor little vegetation, and patches of bare or lichen covered soil surface may be visible between patches of vegetation (United States Department of Agriculture, Natural Resources Conservation Service, 2020).

The Geological Map of New Mexico indicates the surface geology at Black River is comprised of lithological unit Qa—alluvium from the Holocene to upper Pleistocene (New Mexico Bureau of Geology and Mineral Resources, 2020). The National Resources Conservation Service (NRCS) Web Soil Survey characterizes the soil at the site as Gypsum land-Cottonwood complex, which is characterized by shallow loam or fine sandy loam, gypsum material and gypsiferous earth over bedrock. This type of soil tends to be well-drained with low runoff and very low available water storage in the soil profile, and is easily eroded by wind and water when unprotected by plant cover (United States Department of Agriculture, Natural Resources Conservation Service, 2020). There is medium potential for karst geology to be present near Black River (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 Black River located approximately 1 mile south of the site (New Mexico Office of the State Engineer, Interstate Stream Commission, 2020). Multiple dry agricultural water conveyance structures, such as canals and ditches, are present in the vicinity. At Black River, there are no continuously flowing watercourses or significant watercourses, lakebeds, sinkholes, playa lakes, or other critical water or community features as outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

The nearest active well is a New Mexico Office of the State Engineer well located approximately 0.2 miles south-southwest of the site. Data for that well show a depth to groundwater of 30 feet below ground surface (bgs; New Mexico Office of the State Engineer, New Mexico Water Rights Reporting System, 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 Black River 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 vertex.ca

to be associated with constituent concentration limits based on depth to groundwater.

Table 1. Closure Criteria for Soils Impacted by a Release			
Depth to Groundwater	Constituent	Limit	
	Chloride	600 mg/kg	
< 50 feet	TPH ¹	100 mg/kg	
	(GRO + DRO + MRO)	100 mg/kg	
	BTEX ²	50 mg/kg	
	Benzene	10 mg/kg	

¹Total petroleum hydrocarbons (TPH) = gasoline range organics (GRO) + diesel range organics (DRO) + motor oil range organics (MRO)

Background Chloride

Based on site research on the historical agricultural use of the area where Black River 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 NM OCD closure criteria. These background samples were obtained from a single background borehole location (BG20-01), selected outside of the release footprint per guidance provided in the NM OCD *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 3 feet bgs, which was expected to exceed the projected final depth of remediation. The location of the background sample in relation to the release footprint is presented on Figure 1 (Attachment 2).

Laboratory analysis of the background samples showed natural background chloride levels higher than NM OCD closure criteria for areas where depth to groundwater is less than 50 feet bgs. The background sample laboratory data are included in Table 3 (Attachment 4) and the laboratory data report is included in Attachment 5. As allowed by the 19.15.29.12 NMAC – Closure Criteria for Soils Impacted by a Release table, for chloride remediation, "numerical limits or natural background level, whichever is greater" may be used to determine the level of remediation required for a release. The adjusted closure criteria limits for soils impacted by the release at Black River are presented in Table 2. No changes were made to constituent limits for TPH, BTEX or benzene.

Depth to Groundwater	Constituent	Depth Below Ground Surface	Limit
	Chloride	0.5 feet	4,200 mg/kg
		1 foot	4,800 mg/kg
		2 feet	4,300 mg/kg
< 50 feet		3 feet	2,100 mg/kg
< 50 feet	TPH (GRO + DRO + MRO)	All	100 mg/kg
	BTEX	All	50 mg/kg
	Benzene	All	10 mg/kg

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3101 Boyd Drive, Carlsbad, New Mexico 88220, USA | P 575.725.5001

²Benzene, toluene, ethyl benzene and xylenes (BTEX)

2020 Spill Assessment and Closure July 2020

Remedial Actions

Vertex completed initial spill inspection and site characterization activities at Black River on May 4, 2020. The Daily Field Report (DFR) associated with the site visit is included in Attachment 6. Characterization soil samples were collected and field screened, and a selection of those samples was submitted for laboratory analysis to confirm the field screening data. Using initial field screening values and soil sample laboratory data, as presented in Table 3 (Attachment 4), the release at Black River was delineated horizontally and vertically as presented on Figure 1 (Attachment 2). The impacted area was determined to be approximately 435 feet long by 130 feet wide, approximately 20,208 square feet.

On June 19, 2020, Vertex provided 48-hour notification of confirmation sampling to NM OCD and the BLM, as required by Subparagraph (a) of Paragraph (1) of Subsection D 19.15.29.12 NMAC (Attachment 7). Excavation of impacted soils began on June 22, 2020, with a Vertex representative on-site to conduct field screening to guide the excavation and determine the final horizontal and vertical extents of the excavation area as presented on Figure 2 (Attachment 2). On June 24, 2020, as remediation activities were concluding, Vertex collected a total of 80 five-point composite confirmatory samples from the base and side walls of the excavation, at depths ranging between ground surface and 1 foot 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 NM OCD 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.

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 Table 4 (Attachment 4). Laboratory data reports and chain of custody forms are included in Attachment 5.

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.

Closure Request

Vertex recommends no additional remediation to address the release at Black River. Laboratory analyses of the confirmatory samples showed constituent of concern concentration levels below adjusted closure criteria, as presented in Table 2. There are no anticipated risks to human, ecological or hydrological receptors associated with the release site.

The excavation was backfilled with non-waste-containing, uncontaminated earthen material, sourced locally, and placed to meet the site's existing grade to prevent ponding of water and erosion. The remediation area will be re-seeded with an approved seed mix at the appropriate time of year, to take advantage of seasonal rains, in order to aid in the re-establishment of vegetation over the impacted area.

Vertex requests that this incident be closed as all closure requirements set forth in Subsection E of 19.15.29.12 NMAC and reclamation requirements set forth in Subsection D of 19.15.29.13 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 NM OCD requirements to obtain closure on the May 3, 2020, release at Black River.

2020 Spill Assessment and Closure July 2020

Should you have any questions or concerns, please do not hesitate to contact the undersigned at 505.506.0040 or ngordon@vertex.ca.

Sincerely,

Natalie Gordon PROJECT MANAGER

Attachments

Attachment 1. NM OCD C-141 Report

Attachment 2. Figures

Attachment 3. Closure Criteria for Soils Impacted by a Release Determination Documentation Attachment 4. Characterization and Confirmatory Sampling Laboratory Results Data Tables

Attachment 5. Laboratory Data Reports/Chain of Custody Forms

Attachment 6. Daily Field Report(s) with Photographs

Attachment 7. Required 48-hr Notification of Confirmatory Sampling to Regulatory Agencies

2020 Spill Assessment and Closure July 2020

References

- New Mexico Bureau of Geology and Mineral Resources. (2020). *Interactive Geologic Map.* Retrieved from http://geoinfo.nmt.edu.
- New Mexico Energy, Minerals and Natural Resources Department. (2019). *Procedures for Implementation of the Spill Rule.*Santa Fe, New Mexico.
- New Mexico Office of the State Engineer, Interstate Stream Commission. (2020). OSE Pod Locations Water Rights Look

 Up. Retrieved from http://gis.ose.state.nm.us/gisapps/ose_pod_locations/
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- 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.

2020 Spill Assessment and Closure July 2020

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	NRM2012930770
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: Matador Production Company			228937			
Contact Name: John Hurt			Contact Telephone: 972-371-5200			
@matadorresources.c	om	Incident #	Incident # (assigned by OCD)			
ess: 5400 LBJ Freewa	y, Suite 1500 Dall	las, TX 75240				
3479		Longitude :	-104.101533			
er Booster Station Ris	ser #5	Site Type:	: Booster Station Riser			
red: 5/3/2020		API# (if app	oplicable)			
n Township	Range	Cour	inty			
24S	28E	Edd	dy			
Nature and Volume of Release Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)						
Volume Release	ed (bbls) 57.8 bl	bls	Volume Recovered (bbls) 50 bbls			
			⊠ 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)			
cting to the riser failed	d.					
	Hurt @matadorresources.c ess: 5400 LBJ Freewa 53479 er Booster Station Ris red: 5/3/2020 n Township	Hurt @matadorresources.com ess: 5400 LBJ Freeway, Suite 1500 Dali Location 63479 (NAD 83 in dec er Booster Station Riser #5 red: 5/3/2020 In Township Range 248 28E ate Federal Tribal Private (Nature and Volume Released (bbls) Volume Released (bbls) Volume Released (bbls) Is the concentration of dissolved coproduced water >10,000 mg/l? Volume Released (bbls) Volume Released (bbls)	Hurt Contact Commandation Incident Sess: 5400 LBJ Freeway, Suite 1500 Dallas, TX 75240 Location of Release Sestion of Release Sesting and April 1500 Dallas, TX 75240 Location of Release Sesting Sequence Set Section Riser Sequence Seque	Contact Telephone: 972-371-5200		

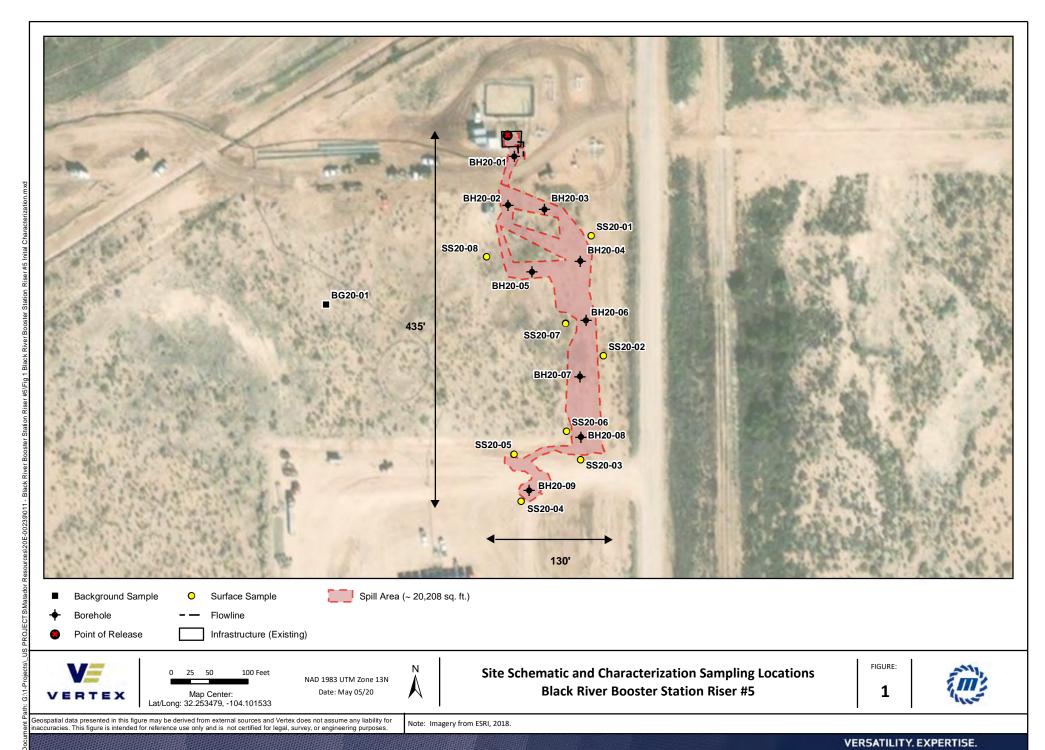
Form C-141 Page 2

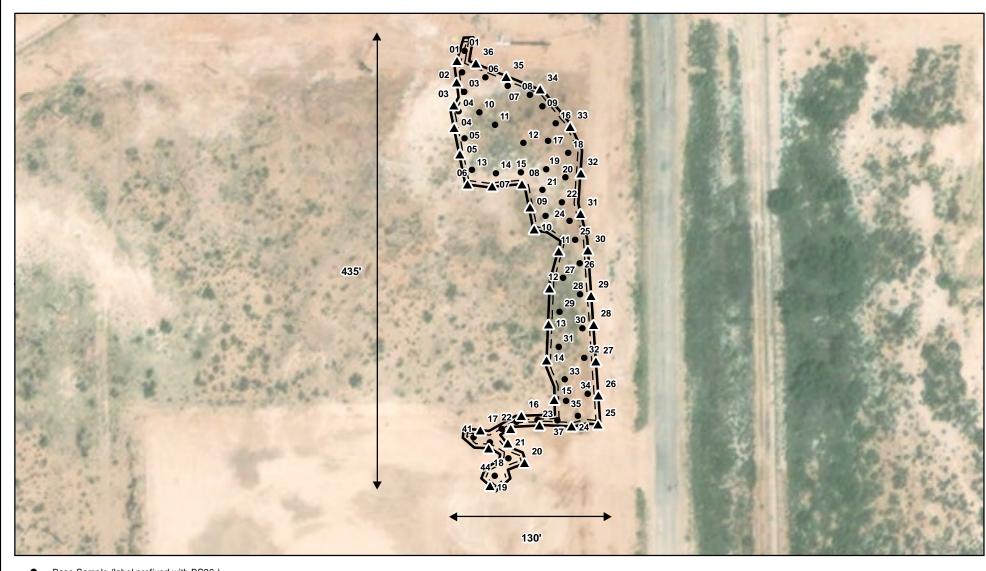
State of New Mexico Oil Conservation Division

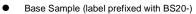
Incident ID	NRM2012930770
District RP	
Facility ID	
Application ID	

Was this a major	If YES, for what reason(s) does the	e responsible party consider this a major release?				
release as defined by 19.15.29.7(A) NMAC?						
	> 25 bbls					
M res 🗆 No						
If YES, was immediate n	otice given to the OCD? By whom	? To whom? When and by what means (phone, email, etc)?				
		Gordon, of Vertex, left a voice mail message for Jim Griswold. This was d the NM OCD District 2 office at approximately 8:45am, on May 4.				
Initial Response						
The responsible	party must undertake the following actions in	mmediately unless they could create a safety hazard that would result in injury				
☐ The source of the rele	ease has been stonned					
	as been secured to protect human he	alth and the environment.				
	•	rms or dikes, absorbent pads, or other containment devices.				
	ecoverable materials have been remo					
If all the actions described	d above have <u>not</u> been undertaken, e	explain why:				
D 1015 20 0 D (4) 274	64 G 3					
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.						
		te to the best of my knowledge and understand that pursuant to OCD rules and				
public health or the environm	ment. The acceptance of a C-141 report	ease notifications and perform corrective actions for releases which may endanger 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:	ohn Hurt .	Title: RES Specialist				
Signatura - D	2 111	Date: 5/7/20				
Signature:		Date.				
82						
email: <u>JHurt@matador</u>	rresources.com	Telephone: 972- 371-5200				
OCD Only						
D	na Marcus	E /0 /2020				
Received by: Ramor	14 17141CU3	Date: 5/8/2020				

ATTACHMENT 2







Wall Sample (label prefixed with WS20-)

Excavation Area (~23,098 sq. ft.)





NAD 1983 UTM Zone 13N Date: Jul 08/20



Confirmatory Sampling Locations Black River Booster Station Riser #5 FIGURE:

2

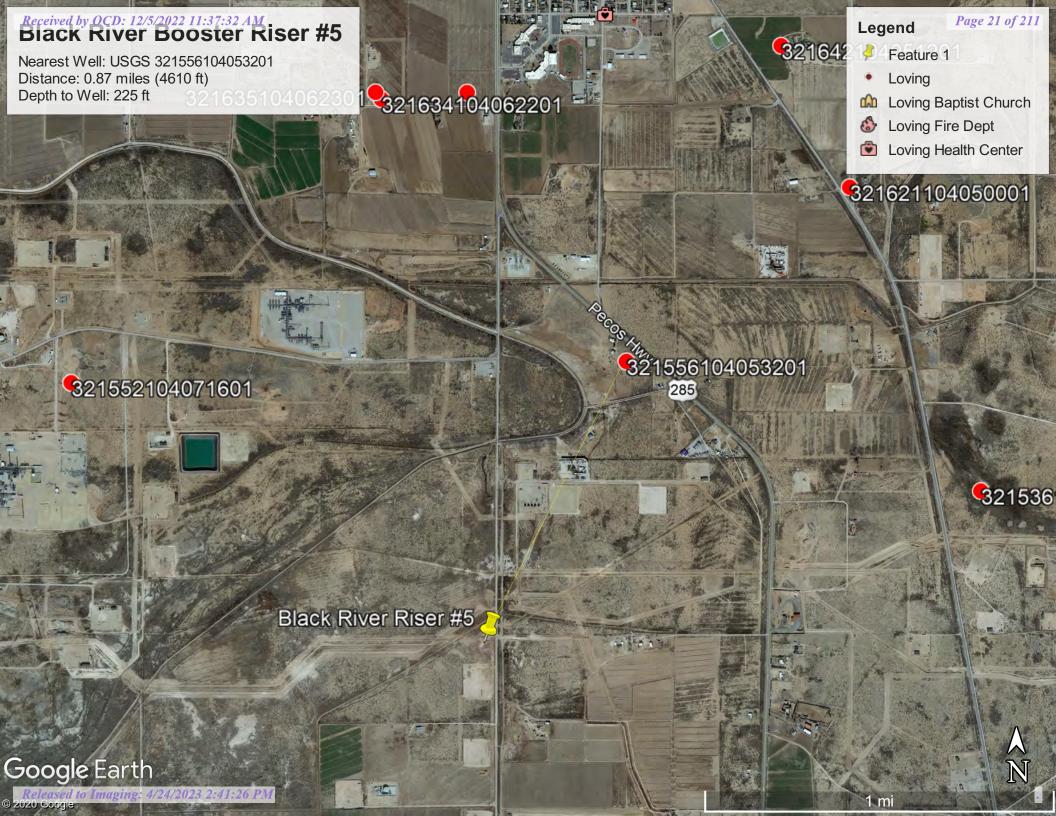


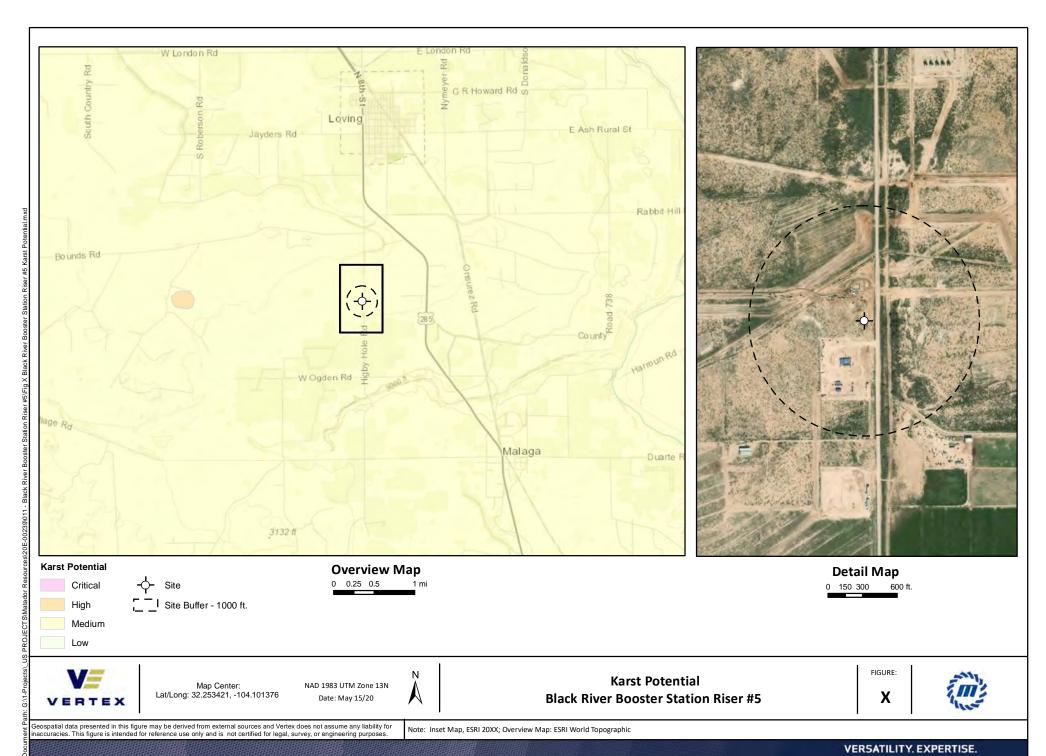
Geospatial data presented in this figure may be derived from external sources and Vertex does not assume any liability for naccuracies. This figure is intended for reference use only and is not certified for legal, survey, or engineering purposes.

Note: Imagery from ESRI, 2018.

ATTACHMENT 3

	e: Black River Booster Riser #5	lv 22 2522	V 4044046	
-	rdinates:	X: 32.2539	Y: -104.1016	
	ific Conditions	Value	Unit	
1	Depth to Groundwater	30	feet	
2	Within 300 feet of any continuously flowing	6,567	feet	
	watercourse or any other significant watercourse	,		
3	Within 200 feet of any lakebed, sinkhole or playa lake	6,286	feet	
	(measured from the ordinary high-water mark)	•		
4	Within 300 feet from an occupied residence, school,	1,423	feet	
	hospital, institution or church			
	i) Within 500 feet of a spring or a private, domestic			
5	fresh water well used by less than five households for	1,423	feet	
	domestic or stock watering purposes, or			
	ii) Within 1000 feet of any fresh water well or spring	1,423	feet	
	Within incorporated municipal boundaries or within a			
	defined municipal fresh water field covered under a	No	(Y/N)	
6	municipal ordinance adopted pursuant to Section 3-27-			
	3 NMSA 1978 as amended, unless the municipality			
	specifically approves			
7	Within 300 feet of a wetland	6,286	feet	
8	Within the area overlying a subsurface mine	No	(Y/N)	
			Critical	
9	Within an unstable area (Karst Map)	Medium	High	
9	Within an unstable area (karst Map)	iviculum	Medium	
			Low	
10	Within a 100 year Floodalain	>100	Voor	
10	Within a 100-year Floodplain	>100	year	
11	Soil Type	Gynsum land-Cottonwood Complex		
11	зоп туре	Gypsum land-Cottonwood Comple.		
12	Ecological Classification	Upland Gyp		
13	Geology	Qa		
			<50'	
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	<50'2	51-100'	
			>100'	







6 mi

1:144,448

1.5

Fault, Exposed

5/7/2020, 2:09:52 PM

Faults

Fault, Intermittent

···· Fault, Concealed

Eddy Area, New Mexico

Gs—Gypsum land-Cottonwood complex, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 1w4j Elevation: 1,250 to 5,000 feet

Mean annual precipitation: 10 to 25 inches Mean annual air temperature: 57 to 66 degrees F

Frost-free period: 190 to 225 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Gypsum land: 60 percent

Cottonwood and similar soils: 30 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of

the mapunit.

Description of Gypsum Land

Setting

Landform: Plains, ridges, hills

Landform position (two-dimensional): Backslope, footslope,

shoulder, toeslope

Landform position (three-dimensional): Side slope, crest, nose

slope, head slope Down-slope shape: Convex Across-slope shape: Linear

Parent material: Residuum weathered from gypsum

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8s

Hydric soil rating: No

Description of Cottonwood

Setting

Landform: Ridges, hills

Landform position (two-dimensional): Backslope, footslope,

shoulder, toeslope

Landform position (three-dimensional): Side slope, crest, nose

slope, head slope Down-slope shape: Convex Across-slope shape: Linear

Parent material: Residuum weathered from gypsum

Typical profile

H1 - 0 to 9 inches: loam H2 - 9 to 60 inches: bedrock



Map Unit Description: Gypsum land-Cottonwood complex, 0 to 3 percent slopes---Eddy Area, New Mexico

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: 3 to 12 inches to paralithic bedrock

Natural drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat):

Moderately high to high (0.20 to 2.00 in/hr) Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 15 percent

Gypsum, maximum in profile: 5 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0

to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 1.0

Available water storage in profile: Very low (about 1.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: D

Ecological site: Gyp Upland (R042XC006NM)

Hydric soil rating: No

Minor Components

Cottonwood

Percent of map unit: 5 percent

Ecological site: Salty Bottomland (R042XC033NM)

Hydric soil rating: No

Rock outcrop

Percent of map unit: 5 percent

Hydric soil rating: No

Data Source Information

Soil Survey Area: Eddy Area, New Mexico Survey Area Data: Version 15, Sep 15, 2019

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: Plains, alluvial fans

Landform position (three-dimensional): Riser, talf, rise

Down-slope shape: Convex, linear 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

Natural 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 in profile: 60 percent

Salinity, maximum in profile: Nonsaline to slightly saline (0.0 to 4.0

mmhos/cm)

Sodium adsorption ratio, maximum in profile: 13.0

Available water storage in profile: High (about 10.5 inches)

Interpretive groups

Land capability classification (irrigated): 2s Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: C

Ecological site: Salt Flats (R042XC036NM)



Hydric soil rating: No

Minor Components

Reeves

Percent of map unit: 1 percent

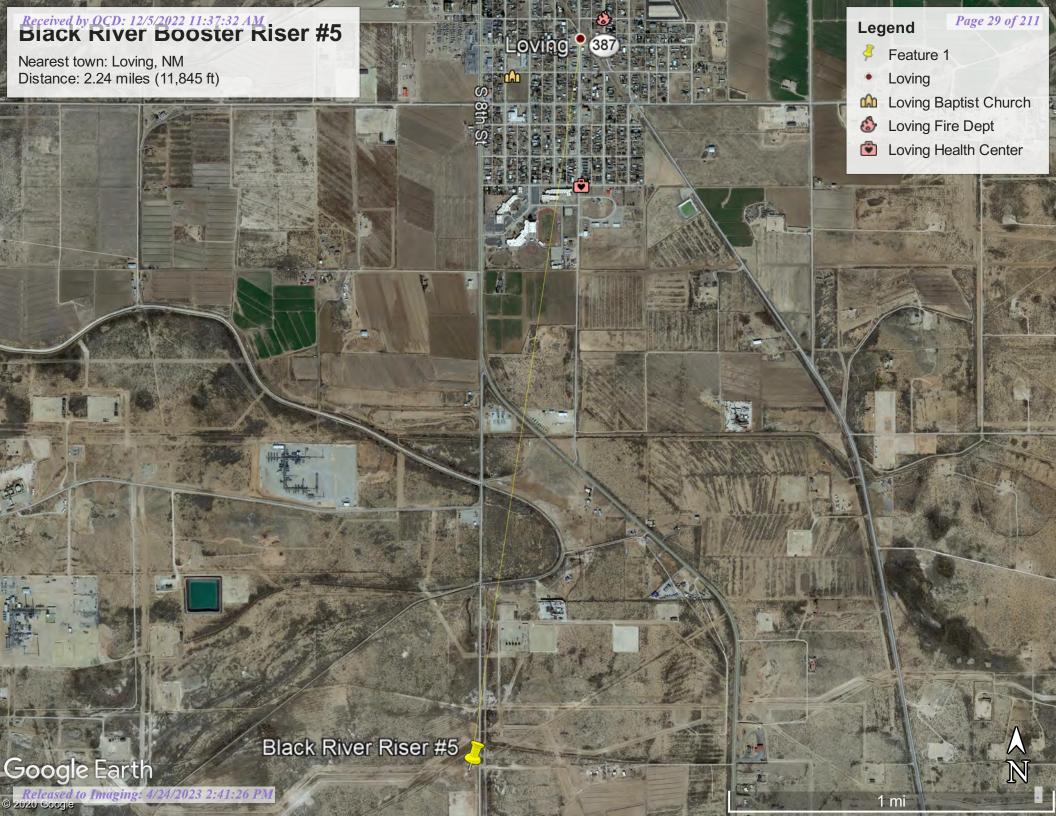
Ecological site: Loamy (R042XC007NM)

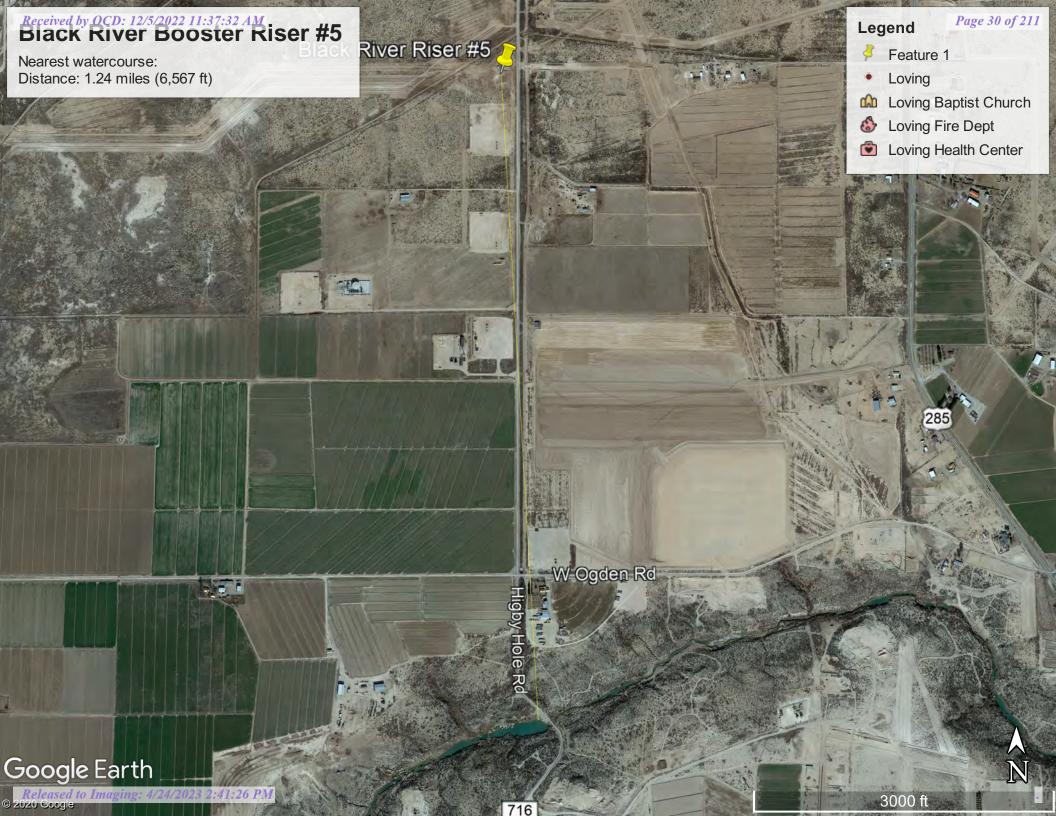
Hydric soil rating: No

Data Source Information

Soil Survey Area: Eddy Area, New Mexico Survey Area Data: Version 15, Sep 15, 2019









New Mexico Office of the State Engineer

Point of Diversion Summary

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

Well Tag POD Number

Q64 Q16 Q4 Sec Tws Rng

X Y

C 01731

2 05 24S 28E

584483 3568367*

-

Driller License: 30

Driller Company:

BARRON, EMMETT

Driller Name: BARRON, EMMETT

01/15/1977

Drill Finish Date:

03/10/1977

Plug Date:

Drill Start Date: Log File Date:

03/30/1977

PCW Rcv Date:

Source:

Shallow

Pump Type:

Pipe Discharge Size:

Estimated Yield:

Casing Size:

Depth Well:

80 feet

Depth Water:

30 feet

Water Bearing Stratifications: Top

 Formula
 Bottom
 Description

 0
 10
 Other/Unknown

 10
 30
 Other/Unknown

 20
 80
 Other/Unknown

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

5/7/20 1:47 PM

POINT OF DIVERSION SUMMARY

^{*}UTM location was derived from PLSS - see Help

Black River Booster Riser #5 0.36 miles



5/7/2020, 1:46:07 PM

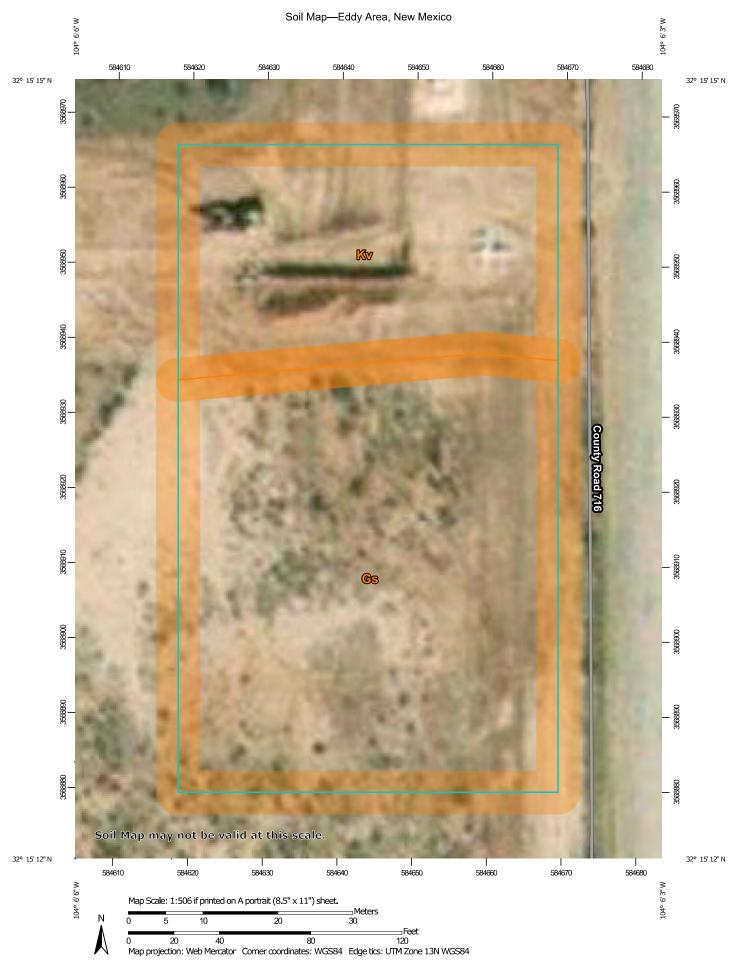
OSE District Boundary Conveyances

GIS WATERS PODs — Ditch

• Active — Lateral

1:4,514 0 0.05 0.1 0.19 mi 1 0 0.07 0.15 0.3 km

Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and



Web Soil Survey

Special Line Features Streams and Canals Interstate Highways Aerial Photography Very Stony Spot Major Roads Local Roads Stony Spot Spoil Area **US Routes** Wet Spot Other Rails Water Features **Fransportation** Background W 8 ŧ Soil Map Unit Polygons Area of Interest (AOI) Miscellaneous Water Soil Map Unit Points Soil Map Unit Lines Closed Depression

Special Point Features

Blowout

Borrow Pit

Clay Spot

MAP INFORMATION

Soil Map-Eddy Area, New Mexico

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

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

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

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 distance and area. A projection that preserves area, such as the projection, which preserves direction and shape but distorts 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.

Marsh or swamp

Lava Flow

Landfill

Gravelly Spot

Gravel Pit

Mine or Quarry

Perennial Water

Rock Outcrop

Saline Spot Sandy Spot

Version 15, Sep 15, 2019 Eddy Area, New Mexico Survey Area Data: Soil Survey Area:

Soil map units are labeled (as space allows) for map scales

1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Jun

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.

Severely Eroded Spot

Slide or Slip Sodic Spot

Sinkhole

MAP LEGEND

Area of Interest (AOI)

Soils

Map Unit Legend

Map Unit Symbol Map Unit Name		Acres in AOI	Percent of AOI		
Gs	Gypsum land-Cottonwood complex, 0 to 3 percent slopes	0.7	66.0%		
Kv	Karro loam, saline, 0 to 1 percent slopes	0.4	34.0%		
Totals for Area of Interest		1.1	100.0%		



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National Water Information System: Web Interface

USGS Water Resources

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

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- **Notice** The USGS Water Resources Mission Area's priority is to maintain the safety and well-being of our communities, including providing critical situational awareness in times of flooding in all 50 U.S. states and additional territories. Our hydrologic monitoring stations continue to send data in near real-time to NWISWeb, and we are continuing critical water monitoring activities to protect life and property on a case-by-case basis. The health and safety of the public and our employees are our highest priorities, and we continue to follow guidance from the White House, the CDC, and state and local authorities.
- Introducing The Next Generation of USGS Water Data for the Nation
- Full News

USGS 321552104071601 23S.28E.31.23142

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

Well Site

DESCRIPTION:

Latitude 32°15'52", Longitude 104°07'16" NAD27 Eddy County, New Mexico , Hydrologic Unit 13060011

Well depth: 93 feet

Land surface altitude: 3,139 feet above NAVD88.

Well completed in "Alluvium, Bolson Deposits and Other Surface Deposits" (110AVMB) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1954-02-16	1993-02-03	18
<u>Revisions</u>	Unavailable (site:0) (timese	eries:0)

OPERATION:

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

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

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U.S. Department of the Interior | U.S. Geological Survey

Title: NWIS Site Information for USA: Site Inventory

URL: https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=321552104071601

Page Contact Information: New Mexico Water Data Support Team

Page Last Modified: 2020-05-07 15:15:19 EDT

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National Water Information System: Web Interface

USGS Water Resources

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

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- Full News

USGS 321556104053201 23S.28E.33.123432

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

Well Site

DESCRIPTION:

Latitude 32°15'55.6", Longitude 104°05'40.94" NAD83 Eddy County, New Mexico , Hydrologic Unit 13060011

Well depth: 225 feet

Land surface altitude: 3,094.60 feet above NGVD29.

Well completed in "Alluvium, Bolson Deposits and Other Surface Deposits" (110AVMB) local aguifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1954-10-05	2018-02-13	9
<u>Revisions</u>	Unavailable (site:0) (timese	eries:0)

OPERATION:

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

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

Accessibility Plug-Ins FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey

Title: NWIS Site Information for USA: Site Inventory

URL: https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=321556104053201

Page Contact Information: New Mexico Water Data Support Team

Page Last Modified: 2020-05-07 15:11:39 EDT

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Black River Booster Riser #5 Wetland 1.19



May 7, 2020

Wetlands

Estuarine and Marine Deepwater

Estuarine and Marine Wetland

Freshwater Emergent Wetland

Freshwater Pond

Freshwater Forested/Shrub Wetland

Lake

Riverine

Other

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.

ATTACHMENT 4

Client Name: Matador Production Company Site Name: Black River Booster Station Riser #5 NM OCD Incident Tracking #: NRM2012930770 Vertex Project #: 20E-00239-011

Lab Report: 2001A59

			ole 3. Chara										
	Sample Description	on	F	ield Screenii	ng			Petrol	eum Hydroc	arbons			Inorgani
				ic o Flag)	ab -	Vol	atile		nics	Extractable		Ŷ	Inorgani
Sample ID	Depth (ft)	Sample Date	Volatile Organic	Extractable Organic Compounds (Petro Flag)	High/Low	Benzene (mg/kg)	(mg/kg/)	(Sasoline Range (Sasoline Range) (Sasoline Range)	Diesel Range Organics	Motor Oil Range	(mg/kg)	Total Petroleum	(mg/kg)
Background													
BG20-01	0-0.5	May 4, 2020	-	-	9,606	-	-	-	-	-	-	-	4,200
BG20-01	1	May 4, 2020	-	-	7,012	-	-	-	-	-	-	-	4,800
BG20-01	2	May 4, 2020	-	-	6,898	-	-	-	-	-	-	-	4,300
BG20-01	3	May 4, 2020	-	-	5,296	-	-	-	-	-	-	-	2,100
ite Characterizat				_	_		1					1	
BH 20-01	0-0.5	May 4, 2020	-	-	10,925	<0.024	<0.217	<4.8	<9.2	<46	<14	<60	6,800
BH 20-01	1	May 4, 2020	-	-	4,112	-	-	-	-	-	-	-	3,100
BH 20-01	2	May 4, 2020	-	-	4,187	-	-	-	-	-	-	-	-
BH 20-01	3 0-0.5	May 4, 2020	-	-	6,846	-	-	-	-	-	-	-	-
BH 20-02 BH 20-02	0-0.5	May 4, 2020 May 4, 2020	-	-	11,860 4,084	-	-	-	-	-	-	-	-
BH 20-02	2	May 4, 2020	-	-	3,775	-	-	-	-	-	-	-	-
BH 20-02	3	May 4, 2020	-	-	3,756	-	-	-	-	-	-	-	-
BH 20-03	0-0.5	May 4, 2020	-	-	15,249	-	-	-	-	-	-	-	-
BH 20-03	1	May 4, 2020	-	-	5,538	-	-	-	-	-	-	-	-
BH 20-03	2	May 4, 2020	-	-	4,996	-	-	-	-	-	-	-	-
BH 20-03	2.5	May 4, 2020	-	-	4,672	-	-	-	-	-	-	-	-
BH20-04	0-0.5	May 4, 2020	-	-	19,202	-	-	-	-	-	-	-	10,00
BH20-04	1	May 4, 2020	-	-	7,065	-	-	-	-	-	-	-	4,700
BH 20-04	2	May 4, 2020	-	-	4,934	-	-	-	-	-	-	-	-
BH 20-04	3	May 4, 2020	-	-	4,501	-	-	-	-	-	-	-	-
BH 20-05	0-0.5	May 4, 2020	-	-	17,946	-	-	-	-	-	-	-	-
BH 20-05	1	May 4, 2020	-	-	10,799	-	-	-	-	-	-	-	-
BH 20-05	2	May 4, 2020	-	-	5,479	-	-	-	-	-	-	-	-
BH 20-05	3	May 4, 2020	-	-	5,941	-	-	-	-	-	-	-	-
BH 20-06	0-0.5	May 4, 2020	-	-	14,517	-	-	-	-	-	-	-	-
BH 20-06 BH 20-06	2	May 4, 2020	-	-	6,142 6,902	-	-	-	-	-	-	-	-
BH 20-06	3	May 4, 2020 May 4, 2020	-	-	5,156	-	-	-	-	-	-	-	-
BH 20-07	0-0.5	May 4, 2020		-	7,644		_	-	_	_	_	_	-
BH 20-07	1	May 4, 2020	-	_	6,947	_	-	_	-	_	_	_	_
BH 20-07	2	May 4, 2020	-	-	5,935	-	-	-	-	-	-	-	-
BH 20-07	3	May 4, 2020	-	-	3,789	-	-	-	-	-	-	-	-
BH 20-08	0-0.5	May 4, 2020	-	-	16,938	-	-	-	-	-	-	-	4,300
BH 20-08	1	May 4, 2020	-	-	4,301	-	-	-	-	-	-	-	-
BH 20-08	2	May 4, 2020	-	-	5,208	-	-	-	-	-	-	-	-
BH 20-08	3	May 4, 2020	-	-	4,808	-	-	-	-	-	-	-	-
BH 20-09	0-0.5	May 4, 2020	-	-	6,514	<0.025	<0.225	<5.0	<9.8	<49	<14.8	<63.8	3,800
BH 20-09	1	May 4, 2020	-	-	5,156	-	-	-	-	-	-	-	-
BH 20-09	2	May 4, 2020	-	-	4,547	-	-	-	-	-	-	-	-
BH 20-09	3	May 4, 2020	-	-	4,273	-	-	-	-	-	-	-	-
SS 20-01 SS 20-01	0 0.5	May 4, 2020	-	-	24,265 13,257	-	-	-	-	-	-	-	-
SS 20-01 SS 20-02	0.5	May 4, 2020 May 4, 2020	-	-	13,257	-	-	-	-	-	-	-	5,300
SS 20-02	0.5	May 4, 2020	-	-	7,635	-	-	-	-	-	-	-	3,300
SS 20-02	0.3	May 4, 2020	-	-	11,142	-	-	-	-	-	-	-	-
SS 20-03	0.5	May 4, 2020	-	-	8,800	-	-	-	-	-	-	-	-
SS 20-04	0.5	May 4, 2020	-	-	14,774	-	-	-	-	-	-	-	370
SS 20-04	0.5	May 4, 2020	-	-	3,808	-	-	-	-	-	-	-	-
SS 20-05	0	May 4, 2020	-	-	11,159	-	-	-	-	-	-	-	-
SS 20-05	0.5	May 4, 2020	-	-	4,368	-	-	-	-	-	-	-	
SS 20-06	0	May 4, 2020	-	-	9,047	-	-	-	-	-	-	-	4,500
SS 20-06	0.5	May 4, 2020	-	-	4,831	-	-	-	-	-	-	-	_
SS 20-07	0	May 4, 2020	-	-	19,602	-	-	-	-	-	-	-	-
SS 20-07	0.5	May 4, 2020	-	-	15,943	-	-	-	-	-	-	-	-



Client Name: Matador Production Company Site Name: Black River Booster Station Riser #5 NM OCD Incident Tracking #: NRM2012930770 Vertex Project #: 20E-00239-011

Lab Report: 2001A59

		Tak	ole 3. Chara	cterization	n Sampling	Field Scree	ning and L	aboratory I	Results				
	Sample Description	on	F	ield Screenii	ng			Petrol	eum Hydroc	arbons			Inorgania
				_		Vol	atile			Extractable			Inorganic
Sample ID	Depth (ft)	Sample Date	Volatile Organic	Extractable Organic Compounds (Petro Flag)	Inorganics (Quantab - High/Low)	Benzene (mg/kg)	(Bak (Total)	Gasoline Range	කි Diesel Range Organics කි (DRO)	Motor Oil Range	(GRO + DRO)	Total Petroleum	Chloride (mg/kg)
Site Characterizat	tion												
SS 20-08	0	May 4, 2020	-	-	1,191	-	-	-	-	-	-	-	-
SS 20-08	0.5	May 4, 2020	-	-	11,426	-	1	-	-	-	-	-	10,000

[&]quot;-" - Not assessed/analyzed

Bold and shaded indicates exceedance outside of, or near, applied action level



Client Name: Matador Production Company Site Name: Black River Booster Station Riser #5 NM OCD Tracking Number: NRM2012930770 Vertex Project #: 20E-00239-011

Lab Reports: 2006D74 and 2007B62

			Table 4	4. Confirmatory	Sampling Labora					
	Sample Description	1			Petr	roleum Hydrocar	bons			Inorganic
			Vol	atile			Extractable			inorganic
Sample ID	Depth (ft)	Sample Date	Benzene (mg/kg)	(sa/ga)	(Gasoline Range তিই (Organics (GRO)	Diesel Range Organics (280)	Motor Oil Range (28) Organics (MRO)	(GRO + DRO)	Total Petroleum	(mg/kg)
Background			, , ,	, 3, 3,	, , , ,	, 3, 3,	, 3, 3,	, 5, 5,	, 3, 3,	
BG20-01	0.5	May 4, 2020	-	-	-	I -	-	-	-	4,200
BG20-01	1	May 4, 2020	-	-	-	-	-	-	-	4,800
BG20-01	2	May 4, 2020	-	-	-	-	-	-	-	4,300
BG20-01	3	May 4, 2020	-	-	-	-	-	-	-	2,100
xcavation										
BS20-01	1	June 24, 2020	<0.025	<0.225	<5.0	<10.0	<50	<15.0	<65.0	810
BS20-02	1	June 24, 2020	<0.025	<0.224	<5.0	<9.2	<46	<14.2	<60.2	1,500
BS20-03	1	June 24, 2020	<0.025	<0.222	<4.9	<9.8	<49	<14.7	<63.7	670
BS20-04	1	June 24, 2020	<0.024	<0.219	<4.9	<9.5	<47	<14.4	<61.4	1,800
BS20-05	1	June 24, 2020	<0.024	<0.220	<4.9	<9.9	<50	<14.8	<64.8	1,500
BS20-06	1	June 24, 2020	<0.025	<0.224	<5.0	<8.7	<43	<13.7	<56.7	1,100
BS20-07	1	June 24, 2020	<0.025	<0.224	<5.0	<9.9	<49	<14.9	<63.9	750
BS20-08	1	June 24, 2020	<0.024	<0.217	<4.8	<9.5	<48	<14.3	<62.3	1,300
BS20-09 BS20-10	1 1	June 24, 2020 June 24, 2020	<0.025 <0.024	<0.225 <0.220	<5.0 <4.9	<9.1	<46	<14.1	<60.1	1,500
BS20-10 BS20-11	1		<0.024	<0.220	<4.9	<9.8	<49	14.7	<63.7	1,200
BS20-11	1 1	June 24, 2020 June 24, 2020	<0.024	<0.217	<5.0	<9.6	<48	<14.4	<62.4	2,200
BS20-12	1 1		<0.023	<0.223	<4.9	<9.9	<49	<14.9	<63.9	1,200
BS20-13	1	June 24, 2020 June 24, 2020	<0.024	<0.219	<4.9	<9.3	<46	<14.2	<60.2	1,200
BS20-14	1	June 24, 2020	<0.023	<0.222	<4.9	<9.5	<48	<14.4	<62.4	1,900
BS20-15	1	June 24, 2020	<0.024	<0.222	<4.9	<9.2 <9.2	<46 <46	<14.1 <14.1	<60.1 <60.1	1,900 1,500
BS20-10	1	June 24, 2020	<0.025	<0.224	<5.0	<9.7	<48	<14.1	<62.7	2,200
BS20-18	1	June 24, 2020	<0.024	<0.216	<4.8	<9.2	<46	<14.7	<60.0	2,100
BS20-19	1	June 24, 2020	<0.025	<0.221	<4.9	<9.3	<47	<14.0	<61.2	2,100
BS20-20	1	June 24, 2020	<0.025	<0.225	<5.0	<10.0	<50	<15.0	<65.0	2,200
BS20-21	1	June 24, 2020	<0.025	<0.225	<5.0	<9.1	<46	<14.1	<60.1	1,900
BS20-22	1	June 24, 2020	<0.025	<0.225	<5.0	<9.9	<50	<14.9	<64.9	1,500
BS20-23	1	June 24, 2020	<0.025	<0.224	<5.0	<9.8	<49	<14.8	<63.8	2,700
BS20-24	1	June 24, 2020	<0.025	<0.221	<4.9	<9.2	<46	<14.1	<60.1	2,100
BS20-25	1	June 24, 2020	<0.025	<0.222	<4.9	<9.4	<47	<14.3	<61.3	3,600
BS20-26	1	June 24, 2020	<0.024	<0.220	<4.9	<9.6	<48	<14.5	<62.5	2,200
BS20-27	1	June 24, 2020	<0.025	<0.224	<5.0	<9.8	<49	<14.8	<63.8	3,400
BS20-28	1	June 24, 2020	<0.025	<0.225	<5.0	<9.5	<48	<14.5	<62.5	670
BS20-29	1	June 24, 2020	<0.024	<0.219	<4.9	<9.1	<45	<14.0	<59.0	2,000
BS20-30	1	June 24, 2020	<0.025	<0.224	<5.0	<9.8	<49	<14.8	<63.8	1,900
BS20-31	1	June 24, 2020	<0.025	<0.221	<4.9	<9.8	<49	<14.7	<63.7	2,600
BS20-32	1	June 24, 2020	<0.025	<0.225	<5.0	<9.5	<47	<14.5	<61.5	1,500
BS20-33	1	June 24, 2020	<0.025	<0.222	<4.9	<9.2	<46	<14.1	<60.1	5,100
BS20-33	2.5	July 21, 2020	<0.024	<0.216	<4.8	<10.0	<50	<14.8	<64.8	3,700
BS20-34	1	June 24, 2020	<0.025	<0.224	<5.0	<9.4	<47	<14.4	<61.4	2,600
BS20-35	1	June 24, 2020	<0.025	<0.225	<5.0	<9.5	<48	<14.5	<62.5	2,000
BS20-36	0.5	June 24, 2020	<0.025	<0.225	<5.0	<9.8	<49	<14.8	<63.8	380
BS20-37	0.5	June 24, 2020	<0.025	<0.224	<5.0	<9.1	<45	<14.1	<59.1	3,500
BS20-38 BS20-39	0.5	June 24, 2020 June 24, 2020	<0.025 <0.025	<0.225 <0.224	<5.0 <5.0	<9.8	<49	<14.8	<63.8	660
BS20-39 BS20-40	0.5	June 24, 2020 June 24, 2020	<0.025	<0.224	<5.0 <4.8	<9.3	<46	<14.3	<60.3	790
BS20-40 BS20-41	0.5	June 24, 2020 June 24, 2020	<0.024	<0.217	<4.8 <4.9	<9.2 13	<46 49	<14.0 13	<60.0 62	540 1,400
BS20-41	0.5	June 24, 2020	<0.025	<0.221	<4.9		49 <45	<13.9	<58.9	790
BS20-42	0.5	June 24, 2020	<0.025	<0.221	<4.9	<9.0 <9.6	<45 <48	<13.9 <14.5	<58.9 <62.5	790 650
BS20-43	0.5	June 24, 2020	<0.025	<0.222	<4.9	<9.6 12	<48 50	<14.5 12	<62.5 62	1,700
WS20-01	0.5	June 24, 2020	<0.025	<0.222	<4.9	<9.7	<49	<14.6		
WS20-01	0-1	June 24, 2020	<0.025	<0.225	<5.0	<9.7	<49 <46	<14.6	<63.6 <60.2	3,300 3,000
WS20-02	0-1	June 24, 2020	<0.025	<0.223	<4.9	<9.2 <9.7	<46 <49	<14.2 <14.6	<63.6	3,000
	1 O-T	June 24, 2020	-0.023	10.222	1-4.5	\5.7	\49	\14.0	\U3.0	3,000
WS20-04	0-1	June 24, 2020	<0.025	<0.222	<4.9	<9.7	<48	<14.6	<62.6	2,300



Client Name: Matador Production Company Site Name: Black River Booster Station Riser #5 NM OCD Tracking Number: NRM2012930770

Vertex Project #: 20E-00239-011 Lab Reports: 2006D74 and 2007B62

			Table 4	4. Confirmatory	Sampling Labora	atory Results				
	Sample Description	n			Peti	roleum Hydrocar	bons			
			Vol	atile			Extractable			Inorganic
Sample ID	Depth (ft)	Sample Date	enzene (mg/kg)	(SA) BTEX (Total)	(%) Gasoline Range (GRO)) B Diesel Range Organics (화 (DRO)	Motor Oil Range (MRO)	(GRO + DRO)	Total Petroleum	(mg/kg)
F			(1116/146)	(1116/146)	(1118/148)	(1118/118)	(1116/116)	(1116/116)	(1116/116)	(1118/118)
Excavation	0-1	Lune 24 2020	<0.025	<0.222	<4.9		1 40	11.0	50.0	
WS20-06 WS20-07	0-1	June 24, 2020	<0.025	<0.222	<4.9 <5.0	<9.9	<49	<14.8	<63.8	3,200
WS20-07 WS20-08	0-1	June 24, 2020 June 24, 2020	<0.025	<0.224	<4.9	<9.7	<48	<14.7	<62.7	4,000
WS20-08 WS20-09	0-1	June 24, 2020 June 24, 2020	<0.025	<0.221	<4.9 <5.0	<10.0	<50	<14.9	<64.9	4,100
WS20-09 WS20-10	0-1	June 24, 2020 June 24, 2020	<0.025	<0.225	<5.0 <4.9	<9.8	<49	<14.8	<63.8	4,300
WS20-10 WS20-11	0-1	June 24, 2020 June 24, 2020	<0.025	<0.222	<4.9 <5.0	<9.8	<49	<14.7	<63.7	1,300
WS20-11 WS20-12	0-1	June 24, 2020 June 24, 2020	<0.025	<0.224	<5.0 <4.9	<9.6	<48	<14.6	<62.6	1,000
WS20-12 WS20-13	0-1		<0.025	<0.222	<4.9 <4.9	<9.9	<50	<14.8	<64.8	4,300
WS20-13	0-1	June 24, 2020 June 24, 2020	<0.024	<0.219	<5.0	<10.0	<50	<14.9	<64.9	1,200
WS20-14 WS20-15	0-1	June 24, 2020	<0.025	<0.224	<4.9	<9.9	<49	<14.9	<63.9	2,700
WS20-15 WS20-16	0-1	June 24, 2020	<0.023	<0.222	<4.9	<9.6 <9.6	<48 <48	<14.5 <14.5	<62.5 <62.5	780
WS20-17	0-1	June 24, 2020	<0.024	<0.220	<4.9	<9.6	<48 <46	<14.5	<60.1	4,300 1.400
WS20-17	0-1	June 24, 2020	<0.024	<0.224	<5.0	<9.2	<50	<14.1	<64.9	740
WS20-18	0-1	June 24, 2020	<0.023	<0.224	<4.8	<10.0	<50	<14.9	<64.8	2,400
WS20-19	0-1	June 24, 2020	<0.024	<0.217	<4.7	<9.5	<47	<14.8	<61.2	2,400
WS20-21	0-1	June 24, 2020	<0.024	<0.212	<4.7	<9.6	<48	<14.2	<62.3	2,200
WS20-22	0-1	June 24, 2020	<0.025	<0.224	<5.0	<9.8	<49	<14.8	<63.8	1,000
WS20-23	0-1	June 24, 2020	<0.024	<0.215	<4.8	<9.9	<49	<14.7	<63.7	1,500
WS20-24	0-1	June 24, 2020	<0.025	<0.221	<4.9	<9.4	<47	<14.7	<61.3	1,400
WS20-25	0-1	June 24, 2020	<0.024	<0.216	<4.8	<9.7	<49	<14.5	<63.5	7,900
WS20-25	0-1	July 21, 2020	<0.024	<0.224	<5.0	<10.0	<50	<15.0	<65.0	3,700
WS20-26	0-1	June 24, 2020	<0.024	<0.220	<4.9	<9.6	<48	<14.5	<62.5	2,900
WS20-27	0-1	June 24, 2020	<0.023	<0.211	<4.7	<9.5	<48	<14.2	<62.2	2,100
WS20-28	0-1	June 24, 2020	<0.024	<0.219	<4.9	<9.9	<49	<14.8	<63.8	2,500
WS20-29	0-1	June 24, 2020	<0.024	<0.212	<4.7	<9.4	<47	<14.1	<61.1	1,400
WS20-30	0-1	June 24, 2020	<0.023	<0.207	<4.6	<9.4	<47	<14.0	<61.0	3,000
WS20-31	0-1	June 24, 2020	<0.024	<0.215	<4.8	<9.6	<48	<14.4	<62.4	1,500
WS20-32	0-1	June 24, 2020	<0.024	<0.220	<4.9	<9.9	<49	<14.8	<63.8	1,100
WS20-33	0-1	June 24, 2020	<0.024	<0.217	<4.8	<9.8	<49	<14.6	<63.6	12,000
WS20-33	0-1	July 21, 2020	<0.024	<0.220	<4.9	<9.5	<47	<14.4	<61.4	3,600
WS20-34	0-1	June 24, 2020	<0.024	<0.216	<4.8	<9.6	<48	<14.4	<62.4	860
WS20-35	0-1	June 24, 2020	<0.024	<0.212	<4.7	<9.8	<49	<14.5	<63.5	1,300
WS20-36	0-1	June 24, 2020	<0.025	<0.224	<5.0	<9.9	<49	<14.9	<63.9	2,600

Bold and gray shaded indicates exceedance outside of closure criteria

Bold and green shaded indicates a re-sample of areas previously exceeding closure criteria



ATTACHMENT 5



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

May 19, 2020

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

FAX:

RE: Black River Booster Riser 5 OrderNo.: 2005353

Dear Natalie Gordon:

Hall Environmental Analysis Laboratory received 10 sample(s) on 5/8/2020 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

Indes

4901 Hawkins NE

Albuquerque, NM 87109

Date Reported: 5/19/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BH20-01 0-0.5

 Project:
 Black River Booster Riser 5
 Collection Date: 5/4/2020 9:15:00 AM

 Lab ID:
 2005353-001
 Matrix: SOIL
 Received Date: 5/8/2020 12:45:00 PM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	SANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	5/11/2020 1:35:31 PM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	5/11/2020 1:35:31 PM
Surr: DNOP	101	55.1-146	%Rec	1	5/11/2020 1:35:31 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	5/11/2020 3:55:28 PM
Surr: BFB	98.6	66.6-105	%Rec	1	5/11/2020 3:55:28 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.024	mg/Kg	1	5/11/2020 3:55:28 PM
Toluene	ND	0.048	mg/Kg	1	5/11/2020 3:55:28 PM
Ethylbenzene	ND	0.048	mg/Kg	1	5/11/2020 3:55:28 PM
Xylenes, Total	ND	0.097	mg/Kg	1	5/11/2020 3:55:28 PM
Surr: 4-Bromofluorobenzene	94.2	80-120	%Rec	1	5/11/2020 3:55:28 PM
EPA METHOD 300.0: ANIONS					Analyst: CJS
Chloride	6800	300	mg/Kg	100	5/14/2020 10:26:38 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- 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

Page 1 of 15

Date Reported: 5/19/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BH20-01 1

Project: Black River Booster Riser 5 **Collection Date:** 5/4/2020 9:20:00 AM

Lab ID: 2005353-002 **Matrix:** SOIL **Received Date:** 5/8/2020 12:45:00 PM

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 EPA METHOD 300.0: ANIONS
 Analyst: MRA

 Chloride
 3100
 150
 mg/Kg
 50
 5/18/2020 12:05:39 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

Page 2 of 15

Date Reported: 5/19/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BH20-04 0-0.5

Project: Black River Booster Riser 5 **Collection Date:** 5/4/2020 9:50:00 AM

Lab ID: 2005353-003 **Matrix:** SOIL **Received Date:** 5/8/2020 12:45:00 PM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	10000	600	mg/Kg	200	5/12/2020 6:12:13 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- 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

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Date Reported: 5/19/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BH20-04 1

Project: Black River Booster Riser 5 **Collection Date:** 5/4/2020 9:55:00 AM

Lab ID: 2005353-004 **Matrix:** SOIL **Received Date:** 5/8/2020 12:45:00 PM

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 EPA METHOD 300.0: ANIONS
 Analyst: MRA

 Chloride
 4700
 150
 mg/Kg
 50
 5/18/2020 12:18:00 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- 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

Page 4 of 15

Date Reported: 5/19/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BH20-08 0-0.5

Project: Black River Booster Riser 5 **Collection Date:** 5/4/2020 11:00:00 AM

Lab ID: 2005353-005 **Matrix:** SOIL **Received Date:** 5/8/2020 12:45:00 PM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	4300	150	mg/Kg	50	5/12/2020 6:24:38 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- 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

Page 5 of 15

Date Reported: 5/19/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BH20-09 0-0.5

 Project:
 Black River Booster Riser 5
 Collection Date: 5/4/2020 11:15:00 AM

 Lab ID:
 2005353-006
 Matrix: SOIL
 Received Date: 5/8/2020 12:45:00 PM

Result **RL Qual Units** DF **Date Analyzed** Analyses **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: BRM Diesel Range Organics (DRO) ND 9.8 mg/Kg 1 5/11/2020 2:00:00 PM Motor Oil Range Organics (MRO) ND 49 mg/Kg 1 5/11/2020 2:00:00 PM Surr: DNOP 95.5 55.1-146 %Rec 1 5/11/2020 2:00:00 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB Gasoline Range Organics (GRO) ND 5/11/2020 4:19:01 PM 5.0 mg/Kg 1 Surr: BFB 96.3 66.6-105 %Rec 1 5/11/2020 4:19:01 PM **EPA METHOD 8021B: VOLATILES** Analyst: NSB Benzene ND 0.025 mg/Kg 5/11/2020 4:19:01 PM 1 Toluene ND 0.050 mg/Kg 1 5/11/2020 4:19:01 PM Ethylbenzene ND 0.050 mg/Kg 1 5/11/2020 4:19:01 PM Xylenes, Total ND 0.10 mg/Kg 1 5/11/2020 4:19:01 PM 5/11/2020 4:19:01 PM Surr: 4-Bromofluorobenzene 92.1 80-120 %Rec 1 Analyst: CJS **EPA METHOD 300.0: ANIONS** Chloride 3800 150 5/14/2020 10:39:03 PM ma/Ka 50

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

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Date Reported: 5/19/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: SS20-02 0-0.5

Project: Black River Booster Riser 5 Collection Date: 5/4/2020 12:00:00 PM

Lab ID: 2005353-007 **Matrix:** SOIL **Received Date:** 5/8/2020 12:45:00 PM

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 EPA METHOD 300.0: ANIONS
 Analyst: JMT

 Chloride
 5300
 150
 mg/Kg
 50
 5/12/2020 6:37:02 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- 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

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Date Reported: 5/19/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: SS20-04 0-0.5

Project: Black River Booster Riser 5 **Collection Date:** 5/4/2020 12:15:00 PM

Lab ID: 2005353-008 **Matrix:** SOIL **Received Date:** 5/8/2020 12:45:00 PM

 Analyses
 Result
 RL Qual Units
 DF
 Date Analyzed

 EPA METHOD 300.0: ANIONS
 Analyst: JMT

 Chloride
 370
 60
 mg/Kg
 20
 5/11/2020 1:29:43 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- 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

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Date Reported: 5/19/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: SS20-06 0-0.5

Project: Black River Booster Riser 5 Collection Date: 5/4/2020 12:30:00 PM

Lab ID: 2005353-009 **Matrix:** SOIL **Received Date:** 5/8/2020 12:45:00 PM

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 EPA METHOD 300.0: ANIONS
 Analyst: JMT

 Chloride
 4500
 150
 mg/Kg
 50
 5/12/2020 6:49:27 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- 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

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Date Reported: 5/19/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: SS20-08 0-0.5

Project: Black River Booster Riser 5 Collection Date: 5/4/2020 12:45:00 PM

Lab ID: 2005353-010 **Matrix:** SOIL **Received Date:** 5/8/2020 12:45:00 PM

 Analyses
 Result
 RL Qual Units
 DF
 Date Analyzed

 EPA METHOD 300.0: ANIONS
 Analyst: JMT

 Chloride
 10000
 600
 mg/Kg
 200
 5/12/2020 7:01:51 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

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Client:

Project:

Hall Environmental Analysis Laboratory, Inc.

Vertex Resource Group Ltd.

Black River Booster Riser 5

WO#: **2005353**

Qual

19-May-20

Sample ID: MB-52383	SampT	ype: ml	olk	Tes	tCode: El	PA Method	300.0: Anion	s	
Client ID: PBS	Batch	ID: 52	383	F	RunNo: 6	8806			
Prep Date: 5/11/2020	Analysis D	ate: 5/	11/2020	\$	SeqNo: 2	381242	Units: mg/k	(g	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit
Chloride	ND	1.5							
Sample ID: LCS-52383	SampT	vpe: Ics	3	Tes	tCode: EI	PA Method	300.0: Anion	s	

Client ID: LCSS Batch ID: 52383 RunNo: 68806 Units: mg/Kg Prep Date: 5/11/2020 Analysis Date: 5/11/2020 SeqNo: 2381244 SPK value SPK Ref Val %REC %RPD **RPDLimit** Analyte Result PQL LowLimit HighLimit Qual Chloride 14 1.5 15.00 90.6 110

Sample ID: MB-52383 SampType: mblk TestCode: EPA Method 300.0: Anions Client ID: PBS Batch ID: 52383 RunNo: 68806 Prep Date: 5/11/2020 Analysis Date: 5/11/2020 SeqNo: 2381275 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Chloride ND 1.5

Sample ID: LCS-52383 SampType: Ics TestCode: EPA Method 300.0: Anions Client ID: LCSS Batch ID: 52383 RunNo: 68806 Prep Date: 5/11/2020 Analysis Date: 5/11/2020 SeqNo: 2381276 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Chloride 14 1.5 15.00 90.7 90

Sample ID: MB-52432 SampType: ms TestCode: EPA Method 300.0: Anions Client ID: BatchQC Batch ID: 52432 RunNo: 68855 Prep Date: 5/13/2020 Analysis Date: 5/13/2020 SeqNo: 2383894 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Chloride ND 15.00 50.4 S 1.5 161

Sample ID: LCS-52432 TestCode: EPA Method 300.0: Anions SampType: Ics Client ID: LCSS Batch ID: 52432 RunNo: 68855 Prep Date: 5/13/2020 Analysis Date: 5/13/2020 SeqNo: 2383895 Units: mg/Kg %RPD **RPDLimit** Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit Qual 14 1.5 94.6 Chloride 15.00 110

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2005353**

19-May-20

Client: Vertex Resource Group Ltd.

Project: Black River Booster Riser 5

Sample ID: MB-52511 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 52511 RunNo: 68964

Prep Date: 5/17/2020 Analysis Date: 5/17/2020 SeqNo: 2387341 Units: mg/Kg

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

Chloride ND 1.5

Sample ID: LCS-52511 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 52511 RunNo: 68964

Prep Date: 5/17/2020 Analysis Date: 5/17/2020 SeqNo: 2387342 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 93.1 90 110

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical 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

Page 12 of 15

Hall Environmental Analysis Laboratory, Inc.

4.9

WO#: **2005353**

19-May-20

Client: Vertex Resource Group Ltd.

Project: Black River Booster Riser 5

 Sample ID:
 MB-52380
 SampType:
 MBLK
 TestCode:
 EPA Method 8015M/D: Diesel Range Organics

 Client ID:
 PBS
 Batch ID:
 52380
 RunNo:
 68785

 Prep Date:
 5/11/2020
 Analysis Date:
 5/11/2020
 SeqNo:
 2380388
 Units: mg/Kg

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

Diesel Range Organics (DRO) ND 10

Motor Oil Range Organics (MRO) ND 50

Surr: DNOP 11 10.00 114 55.1 146

Sample ID: LCS-52380 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: LCSS Batch ID: 52380 RunNo: 68785

Prep Date: 5/11/2020 Analysis Date: 5/11/2020 SeqNo: 2380489 Units: mg/Kg

5.000

SPK value SPK Ref Val Analyte PQL %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) 48 10 50.00 95.2 70 130

99.0

55.1

146

Qualifiers:

Surr: DNOP

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

Page 13 of 15

Hall Environmental Analysis Laboratory, Inc.

WO#: **2005353 19-May-20**

Client: Vertex Resource Group Ltd.

Project: Black River Booster Riser 5

Sample ID: mb-52350 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS Batch ID: 52350 RunNo: 68802

Prep Date: 5/8/2020 Analysis Date: 5/11/2020 SeqNo: 2380976 Units: mg/Kg

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

Gasoline Range Organics (GRO) ND 5.0

Surr: BFB 970 1000 97.3 66.6 105

Sample ID: Ics-52350 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSS Batch ID: 52350 RunNo: 68802

Prep Date: 5/8/2020 Analysis Date: 5/11/2020 SeqNo: 2380977 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 23 5.0 25.00 0 91.4 80 120 Surr: BFB 1100 106 66.6 105 S 1000

Qualifiers:

- Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of 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

Page 14 of 15

Hall Environmental Analysis Laboratory, Inc.

WO#: **2005353**

19-May-20

Client: Vertex Resource Group Ltd.

Project: Black River Booster Riser 5

Sample ID: mb-52350	Samp1	Гуре: МЕ	De: MBLK TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batc	h ID: 52 :	350	RunNo: 68802						
Prep Date: 5/8/2020	Analysis [Date: 5/	11/2020	S	SeqNo: 2	381018	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.93		1.000		92.6	80	120			

Sample ID: LCS-52350	Samp	Type: LC	s	Tes	tCode: El	PA Method	8021B: Volat	tiles		
Client ID: LCSS	Batc	h ID: 52 :	350	F	RunNo: 6	8802				
Prep Date: 5/8/2020	Analysis [Date: 5/	11/2020	\$	SeqNo: 2	381019	Units: mg/K			
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	0.96	0.050	1.000	0	95.8	80	120			
Ethylbenzene	0.96	0.050	1.000	0	95.6	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.1	80	120			
Surr: 4-Bromofluorobenzene	0.96		1.000		95.9 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

- 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

Page 15 of 15



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name	VERTEX C	ARLSBAD	Work	Order Num	ber: 200	5353			RcptN	o: 1	
Received By	/: Isaiah Orti	iz	5/8/2020	12:45:00	PM		I	0	4		
Completed E	By: Isaiah Orti	iz	5/8/2020	1:19:50 P	М		In	0	4		
Reviewed By	" NB		5/8	120							
Chain of C	ustody										
1. Is Chain o	of Custody suffici	ently complet	e?		Yes	V	No [Not Present		
2. How was	the sample delive	ered?			Cou	rier					
Log In											
	tempt made to c	ool the samp	es?		Yes	V	No [NA \square		
4. Were all s	amples received	at a tempera	ture of >0° C t	o 6.0°C	Yes	V	No []	NA 🗆		
5. Sample(s)	in proper contai	ner(s)?			Yes	V	No [
6 Sufficient	sample volume fo	or indicated te	est(s)?		Yes	V	No [1			
	es (except VOA a		Contract of the Contract of th	d?	Yes	V	No [1			
	ervative added to		, , ,		Yes		No 🗸		NA 🗆		
9. Received	at least 1 vial with	n headspace	<1/4" for AQ V	OA?	Yes		No []	NA 🗸		
10. Were any	sample containe	rs received b	roken?		Yes		No V		# of preserved		-
	erwork match bot repancies on cha)		Yes	V	No [bottles checked for pH:	or >12 unl	ess noted)
12. Are matric	es correctly ident	tified on Chair	n of Custody?		Yes	V	No 🗆]	Adjusted?		
13. Is it clear v	vhat analyses we	ere requested	?		Yes	~	No 🗆]		200	C-101-
	olding times able fy customer for a				Yes	V	No _]	Checked by:	DAD	578/20
Special Hai	ndling (if app	licable)									
15. Was clien	t notified of all di	screpancies v	vith this order?		Yes		No []	NA 🗹		
Per	son Notified:			Date				-			
Ву	Whom:	-		Via:	☐ eM	ail 🗌	Phone F	ax [In Person		
- 0.13	arding:										
Clie	nt Instructions:										
16. Additiona	l remarks:										
17. Cooler In	<u>nformation</u>										
Cooler	print which prints who were the form	Condition	Seal Intact	Seal No	Seal D	ate	Signed By				
1 2	3.4 1.2	Good Good	Not Present Not Present								



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

May 13, 2020

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

FAX

RE: Black River Booster Riser 5 OrderNo.: 2005352

Dear Natalie Gordon:

Hall Environmental Analysis Laboratory received 4 sample(s) on 5/8/2020 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

Indes

4901 Hawkins NE

Albuquerque, NM 87109

Date Reported: 5/13/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BG20-01 0.5

Project: Black River Booster Riser 5 **Collection Date:** 5/4/2020 8:45:00 AM

Lab ID: 2005352-001 **Matrix:** SOIL **Received Date:** 5/8/2020 12:45:00 PM

 Analyses
 Result
 RL Qual Units
 DF
 Date Analyzed

 EPA METHOD 300.0: ANIONS
 Analyst: JMT

 Chloride
 4200
 150
 mg/Kg
 50
 5/12/2020 5:34:59 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- 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

Page 1 of 5

Date Reported: 5/13/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BG20-01 1

Project: Black River Booster Riser 5 **Collection Date:** 5/4/2020 8:50:00 AM

Lab ID: 2005352-002 **Matrix:** SOIL **Received Date:** 5/8/2020 12:45:00 PM

 Analyses
 Result
 RL Qual Units
 DF
 Date Analyzed

 EPA METHOD 300.0: ANIONS
 Analyst: JMT

 Chloride
 4800
 150
 mg/Kg
 50
 5/12/2020 5:47:24 PM

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

Qualifiers:

Value exceeds Maximum Contaminant Level.

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

Page 2 of 5

Date Reported: 5/13/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BG20-01 2

Project: Black River Booster Riser 5 **Collection Date:** 5/4/2020 8:55:00 AM

Lab ID: 2005352-003 **Matrix:** SOIL **Received Date:** 5/8/2020 12:45:00 PM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	4300	150	mg/Kg	50	5/12/2020 5:59:49 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

Page 3 of 5

Date Reported: 5/13/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BG20-01 3

Project: Black River Booster Riser 5 **Collection Date:** 5/4/2020 9:00:00 AM

Lab ID: 2005352-004 **Matrix:** SOIL **Received Date:** 5/8/2020 12:45:00 PM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	2100	60	mg/Kg	20	5/11/2020 12:52:29 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

Page 4 of 5

Hall Environmental Analysis Laboratory, Inc.

2005352 13-May-20

WO#:

Client: Vertex Resource Group Ltd. **Project:** Black River Booster Riser 5

Sample ID: MB-52383 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 52383 RunNo: 68806

Prep Date: 5/11/2020 Analysis Date: 5/11/2020 SeqNo: 2381242 Units: mq/Kq

PQL SPK value SPK Ref Val %REC LowLimit %RPD **RPDLimit** Analyte Result HighLimit Qual

Chloride ND 1.5

Sample ID: LCS-52383 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 52383 RunNo: 68806

Prep Date: 5/11/2020 Analysis Date: 5/11/2020 SeqNo: 2381244 Units: mg/Kg

SPK value SPK Ref Val %REC %RPD **RPDLimit** Analyte Result PQL LowLimit HighLimit Qual

Chloride 14 1.5 15.00 90.6 110

Sample ID: MB-52383 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 52383 RunNo: 68806

Prep Date: 5/11/2020 Analysis Date: 5/11/2020 SeqNo: 2381275 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

Chloride ND 1.5

Sample ID: LCS-52383 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 52383 RunNo: 68806

Prep Date: 5/11/2020 Analysis Date: 5/11/2020 SeqNo: 2381276 Units: mg/Kg

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

Chloride 14 1.5 15.00 n 90.7 90 110

Qualifiers:

- Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded Н
- Not Detected at the Reporting Limit
- POL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix

- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits
- Sample pH Not In Range
- RL Reporting Limit

Page 5 of 5



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: VERTEX CARLSBAD Work Order Number: 2005352 RcptNo: 1 Received By: Isaiah Ortiz 5/8/2020 12:45:00 PM Completed By: Isaiah Ortiz 5/8/2020 1:23:09 PM Reviewed By: Chain of Custody 1. Is Chain of Custody sufficiently complete? Yes 🗸 No 🗌 Not Present 2. How was the sample delivered? Courier Log In 3. Was an attempt made to cool the samples? No 🗌 NA 🗌 Yes V 4. Were all samples received at a temperature of >0° C to 6.0°C NA 🗌 5. Sample(s) in proper container(s)? Yes V No L 6. Sufficient sample volume for indicated test(s)? Yes V No 7. Are samples (except VOA and ONG) properly preserved? Yes V No 8. Was preservative added to bottles? No V Yes NA 🔲 9. Received at least 1 vial with headspace <1/4" for AQ VOA? No NA V Yes Yes No V 10. Were any sample containers received broken? # of preserved bottles checked No 🗌 for pH: 11. Does paperwork match bottle labels? Yes V (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? 12. Are matrices correctly identified on Chain of Custody? Yes V No | 13. Is it clear what analyses were requested? Yes V No 🗌 Checked by: DAD 5/8/20 14. Were all holding times able to be met? Yes V No 🗌 (If no, notify customer for authorization.) Special Handling (if applicable) 15. Was client notified of all discrepancies with this order? NA V Yes No 🗌 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 Good 3.4 Not Present 2 1.2 Good Not Present

. >		D: 12	/5/202	22 1	1:37	7:32 Al	M											0			Page 7	2 of
HALL ENVIRONMENTAL	www.hallenvironmental.com	4901 Hawkins NE - Albuquerque, NM 87109	505-345-4107	Request	(tu	əsdA\t		200		700	8) 07S8 Total C											
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Standard	Project Name:	Piser K	Project #:	SOF	Project Manager:	Netali	Sampler: N	On Ice:	# of Coolers: 7	Cooler Temp(including CF): 1.2	Container Type and #				D						Received by: Received by:	1
ō						lation)						0.5	4	d	~						/	
Chain-or-Custody Record						☐ Level 4 (Full Validation)					Sample Name	BG20-01	BG30-01	10-0628	8620-01						led by:	
ار امار							□ Az Cc	□ Other			Matrix	50:1	1		5						Relinquished by:	N
Vartex		Mailing Address:		#:	r Fax#:	QA/QC Package:	.: -:		EDD (Type)		Time	5	8.50	8:55	8.6						Time:	(05/02)
Client:		Mailing		Phone #:	email or Fax#:	QA/QC Packa	Accreditation:	□ NELAC			Date	-	1		>						STR STR	2/1/20



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

July 08, 2020

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

FAX

RE: Black River Booster Station Riser #5 OrderNo.: 2006D74

Dear Natalie Gordon:

Hall Environmental Analysis Laboratory received 80 sample(s) on 6/26/2020 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

Indes

4901 Hawkins NE

Albuquerque, NM 87109

Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-01 1'

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 8:35:00 AM

Lab ID: 2006D74-001 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	6/27/2020 11:08:06 AM
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	6/27/2020 11:08:06 AM
Surr: DNOP	103	55.1-146	%Rec	1	6/27/2020 11:08:06 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	6/28/2020 3:04:26 AM
Surr: BFB	101	66.6-105	%Rec	1	6/28/2020 3:04:26 AM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.025	mg/Kg	1	6/28/2020 3:04:26 AM
Toluene	ND	0.050	mg/Kg	1	6/28/2020 3:04:26 AM
Ethylbenzene	ND	0.050	mg/Kg	1	6/28/2020 3:04:26 AM
Xylenes, Total	ND	0.10	mg/Kg	1	6/28/2020 3:04:26 AM
Surr: 4-Bromofluorobenzene	104	80-120	%Rec	1	6/28/2020 3:04:26 AM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	810	60	mg/Kg	20	6/28/2020 6:51:18 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-02 1'

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 8:51:00 AM

Lab ID: 2006D74-002 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	6/27/2020 11:18:23 AM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	6/27/2020 11:18:23 AM
Surr: DNOP	104	55.1-146	%Rec	1	6/27/2020 11:18:23 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	6/28/2020 4:14:51 AM
Surr: BFB	97.9	66.6-105	%Rec	1	6/28/2020 4:14:51 AM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.025	mg/Kg	1	6/28/2020 4:14:51 AM
Toluene	ND	0.050	mg/Kg	1	6/28/2020 4:14:51 AM
Ethylbenzene	ND	0.050	mg/Kg	1	6/28/2020 4:14:51 AM
Xylenes, Total	ND	0.099	mg/Kg	1	6/28/2020 4:14:51 AM
Surr: 4-Bromofluorobenzene	100	80-120	%Rec	1	6/28/2020 4:14:51 AM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	1500	60	mg/Kg	20	6/28/2020 7:28:32 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-03 1'

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 9:02:00 AM

Lab ID: 2006D74-003 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	GANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	6/27/2020 11:28:43 AM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	6/27/2020 11:28:43 AM
Surr: DNOP	93.6	55.1-146	%Rec	1	6/27/2020 11:28:43 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/28/2020 5:26:01 AM
Surr: BFB	99.4	66.6-105	%Rec	1	6/28/2020 5:26:01 AM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.025	mg/Kg	1	6/28/2020 5:26:01 AM
Toluene	ND	0.049	mg/Kg	1	6/28/2020 5:26:01 AM
Ethylbenzene	ND	0.049	mg/Kg	1	6/28/2020 5:26:01 AM
Xylenes, Total	ND	0.099	mg/Kg	1	6/28/2020 5:26:01 AM
Surr: 4-Bromofluorobenzene	102	80-120	%Rec	1	6/28/2020 5:26:01 AM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	670	60	mg/Kg	20	6/28/2020 7:40:57 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-04 1'

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 9:13:00 AM

Lab ID: 2006D74-004 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	ANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	6/27/2020 11:39:08 AM
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	6/27/2020 11:39:08 AM
Surr: DNOP	97.8	55.1-146	%Rec	1	6/27/2020 11:39:08 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/28/2020 5:49:45 AM
Surr: BFB	101	66.6-105	%Rec	1	6/28/2020 5:49:45 AM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.024	mg/Kg	1	6/28/2020 5:49:45 AM
Toluene	ND	0.049	mg/Kg	1	6/28/2020 5:49:45 AM
Ethylbenzene	ND	0.049	mg/Kg	1	6/28/2020 5:49:45 AM
Xylenes, Total	ND	0.097	mg/Kg	1	6/28/2020 5:49:45 AM
Surr: 4-Bromofluorobenzene	103	80-120	%Rec	1	6/28/2020 5:49:45 AM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	1800	60	mg/Kg	20	6/28/2020 7:53:22 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-05 1

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 9:20:00 AM

Lab ID: 2006D74-005 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	NICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	6/27/2020 11:49:35 AM
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	6/27/2020 11:49:35 AM
Surr: DNOP	100	55.1-146	%Rec	1	6/27/2020 11:49:35 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/28/2020 6:13:27 AM
Surr: BFB	102	66.6-105	%Rec	1	6/28/2020 6:13:27 AM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.024	mg/Kg	1	6/28/2020 6:13:27 AM
Toluene	ND	0.049	mg/Kg	1	6/28/2020 6:13:27 AM
Ethylbenzene	ND	0.049	mg/Kg	1	6/28/2020 6:13:27 AM
Xylenes, Total	ND	0.098	mg/Kg	1	6/28/2020 6:13:27 AM
Surr: 4-Bromofluorobenzene	104	80-120	%Rec	1	6/28/2020 6:13:27 AM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	1500	60	mg/Kg	20	6/28/2020 8:05:46 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-06 1

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 9:26:00 AM

Lab ID: 2006D74-006 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	8.7	mg/Kg	1	6/27/2020 12:00:15 PM
Motor Oil Range Organics (MRO)	ND	43	mg/Kg	1	6/27/2020 12:00:15 PM
Surr: DNOP	94.4	55.1-146	%Rec	1	6/27/2020 12:00:15 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	6/28/2020 6:37:03 AM
Surr: BFB	101	66.6-105	%Rec	1	6/28/2020 6:37:03 AM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.025	mg/Kg	1	6/28/2020 6:37:03 AM
Toluene	ND	0.050	mg/Kg	1	6/28/2020 6:37:03 AM
Ethylbenzene	ND	0.050	mg/Kg	1	6/28/2020 6:37:03 AM
Xylenes, Total	ND	0.099	mg/Kg	1	6/28/2020 6:37:03 AM
Surr: 4-Bromofluorobenzene	103	80-120	%Rec	1	6/28/2020 6:37:03 AM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	1100	60	mg/Kg	20	6/28/2020 8:18:10 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-07 1'

Project:Black River Booster Station Riser #5Collection Date: 6/24/2020 9:31:00 AMLab ID:2006D74-007Matrix: SOILReceived Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	ANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	6/27/2020 12:10:50 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	6/27/2020 12:10:50 PM
Surr: DNOP	97.0	55.1-146	%Rec	1	6/27/2020 12:10:50 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	6/28/2020 7:00:37 AM
Surr: BFB	102	66.6-105	%Rec	1	6/28/2020 7:00:37 AM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.025	mg/Kg	1	6/28/2020 7:00:37 AM
Toluene	ND	0.050	mg/Kg	1	6/28/2020 7:00:37 AM
Ethylbenzene	ND	0.050	mg/Kg	1	6/28/2020 7:00:37 AM
Xylenes, Total	ND	0.099	mg/Kg	1	6/28/2020 7:00:37 AM
Surr: 4-Bromofluorobenzene	104	80-120	%Rec	1	6/28/2020 7:00:37 AM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	750	60	mg/Kg	20	6/28/2020 8:30:34 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-08 1

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 9:38:00 AM

Lab ID: 2006D74-008 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	GANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	6/27/2020 12:21:28 PM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	6/27/2020 12:21:28 PM
Surr: DNOP	98.6	55.1-146	%Rec	1	6/27/2020 12:21:28 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	6/28/2020 7:24:04 AM
Surr: BFB	99.1	66.6-105	%Rec	1	6/28/2020 7:24:04 AM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.024	mg/Kg	1	6/28/2020 7:24:04 AM
Toluene	ND	0.048	mg/Kg	1	6/28/2020 7:24:04 AM
Ethylbenzene	ND	0.048	mg/Kg	1	6/28/2020 7:24:04 AM
Xylenes, Total	ND	0.097	mg/Kg	1	6/28/2020 7:24:04 AM
Surr: 4-Bromofluorobenzene	102	80-120	%Rec	1	6/28/2020 7:24:04 AM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	1300	60	mg/Kg	20	6/28/2020 9:07:48 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-09 1'

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 9:56:00 AM

Lab ID: 2006D74-009 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS				Analyst: BRM	
Diesel Range Organics (DRO)	ND	9.1	mg/Kg	1	6/27/2020 12:32:01 PM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	6/27/2020 12:32:01 PM
Surr: DNOP	97.8	55.1-146	%Rec	1	6/27/2020 12:32:01 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	6/28/2020 2:31:52 PM
Surr: BFB	103	66.6-105	%Rec	1	6/28/2020 2:31:52 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/28/2020 2:31:52 PM
Toluene	ND	0.050	mg/Kg	1	6/28/2020 2:31:52 PM
Ethylbenzene	ND	0.050	mg/Kg	1	6/28/2020 2:31:52 PM
Xylenes, Total	ND	0.10	mg/Kg	1	6/28/2020 2:31:52 PM
Surr: 4-Bromofluorobenzene	103	80-120	%Rec	1	6/28/2020 2:31:52 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	1500	60	mg/Kg	20	6/28/2020 9:20:13 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-10 1'

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 10:08:00 AM

Lab ID: 2006D74-010 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	6/27/2020 2:18:07 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	6/27/2020 2:18:07 PM
Surr: DNOP	85.0	55.1-146	%Rec	1	6/27/2020 2:18:07 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/28/2020 2:55:47 PM
Surr: BFB	104	66.6-105	%Rec	1	6/28/2020 2:55:47 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.024	mg/Kg	1	6/28/2020 2:55:47 PM
Toluene	ND	0.049	mg/Kg	1	6/28/2020 2:55:47 PM
Ethylbenzene	ND	0.049	mg/Kg	1	6/28/2020 2:55:47 PM
Xylenes, Total	ND	0.098	mg/Kg	1	6/28/2020 2:55:47 PM
Surr: 4-Bromofluorobenzene	105	80-120	%Rec	1	6/28/2020 2:55:47 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	1200	60	mg/Kg	20	6/28/2020 9:32:37 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-11 1'

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 10:20:00 AM

Lab ID: 2006D74-011 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	6/27/2020 2:48:44 PM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	6/27/2020 2:48:44 PM
Surr: DNOP	90.1	55.1-146	%Rec	1	6/27/2020 2:48:44 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	6/28/2020 3:43:39 PM
Surr: BFB	102	66.6-105	%Rec	1	6/28/2020 3:43:39 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.024	mg/Kg	1	6/28/2020 3:43:39 PM
Toluene	ND	0.048	mg/Kg	1	6/28/2020 3:43:39 PM
Ethylbenzene	ND	0.048	mg/Kg	1	6/28/2020 3:43:39 PM
Xylenes, Total	ND	0.097	mg/Kg	1	6/28/2020 3:43:39 PM
Surr: 4-Bromofluorobenzene	102	80-120	%Rec	1	6/28/2020 3:43:39 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	2200	150	mg/Kg	50	6/29/2020 6:17:46 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-12 1'

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 10:28:00 AM

Lab ID: 2006D74-012 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL (Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS					Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	6/27/2020 2:58:58 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/27/2020 2:58:58 PM
Surr: DNOP	91.1	55.1-146		%Rec	1	6/27/2020 2:58:58 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/28/2020 4:07:37 PM
Surr: BFB	107	66.6-105	S	%Rec	1	6/28/2020 4:07:37 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	6/28/2020 4:07:37 PM
Toluene	ND	0.050		mg/Kg	1	6/28/2020 4:07:37 PM
Ethylbenzene	ND	0.050		mg/Kg	1	6/28/2020 4:07:37 PM
Xylenes, Total	ND	0.10		mg/Kg	1	6/28/2020 4:07:37 PM
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	6/28/2020 4:07:37 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	1200	60		mg/Kg	20	6/28/2020 10:47:04 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-13 1'

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 10:30:00 AM

Lab ID: 2006D74-013 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL (Qual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	Analyst: BRM				
Diesel Range Organics (DRO)	ND	9.3	mg/Kg	1	6/27/2020 3:09:12 PM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	6/27/2020 3:09:12 PM
Surr: DNOP	98.8	55.1-146	%Rec	1	6/27/2020 3:09:12 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/28/2020 4:31:33 PM
Surr: BFB	107	66.6-105	S %Rec	1	6/28/2020 4:31:33 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.024	mg/Kg	1	6/28/2020 4:31:33 PM
Toluene	ND	0.049	mg/Kg	1	6/28/2020 4:31:33 PM
Ethylbenzene	ND	0.049	mg/Kg	1	6/28/2020 4:31:33 PM
Xylenes, Total	ND	0.097	mg/Kg	1	6/28/2020 4:31:33 PM
Surr: 4-Bromofluorobenzene	106	80-120	%Rec	1	6/28/2020 4:31:33 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	1200	60	mg/Kg	20	6/28/2020 10:59:28 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-14 1'

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 10:33:00 AM

Lab ID: 2006D74-014 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL (Qual Uni	ts I	F	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS					Analyst: BRM
Diesel Range Organics (DRO)	ND	9.5	mg	/Kg	1	6/27/2020 3:19:28 PM
Motor Oil Range Organics (MRO)	ND	48	mg	/Kg	1	6/27/2020 3:19:28 PM
Surr: DNOP	102	55.1-146	%F	Rec	1	6/27/2020 3:19:28 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg	/Kg	1	6/28/2020 4:55:36 PM
Surr: BFB	108	66.6-105	S %F	Rec	1	6/28/2020 4:55:36 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025	mg	/Kg	1	6/28/2020 4:55:36 PM
Toluene	ND	0.049	mg	/Kg	1	6/28/2020 4:55:36 PM
Ethylbenzene	ND	0.049	mg	/Kg	1	6/28/2020 4:55:36 PM
Xylenes, Total	ND	0.099	mg	/Kg	1	6/28/2020 4:55:36 PM
Surr: 4-Bromofluorobenzene	108	80-120	%F	Rec	1	6/28/2020 4:55:36 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	1900	60	mg	/Kg	20	6/28/2020 11:36:41 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-15 1'

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 10:40:00 AM

Lab ID: 2006D74-015 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL (Qual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	Analyst: BRM				
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	6/27/2020 3:29:45 PM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	6/27/2020 3:29:45 PM
Surr: DNOP	93.9	55.1-146	%Rec	1	6/27/2020 3:29:45 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/28/2020 5:19:40 PM
Surr: BFB	109	66.6-105	S %Rec	1	6/28/2020 5:19:40 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.024	mg/Kg	1	6/28/2020 5:19:40 PM
Toluene	ND	0.049	mg/Kg	1	6/28/2020 5:19:40 PM
Ethylbenzene	ND	0.049	mg/Kg	1	6/28/2020 5:19:40 PM
Xylenes, Total	ND	0.097	mg/Kg	1	6/28/2020 5:19:40 PM
Surr: 4-Bromofluorobenzene	108	80-120	%Rec	1	6/28/2020 5:19:40 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	1900	60	mg/Kg	20	6/28/2020 11:49:06 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-16 1'

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 10:45:00 AM

Lab ID: 2006D74-016 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL (Qual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	Analyst: BRM				
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	6/27/2020 3:40:03 PM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	6/27/2020 3:40:03 PM
Surr: DNOP	97.9	55.1-146	%Rec	1	6/27/2020 3:40:03 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/28/2020 5:43:40 PM
Surr: BFB	108	66.6-105	S %Rec	1	6/28/2020 5:43:40 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/28/2020 5:43:40 PM
Toluene	ND	0.049	mg/Kg	1	6/28/2020 5:43:40 PM
Ethylbenzene	ND	0.049	mg/Kg	1	6/28/2020 5:43:40 PM
Xylenes, Total	ND	0.099	mg/Kg	1	6/28/2020 5:43:40 PM
Surr: 4-Bromofluorobenzene	108	80-120	%Rec	1	6/28/2020 5:43:40 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	1500	60	mg/Kg	20	6/29/2020 12:01:31 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-17 1'

Project:Black River Booster Station Riser #5Collection Date: 6/24/2020 10:53:00 AMLab ID:2006D74-017Matrix: SOILReceived Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL (Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	GANICS					Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	6/27/2020 3:50:24 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/27/2020 3:50:24 PM
Surr: DNOP	93.0	55.1-146		%Rec	1	6/27/2020 3:50:24 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/28/2020 6:07:38 PM
Surr: BFB	107	66.6-105	S	%Rec	1	6/28/2020 6:07:38 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	6/28/2020 6:07:38 PM
Toluene	ND	0.050		mg/Kg	1	6/28/2020 6:07:38 PM
Ethylbenzene	ND	0.050		mg/Kg	1	6/28/2020 6:07:38 PM
Xylenes, Total	ND	0.099		mg/Kg	1	6/28/2020 6:07:38 PM
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	6/28/2020 6:07:38 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	2200	60		mg/Kg	20	6/29/2020 12:13:56 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-18 1'

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 11:00:00 AM

Lab ID: 2006D74-018 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL (Qual Units	s DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGAN	Analyst: BRM				
Diesel Range Organics (DRO)	ND	9.2	mg/k	(g 1	6/27/2020 4:00:45 PM
Motor Oil Range Organics (MRO)	ND	46	mg/k	(g 1	6/27/2020 4:00:45 PM
Surr: DNOP	101	55.1-146	%Re	c 1	6/27/2020 4:00:45 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/k	(g 1	6/28/2020 6:31:39 PM
Surr: BFB	106	66.6-105	S %Re	c 1	6/28/2020 6:31:39 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.024	mg/k	(g 1	6/28/2020 6:31:39 PM
Toluene	ND	0.048	mg/k	(g 1	6/28/2020 6:31:39 PM
Ethylbenzene	ND	0.048	mg/k	(g 1	6/28/2020 6:31:39 PM
Xylenes, Total	ND	0.096	mg/k	(g 1	6/28/2020 6:31:39 PM
Surr: 4-Bromofluorobenzene	106	80-120	%Re	c 1	6/28/2020 6:31:39 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	2100	60	mg/k	(g 20	6/29/2020 12:26:20 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-19 1'

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 11:15:00 AM

Lab ID: 2006D74-019 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL (Qual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	Analyst: BRM				
Diesel Range Organics (DRO)	ND	9.3	mg/Kg	1	6/27/2020 4:11:06 PM
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	6/27/2020 4:11:06 PM
Surr: DNOP	98.6	55.1-146	%Rec	1	6/27/2020 4:11:06 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/28/2020 6:55:37 PM
Surr: BFB	107	66.6-105	S %Rec	1	6/28/2020 6:55:37 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/28/2020 6:55:37 PM
Toluene	ND	0.049	mg/Kg	1	6/28/2020 6:55:37 PM
Ethylbenzene	ND	0.049	mg/Kg	1	6/28/2020 6:55:37 PM
Xylenes, Total	ND	0.098	mg/Kg	1	6/28/2020 6:55:37 PM
Surr: 4-Bromofluorobenzene	107	80-120	%Rec	1	6/28/2020 6:55:37 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	2100	150	mg/Kg	50	6/29/2020 6:30:06 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-20 1'

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 11:18:00 AM

Lab ID: 2006D74-020 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL (Qual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	Analyst: BRM				
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	6/27/2020 4:21:28 PM
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	6/27/2020 4:21:28 PM
Surr: DNOP	99.2	55.1-146	%Rec	1	6/27/2020 4:21:28 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	6/28/2020 7:19:36 PM
Surr: BFB	105	66.6-105	S %Rec	1	6/28/2020 7:19:36 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/28/2020 7:19:36 PM
Toluene	ND	0.050	mg/Kg	1	6/28/2020 7:19:36 PM
Ethylbenzene	ND	0.050	mg/Kg	1	6/28/2020 7:19:36 PM
Xylenes, Total	ND	0.10	mg/Kg	1	6/28/2020 7:19:36 PM
Surr: 4-Bromofluorobenzene	105	80-120	%Rec	1	6/28/2020 7:19:36 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	2200	150	mg/Kg	50	6/29/2020 6:42:27 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-21 1'

Project:Black River Booster Station Riser #5Collection Date: 6/24/2020 11:21:00 AMLab ID:2006D74-021Matrix: SOILReceived Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE O	RGANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.1	mg/Kg	1	6/27/2020 4:31:52 PM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	6/27/2020 4:31:52 PM
Surr: DNOP	99.8	55.1-146	%Rec	1	6/27/2020 4:31:52 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	6/28/2020 8:31:13 PM
Surr: BFB	103	66.6-105	%Rec	1	6/28/2020 8:31:13 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/28/2020 8:31:13 PM
Toluene	ND	0.050	mg/Kg	1	6/28/2020 8:31:13 PM
Ethylbenzene	ND	0.050	mg/Kg	1	6/28/2020 8:31:13 PM
Xylenes, Total	ND	0.10	mg/Kg	1	6/28/2020 8:31:13 PM
Surr: 4-Bromofluorobenzene	103	80-120	%Rec	1	6/28/2020 8:31:13 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	1900	60	mg/Kg	20	6/29/2020 1:03:33 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-22 1'

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 11:25:00 AM

Lab ID: 2006D74-022 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	Analyst: BRM				
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	6/27/2020 4:42:17 PM
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	6/27/2020 4:42:17 PM
Surr: DNOP	93.7	55.1-146	%Rec	1	6/27/2020 4:42:17 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	6/28/2020 9:42:30 PM
Surr: BFB	102	66.6-105	%Rec	1	6/28/2020 9:42:30 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/28/2020 9:42:30 PM
Toluene	ND	0.050	mg/Kg	1	6/28/2020 9:42:30 PM
Ethylbenzene	ND	0.050	mg/Kg	1	6/28/2020 9:42:30 PM
Xylenes, Total	ND	0.10	mg/Kg	1	6/28/2020 9:42:30 PM
Surr: 4-Bromofluorobenzene	103	80-120	%Rec	1	6/28/2020 9:42:30 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	1500	60	mg/Kg	20	6/29/2020 1:15:57 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-23 1'

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 11:28:00 AM

Lab ID: 2006D74-023 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	Analyst: BRM				
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	6/27/2020 4:52:43 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	6/27/2020 4:52:43 PM
Surr: DNOP	97.6	55.1-146	%Rec	1	6/27/2020 4:52:43 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	6/28/2020 10:53:20 PM
Surr: BFB	101	66.6-105	%Rec	1	6/28/2020 10:53:20 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/28/2020 10:53:20 PM
Toluene	ND	0.050	mg/Kg	1	6/28/2020 10:53:20 PM
Ethylbenzene	ND	0.050	mg/Kg	1	6/28/2020 10:53:20 PM
Xylenes, Total	ND	0.099	mg/Kg	1	6/28/2020 10:53:20 PM
Surr: 4-Bromofluorobenzene	102	80-120	%Rec	1	6/28/2020 10:53:20 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	2700	150	mg/Kg	50	6/29/2020 7:19:29 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-24 1'

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 11:34:00 AM

Lab ID: 2006D74-024 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	6/27/2020 5:03:22 PM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	6/27/2020 5:03:22 PM
Surr: DNOP	93.2	55.1-146	%Rec	1	6/27/2020 5:03:22 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/28/2020 11:16:49 PM
Surr: BFB	99.7	66.6-105	%Rec	1	6/28/2020 11:16:49 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/28/2020 11:16:49 PM
Toluene	ND	0.049	mg/Kg	1	6/28/2020 11:16:49 PM
Ethylbenzene	ND	0.049	mg/Kg	1	6/28/2020 11:16:49 PM
Xylenes, Total	ND	0.098	mg/Kg	1	6/28/2020 11:16:49 PM
Surr: 4-Bromofluorobenzene	100	80-120	%Rec	1	6/28/2020 11:16:49 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	2100	150	mg/Kg	50	6/29/2020 7:31:50 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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CLIENT: Vertex Resource Group Ltd.

Analytical ReportLab Order **2006D74**

Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BS20-25 1'

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 11:36:00 AM

Lab ID: 2006D74-025 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					Analyst: BRM
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	6/27/2020 5:13:59 PM
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	6/27/2020 5:13:59 PM
Surr: DNOP	111	55.1-146	%Rec	1	6/27/2020 5:13:59 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/28/2020 11:40:17 PM
Surr: BFB	101	66.6-105	%Rec	1	6/28/2020 11:40:17 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/28/2020 11:40:17 PM
Toluene	ND	0.049	mg/Kg	1	6/28/2020 11:40:17 PM
Ethylbenzene	ND	0.049	mg/Kg	1	6/28/2020 11:40:17 PM
Xylenes, Total	ND	0.099	mg/Kg	1	6/28/2020 11:40:17 PM
Surr: 4-Bromofluorobenzene	101	80-120	%Rec	1	6/28/2020 11:40:17 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	3600	150	mg/Kg	50	6/29/2020 7:44:10 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-26 1'

Project:Black River Booster Station Riser #5Collection Date: 6/24/2020 11:38:00 AMLab ID:2006D74-026Matrix: SOILReceived Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	6/27/2020 5:24:33 PM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	6/27/2020 5:24:33 PM
Surr: DNOP	125	55.1-146	%Rec	1	6/27/2020 5:24:33 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/29/2020 12:03:44 AM
Surr: BFB	101	66.6-105	%Rec	1	6/29/2020 12:03:44 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.024	mg/Kg	1	6/29/2020 12:03:44 AM
Toluene	ND	0.049	mg/Kg	1	6/29/2020 12:03:44 AM
Ethylbenzene	ND	0.049	mg/Kg	1	6/29/2020 12:03:44 AM
Xylenes, Total	ND	0.098	mg/Kg	1	6/29/2020 12:03:44 AM
Surr: 4-Bromofluorobenzene	103	80-120	%Rec	1	6/29/2020 12:03:44 AM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	2200	60	mg/Kg	20	6/29/2020 2:30:24 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-27 1'

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 11:51:00 AM

Lab ID: 2006D74-027 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	6/27/2020 5:35:07 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	6/27/2020 5:35:07 PM
Surr: DNOP	102	55.1-146	%Rec	1	6/27/2020 5:35:07 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	6/29/2020 12:27:20 AM
Surr: BFB	103	66.6-105	%Rec	1	6/29/2020 12:27:20 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/29/2020 12:27:20 AM
Toluene	ND	0.050	mg/Kg	1	6/29/2020 12:27:20 AM
Ethylbenzene	ND	0.050	mg/Kg	1	6/29/2020 12:27:20 AM
Xylenes, Total	ND	0.099	mg/Kg	1	6/29/2020 12:27:20 AM
Surr: 4-Bromofluorobenzene	103	80-120	%Rec	1	6/29/2020 12:27:20 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	3400	150	mg/Kg	50	6/29/2020 7:56:31 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-28 1

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 12:18:00 PM

Lab ID: 2006D74-028 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	ual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	6/27/2020 5:45:39 PM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	6/27/2020 5:45:39 PM
Surr: DNOP	90.5	55.1-146	%Rec	1	6/27/2020 5:45:39 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	6/29/2020 12:50:44 AM
Surr: BFB	101	66.6-105	%Rec	1	6/29/2020 12:50:44 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/29/2020 12:50:44 AM
Toluene	ND	0.050	mg/Kg	1	6/29/2020 12:50:44 AM
Ethylbenzene	ND	0.050	mg/Kg	1	6/29/2020 12:50:44 AM
Xylenes, Total	ND	0.10	mg/Kg	1	6/29/2020 12:50:44 AM
Surr: 4-Bromofluorobenzene	101	80-120	%Rec	1	6/29/2020 12:50:44 AM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	670	60	mg/Kg	20	6/29/2020 2:55:13 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-29 1'

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 12:20:00 PM

Lab ID: 2006D74-029 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	Analyst: BRM				
Diesel Range Organics (DRO)	ND	9.1	mg/Kg	1	6/27/2020 5:56:11 PM
Motor Oil Range Organics (MRO)	ND	45	mg/Kg	1	6/27/2020 5:56:11 PM
Surr: DNOP	91.4	55.1-146	%Rec	1	6/27/2020 5:56:11 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/29/2020 1:14:10 AM
Surr: BFB	101	66.6-105	%Rec	1	6/29/2020 1:14:10 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.024	mg/Kg	1	6/29/2020 1:14:10 AM
Toluene	ND	0.049	mg/Kg	1	6/29/2020 1:14:10 AM
Ethylbenzene	ND	0.049	mg/Kg	1	6/29/2020 1:14:10 AM
Xylenes, Total	ND	0.097	mg/Kg	1	6/29/2020 1:14:10 AM
Surr: 4-Bromofluorobenzene	102	80-120	%Rec	1	6/29/2020 1:14:10 AM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	2000	60	mg/Kg	20	6/29/2020 3:07:38 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-30 1'

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 12:25:00 PM

Lab ID: 2006D74-030 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	6/27/2020 6:58:11 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	6/27/2020 6:58:11 PM
Surr: DNOP	86.8	55.1-146	%Rec	1	6/27/2020 6:58:11 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	6/29/2020 1:37:57 AM
Surr: BFB	100	66.6-105	%Rec	1	6/29/2020 1:37:57 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/29/2020 1:37:57 AM
Toluene	ND	0.050	mg/Kg	1	6/29/2020 1:37:57 AM
Ethylbenzene	ND	0.050	mg/Kg	1	6/29/2020 1:37:57 AM
Xylenes, Total	ND	0.099	mg/Kg	1	6/29/2020 1:37:57 AM
Surr: 4-Bromofluorobenzene	101	80-120	%Rec	1	6/29/2020 1:37:57 AM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	1900	60	mg/Kg	20	6/29/2020 3:20:03 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-31 1'

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 12:27:00 PM

Lab ID: 2006D74-031 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	ANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	6/27/2020 7:29:19 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	6/27/2020 7:29:19 PM
Surr: DNOP	88.6	55.1-146	%Rec	1	6/27/2020 7:29:19 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/29/2020 3:25:53 PM
Surr: BFB	105	66.6-105	%Rec	1	6/29/2020 3:25:53 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/29/2020 3:25:53 PM
Toluene	ND	0.049	mg/Kg	1	6/29/2020 3:25:53 PM
Ethylbenzene	ND	0.049	mg/Kg	1	6/29/2020 3:25:53 PM
Xylenes, Total	ND	0.098	mg/Kg	1	6/29/2020 3:25:53 PM
Surr: 4-Bromofluorobenzene	105	80-120	%Rec	1	6/29/2020 3:25:53 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	2600	150	mg/Kg	50	6/30/2020 11:49:06 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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CLIENT: Vertex Resource Group Ltd.

Analytical ReportLab Order **2006D74**

Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BS20-32 1'

Project: Black River Booster Station Riser #5 **Collection Date:** 6/24/2020 12:31:00 PM

Lab ID: 2006D74-032 **Matrix:** SOIL **Received Date:** 6/26/2020 9:30:00 AM

Analyses	Result	RL (Qual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	ANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	6/27/2020 7:39:39 PM
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	6/27/2020 7:39:39 PM
Surr: DNOP	85.3	55.1-146	%Rec	1	6/27/2020 7:39:39 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	6/29/2020 3:49:43 PM
Surr: BFB	106	66.6-105	S %Rec	1	6/29/2020 3:49:43 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/29/2020 3:49:43 PM
Toluene	ND	0.050	mg/Kg	1	6/29/2020 3:49:43 PM
Ethylbenzene	ND	0.050	mg/Kg	1	6/29/2020 3:49:43 PM
Xylenes, Total	ND	0.10	mg/Kg	1	6/29/2020 3:49:43 PM
Surr: 4-Bromofluorobenzene	106	80-120	%Rec	1	6/29/2020 3:49:43 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	1500	59	mg/Kg	20	6/29/2020 12:56:50 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-33 1'

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 12:36:00 PM

Lab ID: 2006D74-033 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL (Qual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	ANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	6/27/2020 7:49:57 PM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	6/27/2020 7:49:57 PM
Surr: DNOP	73.9	55.1-146	%Rec	1	6/27/2020 7:49:57 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/29/2020 4:13:39 PM
Surr: BFB	108	66.6-105	S %Rec	1	6/29/2020 4:13:39 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/29/2020 4:13:39 PM
Toluene	ND	0.049	mg/Kg	1	6/29/2020 4:13:39 PM
Ethylbenzene	ND	0.049	mg/Kg	1	6/29/2020 4:13:39 PM
Xylenes, Total	ND	0.099	mg/Kg	1	6/29/2020 4:13:39 PM
Surr: 4-Bromofluorobenzene	107	80-120	%Rec	1	6/29/2020 4:13:39 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	5100	150	mg/Kg	50	7/1/2020 12:01:26 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-34 1'

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 12:39:00 PM

Lab ID: 2006D74-034 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL (Qual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	6/27/2020 8:00:14 PM
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	6/27/2020 8:00:14 PM
Surr: DNOP	79.0	55.1-146	%Rec	1	6/27/2020 8:00:14 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	6/29/2020 4:37:32 PM
Surr: BFB	106	66.6-105	S %Rec	1	6/29/2020 4:37:32 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/29/2020 4:37:32 PM
Toluene	ND	0.050	mg/Kg	1	6/29/2020 4:37:32 PM
Ethylbenzene	ND	0.050	mg/Kg	1	6/29/2020 4:37:32 PM
Xylenes, Total	ND	0.099	mg/Kg	1	6/29/2020 4:37:32 PM
Surr: 4-Bromofluorobenzene	107	80-120	%Rec	1	6/29/2020 4:37:32 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	2600	150	mg/Kg	50	7/1/2020 12:13:47 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-35 1'

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 12:45:00 PM

Lab ID: 2006D74-035 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL (Qual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	SANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	j 1	6/27/2020 8:10:28 PM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	j 1	6/27/2020 8:10:28 PM
Surr: DNOP	86.3	55.1-146	%Rec	1	6/27/2020 8:10:28 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	j 1	6/29/2020 5:01:26 PM
Surr: BFB	106	66.6-105	S %Rec	1	6/29/2020 5:01:26 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	j 1	6/29/2020 5:01:26 PM
Toluene	ND	0.050	mg/Kg	j 1	6/29/2020 5:01:26 PM
Ethylbenzene	ND	0.050	mg/Kg	j 1	6/29/2020 5:01:26 PM
Xylenes, Total	ND	0.10	mg/Kg	j 1	6/29/2020 5:01:26 PM
Surr: 4-Bromofluorobenzene	106	80-120	%Rec	1	6/29/2020 5:01:26 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	2000	60	mg/Kg	20	6/29/2020 1:33:51 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-36 0.5

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 12:51:00 PM

Lab ID: 2006D74-036 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL (Qual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	NICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	6/27/2020 8:20:45 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	6/27/2020 8:20:45 PM
Surr: DNOP	90.1	55.1-146	%Rec	1	6/27/2020 8:20:45 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	6/29/2020 5:25:22 PM
Surr: BFB	106	66.6-105	S %Rec	1	6/29/2020 5:25:22 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/29/2020 5:25:22 PM
Toluene	ND	0.050	mg/Kg	1	6/29/2020 5:25:22 PM
Ethylbenzene	ND	0.050	mg/Kg	1	6/29/2020 5:25:22 PM
Xylenes, Total	ND	0.10	mg/Kg	1	6/29/2020 5:25:22 PM
Surr: 4-Bromofluorobenzene	106	80-120	%Rec	1	6/29/2020 5:25:22 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	380	60	mg/Kg	20	6/29/2020 1:46:11 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS20-37 0.5

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 12:55:00 PM

Lab ID: 2006D74-037 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL (Qual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	NICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.1	mg/Kg	1	6/27/2020 8:31:01 PM
Motor Oil Range Organics (MRO)	ND	45	mg/Kg	1	6/27/2020 8:31:01 PM
Surr: DNOP	80.5	55.1-146	%Rec	1	6/27/2020 8:31:01 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	6/29/2020 5:49:16 PM
Surr: BFB	105	66.6-105	S %Rec	1	6/29/2020 5:49:16 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/29/2020 5:49:16 PM
Toluene	ND	0.050	mg/Kg	1	6/29/2020 5:49:16 PM
Ethylbenzene	ND	0.050	mg/Kg	1	6/29/2020 5:49:16 PM
Xylenes, Total	ND	0.099	mg/Kg	1	6/29/2020 5:49:16 PM
Surr: 4-Bromofluorobenzene	105	80-120	%Rec	1	6/29/2020 5:49:16 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	3500	150	mg/Kg	50	7/1/2020 12:26:08 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-38 0.5

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 12:58:00 PM

Lab ID: 2006D74-038 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL (Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS					Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	6/27/2020 8:41:13 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/27/2020 8:41:13 PM
Surr: DNOP	74.3	55.1-146		%Rec	1	6/27/2020 8:41:13 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/29/2020 6:13:14 PM
Surr: BFB	107	66.6-105	S	%Rec	1	6/29/2020 6:13:14 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	6/29/2020 6:13:14 PM
Toluene	ND	0.050		mg/Kg	1	6/29/2020 6:13:14 PM
Ethylbenzene	ND	0.050		mg/Kg	1	6/29/2020 6:13:14 PM
Xylenes, Total	ND	0.10		mg/Kg	1	6/29/2020 6:13:14 PM
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	6/29/2020 6:13:14 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	660	60		mg/Kg	20	6/29/2020 2:35:35 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-39 0.5

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 1:00:00 PM

Lab ID: 2006D74-039 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL (Qual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	GANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.3	mg/Kg	1	6/27/2020 8:51:28 PM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	6/27/2020 8:51:28 PM
Surr: DNOP	82.0	55.1-146	%Rec	1	6/27/2020 8:51:28 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	6/29/2020 6:37:09 PM
Surr: BFB	105	66.6-105	S %Rec	1	6/29/2020 6:37:09 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/29/2020 6:37:09 PM
Toluene	ND	0.050	mg/Kg	1	6/29/2020 6:37:09 PM
Ethylbenzene	ND	0.050	mg/Kg	1	6/29/2020 6:37:09 PM
Xylenes, Total	ND	0.099	mg/Kg	1	6/29/2020 6:37:09 PM
Surr: 4-Bromofluorobenzene	104	80-120	%Rec	1	6/29/2020 6:37:09 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	790	60	mg/Kg	20	6/29/2020 2:47:56 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-40 0.5

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 1:03:00 PM

Lab ID: 2006D74-040 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL (Qual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	SANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	6/27/2020 9:01:45 PM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	6/27/2020 9:01:45 PM
Surr: DNOP	91.4	55.1-146	%Rec	1	6/27/2020 9:01:45 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	6/29/2020 7:01:07 PM
Surr: BFB	107	66.6-105	S %Rec	1	6/29/2020 7:01:07 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.024	mg/Kg	1	6/29/2020 7:01:07 PM
Toluene	ND	0.048	mg/Kg	1	6/29/2020 7:01:07 PM
Ethylbenzene	ND	0.048	mg/Kg	1	6/29/2020 7:01:07 PM
Xylenes, Total	ND	0.097	mg/Kg	1	6/29/2020 7:01:07 PM
Surr: 4-Bromofluorobenzene	107	80-120	%Rec	1	6/29/2020 7:01:07 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	540	60	mg/Kg	20	6/29/2020 3:00:16 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-41 0.5

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 1:08:00 PM

Lab ID: 2006D74-041 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL (Qual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	GANICS				Analyst: BRM
Diesel Range Organics (DRO)	13	9.9	mg/Kg	1	6/27/2020 9:11:56 PM
Motor Oil Range Organics (MRO)	49	0	mg/Kg	1	6/27/2020 9:11:56 PM
Surr: DNOP	93.1	55.1-146	%Rec	1	6/27/2020 9:11:56 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/29/2020 8:12:36 PM
Surr: BFB	108	66.6-105	S %Rec	1	6/29/2020 8:12:36 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/29/2020 8:12:36 PM
Toluene	ND	0.049	mg/Kg	1	6/29/2020 8:12:36 PM
Ethylbenzene	ND	0.049	mg/Kg	1	6/29/2020 8:12:36 PM
Xylenes, Total	ND	0.098	mg/Kg	1	6/29/2020 8:12:36 PM
Surr: 4-Bromofluorobenzene	107	80-120	%Rec	1	6/29/2020 8:12:36 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	1400	59	mg/Kg	20	6/29/2020 3:12:36 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-42 0.5

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 1:11:00 PM

Lab ID: 2006D74-042 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL (Qual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	SANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.0	mg/K	g 1	6/27/2020 9:22:08 PM
Motor Oil Range Organics (MRO)	ND	45	mg/K	g 1	6/27/2020 9:22:08 PM
Surr: DNOP	60.5	55.1-146	%Re	c 1	6/27/2020 9:22:08 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/K	g 1	6/29/2020 9:23:45 PM
Surr: BFB	105	66.6-105	S %Re	c 1	6/29/2020 9:23:45 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/K	g 1	6/29/2020 9:23:45 PM
Toluene	ND	0.049	mg/K	g 1	6/29/2020 9:23:45 PM
Ethylbenzene	ND	0.049	mg/K	g 1	6/29/2020 9:23:45 PM
Xylenes, Total	ND	0.098	mg/K	g 1	6/29/2020 9:23:45 PM
Surr: 4-Bromofluorobenzene	106	80-120	%Re	c 1	6/29/2020 9:23:45 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	790	60	mg/K	g 20	6/29/2020 3:24:57 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-43 0.5

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 1:14:00 PM

Lab ID: 2006D74-043 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	SANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	6/27/2020 9:32:17 PM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	6/27/2020 9:32:17 PM
Surr: DNOP	90.1	55.1-146	%Rec	1	6/27/2020 9:32:17 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/29/2020 10:34:26 PM
Surr: BFB	102	66.6-105	%Rec	1	6/29/2020 10:34:26 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/29/2020 10:34:26 PM
Toluene	ND	0.049	mg/Kg	1	6/29/2020 10:34:26 PM
Ethylbenzene	ND	0.049	mg/Kg	1	6/29/2020 10:34:26 PM
Xylenes, Total	ND	0.099	mg/Kg	1	6/29/2020 10:34:26 PM
Surr: 4-Bromofluorobenzene	103	80-120	%Rec	1	6/29/2020 10:34:26 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	650	59	mg/Kg	20	6/29/2020 3:37:18 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: BS20-44 0.5

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 1:20:00 PM

Lab ID: 2006D74-044 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: BRM
Diesel Range Organics (DRO)	12	9.9	mg/Kg	1	6/27/2020 9:42:29 PM
Motor Oil Range Organics (MRO)	50	50	mg/Kg	1	6/27/2020 9:42:29 PM
Surr: DNOP	73.8	55.1-146	%Rec	1	6/27/2020 9:42:29 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/29/2020 10:57:55 PM
Surr: BFB	101	66.6-105	%Rec	1	6/29/2020 10:57:55 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/29/2020 10:57:55 PM
Toluene	ND	0.049	mg/Kg	1	6/29/2020 10:57:55 PM
Ethylbenzene	ND	0.049	mg/Kg	1	6/29/2020 10:57:55 PM
Xylenes, Total	ND	0.099	mg/Kg	1	6/29/2020 10:57:55 PM
Surr: 4-Bromofluorobenzene	103	80-120	%Rec	1	6/29/2020 10:57:55 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	1700	60	mg/Kg	20	6/29/2020 4:14:21 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-01

Project:Black River Booster Station Riser #5Collection Date: 6/24/2020 1:22:00 PMLab ID:2006D74-045Matrix: SOILReceived Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	ANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	6/27/2020 9:52:43 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	6/27/2020 9:52:43 PM
Surr: DNOP	86.6	55.1-146	%Rec	1	6/27/2020 9:52:43 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/29/2020 11:21:23 PM
Surr: BFB	100	66.6-105	%Rec	1	6/29/2020 11:21:23 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/29/2020 11:21:23 PM
Toluene	ND	0.049	mg/Kg	1	6/29/2020 11:21:23 PM
Ethylbenzene	ND	0.049	mg/Kg	1	6/29/2020 11:21:23 PM
Xylenes, Total	ND	0.099	mg/Kg	1	6/29/2020 11:21:23 PM
Surr: 4-Bromofluorobenzene	103	80-120	%Rec	1	6/29/2020 11:21:23 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	3300	150	mg/Kg	50	7/1/2020 1:03:09 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-02

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 1:24:00 PM

Lab ID: 2006D74-046 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	ANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	6/27/2020 10:02:59 PM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	6/27/2020 10:02:59 PM
Surr: DNOP	62.9	55.1-146	%Rec	1	6/27/2020 10:02:59 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	6/29/2020 11:44:50 PM
Surr: BFB	100	66.6-105	%Rec	1	6/29/2020 11:44:50 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/29/2020 11:44:50 PM
Toluene	ND	0.050	mg/Kg	1	6/29/2020 11:44:50 PM
Ethylbenzene	ND	0.050	mg/Kg	1	6/29/2020 11:44:50 PM
Xylenes, Total	ND	0.10	mg/Kg	1	6/29/2020 11:44:50 PM
Surr: 4-Bromofluorobenzene	103	80-120	%Rec	1	6/29/2020 11:44:50 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	3000	150	mg/Kg	50	7/1/2020 1:15:30 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Hall Environmental Analysis Laboratory, Inc.

Date Reported: 7/8/2020

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-03

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 1:28:00 PM

Lab ID: 2006D74-047 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	6/27/2020 10:13:08 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	6/27/2020 10:13:08 PM
Surr: DNOP	76.2	55.1-146	%Rec	1	6/27/2020 10:13:08 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/30/2020 12:08:21 AM
Surr: BFB	101	66.6-105	%Rec	1	6/30/2020 12:08:21 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/30/2020 12:08:21 AM
Toluene	ND	0.049	mg/Kg	1	6/30/2020 12:08:21 AM
Ethylbenzene	ND	0.049	mg/Kg	1	6/30/2020 12:08:21 AM
Xylenes, Total	ND	0.099	mg/Kg	1	6/30/2020 12:08:21 AM
Surr: 4-Bromofluorobenzene	104	80-120	%Rec	1	6/30/2020 12:08:21 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	3000	150	mg/Kg	50	7/1/2020 1:27:49 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-04

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 1:35:00 PM

Lab ID: 2006D74-048 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL (Qual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	6/27/2020 10:23:14 PM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	6/27/2020 10:23:14 PM
Surr: DNOP	87.2	55.1-146	%Rec	1	6/27/2020 10:23:14 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/30/2020 12:31:43 AM
Surr: BFB	106	66.6-105	S %Rec	1	6/30/2020 12:31:43 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/30/2020 12:31:43 AM
Toluene	ND	0.049	mg/Kg	1	6/30/2020 12:31:43 AM
Ethylbenzene	ND	0.049	mg/Kg	1	6/30/2020 12:31:43 AM
Xylenes, Total	ND	0.099	mg/Kg	1	6/30/2020 12:31:43 AM
Surr: 4-Bromofluorobenzene	106	80-120	%Rec	1	6/30/2020 12:31:43 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	2300	60	mg/Kg	20	6/29/2020 11:26:22 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-05

Project:Black River Booster Station Riser #5Collection Date: 6/24/2020 1:46:00 PMLab ID:2006D74-049Matrix: SOILReceived Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	6/27/2020 10:33:23 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	6/27/2020 10:33:23 PM
Surr: DNOP	64.6	55.1-146	%Rec	1	6/27/2020 10:33:23 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/30/2020 12:55:12 AM
Surr: BFB	102	66.6-105	%Rec	1	6/30/2020 12:55:12 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/30/2020 12:55:12 AM
Toluene	ND	0.049	mg/Kg	1	6/30/2020 12:55:12 AM
Ethylbenzene	ND	0.049	mg/Kg	1	6/30/2020 12:55:12 AM
Xylenes, Total	ND	0.099	mg/Kg	1	6/30/2020 12:55:12 AM
Surr: 4-Bromofluorobenzene	103	80-120	%Rec	1	6/30/2020 12:55:12 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	2400	150	mg/Kg	50	7/1/2020 1:40:09 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-06

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 1:55:00 PM

Lab ID: 2006D74-050 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	Analyst: BRM				
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	6/27/2020 11:34:41 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	6/27/2020 11:34:41 PM
Surr: DNOP	92.4	55.1-146	%Rec	1	6/27/2020 11:34:41 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/30/2020 1:18:42 AM
Surr: BFB	105	66.6-105	%Rec	1	6/30/2020 1:18:42 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/30/2020 1:18:42 AM
Toluene	ND	0.049	mg/Kg	1	6/30/2020 1:18:42 AM
Ethylbenzene	ND	0.049	mg/Kg	1	6/30/2020 1:18:42 AM
Xylenes, Total	ND	0.099	mg/Kg	1	6/30/2020 1:18:42 AM
Surr: 4-Bromofluorobenzene	106	80-120	%Rec	1	6/30/2020 1:18:42 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	3200	150	mg/Kg	50	7/1/2020 1:52:29 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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CLIENT: Vertex Resource Group Ltd.

Analytical ReportLab Order **2006D74**

Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: WS20-07

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 1:58:00 PM

Lab ID: 2006D74-051 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	6/28/2020 12:05:17 AM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	6/28/2020 12:05:17 AM
Surr: DNOP	94.2	55.1-146	%Rec	1	6/28/2020 12:05:17 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	6/30/2020 2:29:18 AM
Surr: BFB	103	66.6-105	%Rec	1	6/30/2020 2:29:18 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/30/2020 2:29:18 AM
Toluene	ND	0.050	mg/Kg	1	6/30/2020 2:29:18 AM
Ethylbenzene	ND	0.050	mg/Kg	1	6/30/2020 2:29:18 AM
Xylenes, Total	ND	0.099	mg/Kg	1	6/30/2020 2:29:18 AM
Surr: 4-Bromofluorobenzene	104	80-120	%Rec	1	6/30/2020 2:29:18 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	4000	150	mg/Kg	50	7/1/2020 2:04:51 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-08

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 2:03:00 PM

Lab ID: 2006D74-052 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	ANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	6/28/2020 12:15:34 AM
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	6/28/2020 12:15:34 AM
Surr: DNOP	83.4	55.1-146	%Rec	1	6/28/2020 12:15:34 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/30/2020 2:52:40 AM
Surr: BFB	99.9	66.6-105	%Rec	1	6/30/2020 2:52:40 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/30/2020 2:52:40 AM
Toluene	ND	0.049	mg/Kg	1	6/30/2020 2:52:40 AM
Ethylbenzene	ND	0.049	mg/Kg	1	6/30/2020 2:52:40 AM
Xylenes, Total	ND	0.098	mg/Kg	1	6/30/2020 2:52:40 AM
Surr: 4-Bromofluorobenzene	102	80-120	%Rec	1	6/30/2020 2:52:40 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	4100	150	mg/Kg	50	7/1/2020 2:17:12 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-09

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 2:05:00 PM

Lab ID: 2006D74-053 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	Analyst: BRM				
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	6/28/2020 12:25:55 AM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	6/28/2020 12:25:55 AM
Surr: DNOP	92.5	55.1-146	%Rec	1	6/28/2020 12:25:55 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	6/30/2020 3:16:01 AM
Surr: BFB	101	66.6-105	%Rec	1	6/30/2020 3:16:01 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/30/2020 3:16:01 AM
Toluene	ND	0.050	mg/Kg	1	6/30/2020 3:16:01 AM
Ethylbenzene	ND	0.050	mg/Kg	1	6/30/2020 3:16:01 AM
Xylenes, Total	ND	0.10	mg/Kg	1	6/30/2020 3:16:01 AM
Surr: 4-Bromofluorobenzene	104	80-120	%Rec	1	6/30/2020 3:16:01 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	4300	150	mg/Kg	50	7/1/2020 2:29:52 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-10

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 2:07:00 PM

Lab ID: 2006D74-054 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	GANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	6/28/2020 12:36:21 AM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	6/28/2020 12:36:21 AM
Surr: DNOP	85.5	55.1-146	%Rec	1	6/28/2020 12:36:21 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/30/2020 3:39:27 AM
Surr: BFB	100	66.6-105	%Rec	1	6/30/2020 3:39:27 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/30/2020 3:39:27 AM
Toluene	ND	0.049	mg/Kg	1	6/30/2020 3:39:27 AM
Ethylbenzene	ND	0.049	mg/Kg	1	6/30/2020 3:39:27 AM
Xylenes, Total	ND	0.099	mg/Kg	1	6/30/2020 3:39:27 AM
Surr: 4-Bromofluorobenzene	102	80-120	%Rec	1	6/30/2020 3:39:27 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	1300	60	mg/Kg	20	6/30/2020 1:05:06 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-11

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 2:10:00 PM

Lab ID: 2006D74-055 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	GANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	6/28/2020 12:46:39 AM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	6/28/2020 12:46:39 AM
Surr: DNOP	94.6	55.1-146	%Rec	1	6/28/2020 12:46:39 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	6/30/2020 4:03:00 AM
Surr: BFB	102	66.6-105	%Rec	1	6/30/2020 4:03:00 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/30/2020 4:03:00 AM
Toluene	ND	0.050	mg/Kg	1	6/30/2020 4:03:00 AM
Ethylbenzene	ND	0.050	mg/Kg	1	6/30/2020 4:03:00 AM
Xylenes, Total	ND	0.099	mg/Kg	1	6/30/2020 4:03:00 AM
Surr: 4-Bromofluorobenzene	103	80-120	%Rec	1	6/30/2020 4:03:00 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	1000	60	mg/Kg	20	6/29/2020 8:08:52 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-12

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 2:15:00 PM

Lab ID: 2006D74-056 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	SANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	6/28/2020 12:57:02 AM
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	6/28/2020 12:57:02 AM
Surr: DNOP	102	55.1-146	%Rec	1	6/28/2020 12:57:02 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/30/2020 4:26:20 AM
Surr: BFB	102	66.6-105	%Rec	1	6/30/2020 4:26:20 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/30/2020 4:26:20 AM
Toluene	ND	0.049	mg/Kg	1	6/30/2020 4:26:20 AM
Ethylbenzene	ND	0.049	mg/Kg	1	6/30/2020 4:26:20 AM
Xylenes, Total	ND	0.099	mg/Kg	1	6/30/2020 4:26:20 AM
Surr: 4-Bromofluorobenzene	103	80-120	%Rec	1	6/30/2020 4:26:20 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	4300	150	mg/Kg	50	7/1/2020 2:42:13 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-13

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 2:21:00 PM

Lab ID: 2006D74-057 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	GANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	6/28/2020 1:07:25 AM
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	6/28/2020 1:07:25 AM
Surr: DNOP	99.1	55.1-146	%Rec	1	6/28/2020 1:07:25 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/30/2020 4:49:44 AM
Surr: BFB	103	66.6-105	%Rec	1	6/30/2020 4:49:44 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.024	mg/Kg	1	6/30/2020 4:49:44 AM
Toluene	ND	0.049	mg/Kg	1	6/30/2020 4:49:44 AM
Ethylbenzene	ND	0.049	mg/Kg	1	6/30/2020 4:49:44 AM
Xylenes, Total	ND	0.097	mg/Kg	1	6/30/2020 4:49:44 AM
Surr: 4-Bromofluorobenzene	104	80-120	%Rec	1	6/30/2020 4:49:44 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	1200	60	mg/Kg	20	6/29/2020 8:33:32 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-14

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 2:30:00 PM

Lab ID: 2006D74-058 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	GANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	6/28/2020 1:18:02 AM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	6/28/2020 1:18:02 AM
Surr: DNOP	87.0	55.1-146	%Rec	1	6/28/2020 1:18:02 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	6/30/2020 5:13:19 AM
Surr: BFB	103	66.6-105	%Rec	1	6/30/2020 5:13:19 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	6/30/2020 5:13:19 AM
Toluene	ND	0.050	mg/Kg	1	6/30/2020 5:13:19 AM
Ethylbenzene	ND	0.050	mg/Kg	1	6/30/2020 5:13:19 AM
Xylenes, Total	ND	0.099	mg/Kg	1	6/30/2020 5:13:19 AM
Surr: 4-Bromofluorobenzene	105	80-120	%Rec	1	6/30/2020 5:13:19 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	2700	150	mg/Kg	50	7/1/2020 2:54:34 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-15

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 2:32:00 PM

Lab ID: 2006D74-059 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	Analyst: BRM				
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	6/28/2020 1:28:43 AM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	6/28/2020 1:28:43 AM
Surr: DNOP	101	55.1-146	%Rec	1	6/28/2020 1:28:43 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	7/2/2020 3:12:16 PM
Surr: BFB	97.7	66.6-105	%Rec	1	7/2/2020 3:12:16 PM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.025	mg/Kg	1	7/2/2020 3:12:16 PM
Toluene	ND	0.049	mg/Kg	1	7/2/2020 3:12:16 PM
Ethylbenzene	ND	0.049	mg/Kg	1	7/2/2020 3:12:16 PM
Xylenes, Total	ND	0.099	mg/Kg	1	7/2/2020 3:12:16 PM
Surr: 4-Bromofluorobenzene	106	80-120	%Rec	1	7/2/2020 3:12:16 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	780	59	mg/Kg	20	6/29/2020 8:58:15 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-16

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 2:34:00 PM

Lab ID: 2006D74-060 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	GANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	6/28/2020 1:39:22 AM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	6/28/2020 1:39:22 AM
Surr: DNOP	96.4	55.1-146	%Rec	1	6/28/2020 1:39:22 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	7/2/2020 3:36:04 PM
Surr: BFB	98.5	66.6-105	%Rec	1	7/2/2020 3:36:04 PM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.024	mg/Kg	1	7/2/2020 3:36:04 PM
Toluene	ND	0.049	mg/Kg	1	7/2/2020 3:36:04 PM
Ethylbenzene	ND	0.049	mg/Kg	1	7/2/2020 3:36:04 PM
Xylenes, Total	ND	0.098	mg/Kg	1	7/2/2020 3:36:04 PM
Surr: 4-Bromofluorobenzene	107	80-120	%Rec	1	7/2/2020 3:36:04 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	4300	150	mg/Kg	50	7/1/2020 3:31:36 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-17

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 2:45:00 PM

Lab ID: 2006D74-061 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	6/28/2020 12:20:08 PM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	6/28/2020 12:20:08 PM
Surr: DNOP	91.5	55.1-146	%Rec	1	6/28/2020 12:20:08 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	7/1/2020 11:30:52 PM
Surr: BFB	101	66.6-105	%Rec	1	7/1/2020 11:30:52 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.024	mg/Kg	1	7/1/2020 11:30:52 PM
Toluene	ND	0.049	mg/Kg	1	7/1/2020 11:30:52 PM
Ethylbenzene	ND	0.049	mg/Kg	1	7/1/2020 11:30:52 PM
Xylenes, Total	ND	0.098	mg/Kg	1	7/1/2020 11:30:52 PM
Surr: 4-Bromofluorobenzene	107	80-120	%Rec	1	7/1/2020 11:30:52 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	1400	60	mg/Kg	20	6/29/2020 9:47:36 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-18

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 2:47:00 PM

Lab ID: 2006D74-062 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	6/28/2020 12:50:38 PM
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	6/28/2020 12:50:38 PM
Surr: DNOP	88.5	55.1-146	%Rec	1	6/28/2020 12:50:38 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	7/2/2020 12:41:14 AM
Surr: BFB	99.9	66.6-105	%Rec	1	7/2/2020 12:41:14 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	7/2/2020 12:41:14 AM
Toluene	ND	0.050	mg/Kg	1	7/2/2020 12:41:14 AM
Ethylbenzene	ND	0.050	mg/Kg	1	7/2/2020 12:41:14 AM
Xylenes, Total	ND	0.099	mg/Kg	1	7/2/2020 12:41:14 AM
Surr: 4-Bromofluorobenzene	104	80-120	%Rec	1	7/2/2020 12:41:14 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	740	60	mg/Kg	20	6/29/2020 9:59:57 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-19

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 2:51:00 PM

Lab ID: 2006D74-063 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	Analyst: BRM				
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	6/28/2020 1:00:47 PM
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	6/28/2020 1:00:47 PM
Surr: DNOP	92.2	55.1-146	%Rec	1	6/28/2020 1:00:47 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	7/2/2020 1:51:39 AM
Surr: BFB	98.9	66.6-105	%Rec	1	7/2/2020 1:51:39 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.024	mg/Kg	1	7/2/2020 1:51:39 AM
Toluene	ND	0.048	mg/Kg	1	7/2/2020 1:51:39 AM
Ethylbenzene	ND	0.048	mg/Kg	1	7/2/2020 1:51:39 AM
Xylenes, Total	ND	0.097	mg/Kg	1	7/2/2020 1:51:39 AM
Surr: 4-Bromofluorobenzene	102	80-120	%Rec	1	7/2/2020 1:51:39 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	2400	150	mg/Kg	50	7/1/2020 3:43:56 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-20

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 2:55:00 PM

Lab ID: 2006D74-064 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	ANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	6/28/2020 1:10:58 PM
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	6/28/2020 1:10:58 PM
Surr: DNOP	82.0	55.1-146	%Rec	1	6/28/2020 1:10:58 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	7/2/2020 3:59:59 PM
Surr: BFB	99.5	66.6-105	%Rec	1	7/2/2020 3:59:59 PM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.024	mg/Kg	1	7/2/2020 3:59:59 PM
Toluene	ND	0.047	mg/Kg	1	7/2/2020 3:59:59 PM
Ethylbenzene	ND	0.047	mg/Kg	1	7/2/2020 3:59:59 PM
Xylenes, Total	ND	0.094	mg/Kg	1	7/2/2020 3:59:59 PM
Surr: 4-Bromofluorobenzene	106	80-120	%Rec	1	7/2/2020 3:59:59 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	2200	150	mg/Kg	50	7/1/2020 11:45:54 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-21

Project:Black River Booster Station Riser #5Collection Date: 6/24/2020 3:01:00 PMLab ID:2006D74-065Matrix: SOILReceived Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	6/28/2020 1:21:10 PM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	6/28/2020 1:21:10 PM
Surr: DNOP	80.9	55.1-146	%Rec	1	6/28/2020 1:21:10 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	7/2/2020 4:23:57 PM
Surr: BFB	99.3	66.6-105	%Rec	1	7/2/2020 4:23:57 PM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.023	mg/Kg	1	7/2/2020 4:23:57 PM
Toluene	ND	0.047	mg/Kg	1	7/2/2020 4:23:57 PM
Ethylbenzene	ND	0.047	mg/Kg	1	7/2/2020 4:23:57 PM
Xylenes, Total	ND	0.093	mg/Kg	1	7/2/2020 4:23:57 PM
Surr: 4-Bromofluorobenzene	107	80-120	%Rec	1	7/2/2020 4:23:57 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	2800	150	mg/Kg	50	7/1/2020 11:58:15 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-22

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 3:03:00 PM

Lab ID: 2006D74-066 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	6/28/2020 1:31:24 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	6/28/2020 1:31:24 PM
Surr: DNOP	96.3	55.1-146	%Rec	1	6/28/2020 1:31:24 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	7/2/2020 7:11:22 PM
Surr: BFB	97.7	66.6-105	%Rec	1	7/2/2020 7:11:22 PM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.025	mg/Kg	1	7/2/2020 7:11:22 PM
Toluene	ND	0.050	mg/Kg	1	7/2/2020 7:11:22 PM
Ethylbenzene	ND	0.050	mg/Kg	1	7/2/2020 7:11:22 PM
Xylenes, Total	ND	0.099	mg/Kg	1	7/2/2020 7:11:22 PM
Surr: 4-Bromofluorobenzene	107	80-120	%Rec	1	7/2/2020 7:11:22 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	1000	60	mg/Kg	20	6/30/2020 3:22:17 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-23

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 3:05:00 PM

Lab ID: 2006D74-067 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	GANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	6/28/2020 1:41:37 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	6/28/2020 1:41:37 PM
Surr: DNOP	85.4	55.1-146	%Rec	1	6/28/2020 1:41:37 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	7/2/2020 7:35:11 PM
Surr: BFB	97.7	66.6-105	%Rec	1	7/2/2020 7:35:11 PM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.024	mg/Kg	1	7/2/2020 7:35:11 PM
Toluene	ND	0.048	mg/Kg	1	7/2/2020 7:35:11 PM
Ethylbenzene	ND	0.048	mg/Kg	1	7/2/2020 7:35:11 PM
Xylenes, Total	ND	0.095	mg/Kg	1	7/2/2020 7:35:11 PM
Surr: 4-Bromofluorobenzene	106	80-120	%Rec	1	7/2/2020 7:35:11 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	1500	60	mg/Kg	20	6/30/2020 3:34:39 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-24

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 3:09:00 PM

Lab ID: 2006D74-068 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	6/28/2020 1:51:51 PM
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	6/28/2020 1:51:51 PM
Surr: DNOP	86.0	55.1-146	%Rec	1	6/28/2020 1:51:51 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	7/2/2020 7:59:03 PM
Surr: BFB	98.1	66.6-105	%Rec	1	7/2/2020 7:59:03 PM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.025	mg/Kg	1	7/2/2020 7:59:03 PM
Toluene	ND	0.049	mg/Kg	1	7/2/2020 7:59:03 PM
Ethylbenzene	ND	0.049	mg/Kg	1	7/2/2020 7:59:03 PM
Xylenes, Total	ND	0.098	mg/Kg	1	7/2/2020 7:59:03 PM
Surr: 4-Bromofluorobenzene	106	80-120	%Rec	1	7/2/2020 7:59:03 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	1400	60	mg/Kg	20	6/30/2020 3:47:00 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-25

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 3:12:00 PM

Lab ID: 2006D74-069 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	GANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	6/28/2020 2:02:08 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	6/28/2020 2:02:08 PM
Surr: DNOP	95.1	55.1-146	%Rec	1	6/28/2020 2:02:08 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	7/2/2020 8:22:52 PM
Surr: BFB	99.0	66.6-105	%Rec	1	7/2/2020 8:22:52 PM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.024	mg/Kg	1	7/2/2020 8:22:52 PM
Toluene	ND	0.048	mg/Kg	1	7/2/2020 8:22:52 PM
Ethylbenzene	ND	0.048	mg/Kg	1	7/2/2020 8:22:52 PM
Xylenes, Total	ND	0.096	mg/Kg	1	7/2/2020 8:22:52 PM
Surr: 4-Bromofluorobenzene	107	80-120	%Rec	1	7/2/2020 8:22:52 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	7900	300	mg/Kg	100	7/2/2020 12:10:35 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-26

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 3:18:00 PM

Lab ID: 2006D74-070 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	ANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	6/28/2020 2:12:25 PM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	6/28/2020 2:12:25 PM
Surr: DNOP	88.0	55.1-146	%Rec	1	6/28/2020 2:12:25 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	7/2/2020 8:46:41 PM
Surr: BFB	99.2	66.6-105	%Rec	1	7/2/2020 8:46:41 PM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.024	mg/Kg	1	7/2/2020 8:46:41 PM
Toluene	ND	0.049	mg/Kg	1	7/2/2020 8:46:41 PM
Ethylbenzene	ND	0.049	mg/Kg	1	7/2/2020 8:46:41 PM
Xylenes, Total	ND	0.098	mg/Kg	1	7/2/2020 8:46:41 PM
Surr: 4-Bromofluorobenzene	108	80-120	%Rec	1	7/2/2020 8:46:41 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	2900	150	mg/Kg	50	7/2/2020 12:22:55 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-27

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 3:21:00 PM

Lab ID: 2006D74-071 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	6/28/2020 2:22:43 PM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	6/28/2020 2:22:43 PM
Surr: DNOP	98.4	55.1-146	%Rec	1	6/28/2020 2:22:43 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	7/2/2020 9:10:30 PM
Surr: BFB	97.8	66.6-105	%Rec	1	7/2/2020 9:10:30 PM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.023	mg/Kg	1	7/2/2020 9:10:30 PM
Toluene	ND	0.047	mg/Kg	1	7/2/2020 9:10:30 PM
Ethylbenzene	ND	0.047	mg/Kg	1	7/2/2020 9:10:30 PM
Xylenes, Total	ND	0.094	mg/Kg	1	7/2/2020 9:10:30 PM
Surr: 4-Bromofluorobenzene	106	80-120	%Rec	1	7/2/2020 9:10:30 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	2100	60	mg/Kg	20	6/30/2020 6:03:18 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-28

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 3:26:00 PM

Lab ID: 2006D74-072 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	ANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	6/28/2020 2:33:02 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	6/28/2020 2:33:02 PM
Surr: DNOP	95.6	55.1-146	%Rec	1	6/28/2020 2:33:02 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	7/2/2020 9:34:08 PM
Surr: BFB	98.0	66.6-105	%Rec	1	7/2/2020 9:34:08 PM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.024	mg/Kg	1	7/2/2020 9:34:08 PM
Toluene	ND	0.049	mg/Kg	1	7/2/2020 9:34:08 PM
Ethylbenzene	ND	0.049	mg/Kg	1	7/2/2020 9:34:08 PM
Xylenes, Total	ND	0.097	mg/Kg	1	7/2/2020 9:34:08 PM
Surr: 4-Bromofluorobenzene	107	80-120	%Rec	1	7/2/2020 9:34:08 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	2500	150	mg/Kg	50	7/2/2020 12:35:16 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-29

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 3:29:00 PM

Lab ID: 2006D74-073 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	6/28/2020 2:43:23 PM
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	6/28/2020 2:43:23 PM
Surr: DNOP	99.0	55.1-146	%Rec	1	6/28/2020 2:43:23 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	7/2/2020 9:57:44 PM
Surr: BFB	97.7	66.6-105	%Rec	1	7/2/2020 9:57:44 PM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.024	mg/Kg	1	7/2/2020 9:57:44 PM
Toluene	ND	0.047	mg/Kg	1	7/2/2020 9:57:44 PM
Ethylbenzene	ND	0.047	mg/Kg	1	7/2/2020 9:57:44 PM
Xylenes, Total	ND	0.094	mg/Kg	1	7/2/2020 9:57:44 PM
Surr: 4-Bromofluorobenzene	106	80-120	%Rec	1	7/2/2020 9:57:44 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	1400	59	mg/Kg	20	6/30/2020 6:27:59 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-30

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 3:33:00 PM

Lab ID: 2006D74-074 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	6/28/2020 2:53:44 PM
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	6/28/2020 2:53:44 PM
Surr: DNOP	89.1	55.1-146	%Rec	1	6/28/2020 2:53:44 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	7/2/2020 10:21:24 PM
Surr: BFB	94.9	66.6-105	%Rec	1	7/2/2020 10:21:24 PM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.023	mg/Kg	1	7/2/2020 10:21:24 PM
Toluene	ND	0.046	mg/Kg	1	7/2/2020 10:21:24 PM
Ethylbenzene	ND	0.046	mg/Kg	1	7/2/2020 10:21:24 PM
Xylenes, Total	ND	0.092	mg/Kg	1	7/2/2020 10:21:24 PM
Surr: 4-Bromofluorobenzene	104	80-120	%Rec	1	7/2/2020 10:21:24 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	3000	150	mg/Kg	50	7/2/2020 12:47:38 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-31

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 3:35:00 PM

Lab ID: 2006D74-075 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	GANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	6/28/2020 3:04:07 PM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	6/28/2020 3:04:07 PM
Surr: DNOP	91.5	55.1-146	%Rec	1	6/28/2020 3:04:07 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	7/2/2020 10:45:00 PM
Surr: BFB	96.3	66.6-105	%Rec	1	7/2/2020 10:45:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.024	mg/Kg	1	7/2/2020 10:45:00 PM
Toluene	ND	0.048	mg/Kg	1	7/2/2020 10:45:00 PM
Ethylbenzene	ND	0.048	mg/Kg	1	7/2/2020 10:45:00 PM
Xylenes, Total	ND	0.095	mg/Kg	1	7/2/2020 10:45:00 PM
Surr: 4-Bromofluorobenzene	105	80-120	%Rec	1	7/2/2020 10:45:00 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	1500	60	mg/Kg	20	6/30/2020 6:52:41 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-32

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 3:39:00 PM

Lab ID: 2006D74-076 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	GANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	6/28/2020 3:14:32 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	6/28/2020 3:14:32 PM
Surr: DNOP	74.2	55.1-146	%Rec	1	6/28/2020 3:14:32 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	7/3/2020 1:06:11 AM
Surr: BFB	95.2	66.6-105	%Rec	1	7/3/2020 1:06:11 AM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.024	mg/Kg	1	7/3/2020 1:06:11 AM
Toluene	ND	0.049	mg/Kg	1	7/3/2020 1:06:11 AM
Ethylbenzene	ND	0.049	mg/Kg	1	7/3/2020 1:06:11 AM
Xylenes, Total	ND	0.098	mg/Kg	1	7/3/2020 1:06:11 AM
Surr: 4-Bromofluorobenzene	106	80-120	%Rec	1	7/3/2020 1:06:11 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	1100	59	mg/Kg	20	6/30/2020 7:05:02 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- 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

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CLIENT: Vertex Resource Group Ltd.

Analytical ReportLab Order **2006D74**

Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: WS20-33

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 3:46:00 PM

Lab ID: 2006D74-077 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	SANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	6/28/2020 3:25:09 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	6/28/2020 3:25:09 PM
Surr: DNOP	80.7	55.1-146	%Rec	1	6/28/2020 3:25:09 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	7/3/2020 1:29:46 AM
Surr: BFB	95.1	66.6-105	%Rec	1	7/3/2020 1:29:46 AM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.024	mg/Kg	1	7/3/2020 1:29:46 AM
Toluene	ND	0.048	mg/Kg	1	7/3/2020 1:29:46 AM
Ethylbenzene	ND	0.048	mg/Kg	1	7/3/2020 1:29:46 AM
Xylenes, Total	ND	0.097	mg/Kg	1	7/3/2020 1:29:46 AM
Surr: 4-Bromofluorobenzene	105	80-120	%Rec	1	7/3/2020 1:29:46 AM
EPA METHOD 300.0: ANIONS					Analyst: MRA
Chloride	12000	600	mg/Kg	200	7/6/2020 1:06:42 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-34

Project:Black River Booster Station Riser #5Collection Date: 6/24/2020 3:50:00 PMLab ID:2006D74-078Matrix: SOILReceived Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	6/28/2020 3:35:46 PM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	6/28/2020 3:35:46 PM
Surr: DNOP	82.3	55.1-146	%Rec	1	6/28/2020 3:35:46 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	7/3/2020 1:53:11 AM
Surr: BFB	93.8	66.6-105	%Rec	1	7/3/2020 1:53:11 AM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.024	mg/Kg	1	7/3/2020 1:53:11 AM
Toluene	ND	0.048	mg/Kg	1	7/3/2020 1:53:11 AM
Ethylbenzene	ND	0.048	mg/Kg	1	7/3/2020 1:53:11 AM
Xylenes, Total	ND	0.096	mg/Kg	1	7/3/2020 1:53:11 AM
Surr: 4-Bromofluorobenzene	103	80-120	%Rec	1	7/3/2020 1:53:11 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	860	60	mg/Kg	20	6/30/2020 7:29:44 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-35

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 3:56:00 PM

Lab ID: 2006D74-079 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	6/28/2020 3:46:21 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	6/28/2020 3:46:21 PM
Surr: DNOP	82.1	55.1-146	%Rec	1	6/28/2020 3:46:21 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	7/3/2020 2:16:41 AM
Surr: BFB	94.0	66.6-105	%Rec	1	7/3/2020 2:16:41 AM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.024	mg/Kg	1	7/3/2020 2:16:41 AM
Toluene	ND	0.047	mg/Kg	1	7/3/2020 2:16:41 AM
Ethylbenzene	ND	0.047	mg/Kg	1	7/3/2020 2:16:41 AM
Xylenes, Total	ND	0.094	mg/Kg	1	7/3/2020 2:16:41 AM
Surr: 4-Bromofluorobenzene	104	80-120	%Rec	1	7/3/2020 2:16:41 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	1300	60	mg/Kg	20	6/30/2020 8:06:48 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Date Reported: 7/8/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-36

Project: Black River Booster Station Riser #5 Collection Date: 6/24/2020 4:00:00 PM

Lab ID: 2006D74-080 Matrix: SOIL Received Date: 6/26/2020 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	ANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	6/28/2020 3:56:54 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	6/28/2020 3:56:54 PM
Surr: DNOP	90.3	55.1-146	%Rec	1	6/28/2020 3:56:54 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	7/3/2020 2:40:12 AM
Surr: BFB	93.8	66.6-105	%Rec	1	7/3/2020 2:40:12 AM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.025	mg/Kg	1	7/3/2020 2:40:12 AM
Toluene	ND	0.050	mg/Kg	1	7/3/2020 2:40:12 AM
Ethylbenzene	ND	0.050	mg/Kg	1	7/3/2020 2:40:12 AM
Xylenes, Total	ND	0.099	mg/Kg	1	7/3/2020 2:40:12 AM
Surr: 4-Bromofluorobenzene	103	80-120	%Rec	1	7/3/2020 2:40:12 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	2600	150	mg/Kg	50	7/2/2020 12:59:59 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2006D74**

08-Jul-20

Client: Vertex Resource Group Ltd.

Project: Black River Booster Station Riser #5

Sample ID: MB-53364 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: **PBS** Batch ID: **53364** RunNo: **69968**

Prep Date: 6/28/2020 Analysis Date: 6/28/2020 SeqNo: 2430898 Units: mg/Kg

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

Chloride ND 1.5

Sample ID: LCS-53364 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 53364 RunNo: 69968

Prep Date: 6/28/2020 Analysis Date: 6/28/2020 SeqNo: 2430899 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

Sample ID: MB-53365 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 53365 RunNo: 69968

Prep Date: 6/28/2020 Analysis Date: 6/28/2020 SeqNo: 2430930 Units: mg/Kg

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

Chloride ND 1.5

Sample ID: LCS-53365 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 53365 RunNo: 69968

Prep Date: 6/28/2020 Analysis Date: 6/28/2020 SeqNo: 2430931 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 95.3 90 110

Sample ID: MB-53383 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: **PBS** Batch ID: **53383** RunNo: **70007**

Prep Date: 6/29/2020 Analysis Date: 6/29/2020 SeqNo: 2432186 Units: mg/Kg

7 Trop Bate. 9/29/2020 7 Transport Bate. 9/29/2020 Coquite. 2102/000

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

Chloride ND 1.5

Sample ID: LCS-53383 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 53383 RunNo: 70007

Prep Date: 6/29/2020 Analysis Date: 6/29/2020 SeqNo: 2432187 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 93.0 90 110

Qualifiers:

Value exceeds Maximum Contaminant Level

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of 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

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2006D74**

08-Jul-20

Client: Vertex Resource Group Ltd.

Project: Black River Booster Station Riser #5

Sample ID: MB-53399 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: **PBS** Batch ID: **53399** RunNo: **70007**

Prep Date: 6/29/2020 Analysis Date: 6/29/2020 SeqNo: 2432216 Units: mg/Kg

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

Chloride ND 1.5

Sample ID: LCS-53399 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 53399 RunNo: 70007

Prep Date: 6/29/2020 Analysis Date: 6/29/2020 SeqNo: 2432217 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 94.2 90 110

Sample ID: MB-53417 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 53417 RunNo: 70021

Prep Date: 6/30/2020 Analysis Date: 6/30/2020 SeqNo: 2433057 Units: mg/Kg

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

Chloride ND 1.5

Sample ID: LCS-53417 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 53417 RunNo: 70021

Prep Date: 6/30/2020 Analysis Date: 6/30/2020 SeqNo: 2433058 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 95.0 90 110

Sample ID: MB-53428 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: **PBS** Batch ID: **53428** RunNo: **70021**

Prep Date: 6/30/2020 Analysis Date: 6/30/2020 SeqNo: 2433091 Units: mg/Kg

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

Chloride ND 1.5

Sample ID: LCS-53428 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 53428 RunNo: 70021

Prep Date: 6/30/2020 Analysis Date: 6/30/2020 SeqNo: 2433092 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 96.1 90 110

Qualifiers:

Value exceeds Maximum Contaminant Level

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical 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

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Hall Environmental Analysis Laboratory, Inc.

Result

46

4.3

PQL

9.5

WO#: **2006D74**

08-Jul-20

Client: Vertex Resource Group Ltd.

Project: Black River Booster Station Riser #5

Sample ID: LCS-53344	SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID:	53344	RunNo:	69949					
Prep Date: 6/26/2020	Analysis Date:	6/27/2020	SeqNo:	2429356	Units: mg/Kg				
Analyte	Result PQ	L SPK value	SPK Ref Val %REC	LowLimit	HighLimit %F	RPD RPDLimit	Qual		
Diesel Range Organics (DRO)	53	10 50.00	0 106	70	130				
Surr: DNOP	5.2	5.000	105	55.1	146				
Sample ID: MB-53344 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics									
Client ID: PBS	Batch ID:	53344	RunNo:	69949					
Prep Date: 6/26/2020	Analysis Date:	6/27/2020	SeqNo:	2429357	Units: mg/Kg				
Analyte	Result PQ	L SPK value	SPK Ref Val %REC	LowLimit	HighLimit %F	RPD RPDLimit	Qual		
Diesel Range Organics (DRO)	ND	10							
Motor Oil Range Organics (MRO)	ND :	50							
Surr: DNOP	11	10.00	110	55.1	146				
Sample ID: 2006D74-010AMS	SampType:	MS	TestCode:	PA Method	8015M/D: Diesel F	Range Organics			
Client ID: BS20-10 1'	Batch ID:	53347	RunNo:	69949					
Prep Date: 6/26/2020	Analysis Date:	6/27/2020	SeqNo:	2429703	Units: mg/Kg				

Sample ID: 2006D74-010AMS	estCode: EPA Method 8015M/D: Diesel Range Organics									
Client ID: BS20-10 1'	Batch	ID: 53	347	R	lunNo: 6	9949				
Prep Date: 6/26/2020	Analysis D	ate: 6/	27/2020	S	429704 Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	9.3	46.64	0	105	47.4	136	6.24	43.4	
Surr: DNOP	4.5		4.664		96.4	55.1	146	0	0	

0

%REC

96.1

90.9

LowLimit

47.4

55.1

HighLimit

136

146

%RPD

RPDLimit

Qual

SPK value SPK Ref Val

47.66

4.766

Sample ID: 2006D74-030AMS	SampT	ype: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: BS20-30 1'	Batch	1D: 53	351	F	RunNo: 6	9949				
Prep Date: 6/27/2020	rep Date: 6/27/2020 Analysis Date: 6/27/2020 SeqNo: 2429725				429725	Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	49.90	0	105	47.4	136			
Surr: DNOP	4.9		4.990		98.7	55.1	146			

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit

Diesel Range Organics (DRO)

Surr: DNOP

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

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Hall Environmental Analysis Laboratory, Inc.

SampType: LCS

WO#: **2006D74**

08-Jul-20

Client: Vertex Resource Group Ltd.

Sample ID: 2006D74-030AMSD SampType: MSD

Project: Black River Booster Station Riser #5

Client ID: BS20-30 1'	Batch	1D: 53	351	F	RunNo: 6	9949				
Prep Date: 6/27/2020	Analysis D	ate: 6/	27/2020	8	SeqNo: 2	429726	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	9.6	47.89	0	95.3	47.4	136	14.2	43.4	
Surr: DNOP	4.2		4.789		87.4	55.1	146	0	0	
Sample ID: 2006D74-050AMS	SampT	ype: MS	3	Tes	tCode: El	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: WS20-06	Batch	1D: 53	354	F	RunNo: 6	9949				
Prep Date: 6/27/2020	Analysis D	ate: 6/	27/2020	8	SeqNo: 2	429747	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	9.7	48.31	0	100	47.4	136			
Surr: DNOP	4.3		4.831		89.6	55.1	146			
Sample ID: 2006D74-050AMS	D SampT	ype: MS	SD	Tes	tCode: El	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: WS20-06	Batch	1D: 53	354	F	RunNo: 6	9949				
Prep Date: 6/27/2020	Analysis D	ate: 6/	27/2020	9	SeqNo: 2	429748	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	9.8	49.12	0	97.3	47.4	136	1.50	43.4	
Surr: DNOP	4.4		4.912		89.3	55.1	146	0	0	

TestCode: EPA Method 8015M/D: Diesel Range Organics

TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: LCSS	Batch ID: 53347			R	RunNo: 6	9949				
Prep Date: 6/26/2020	Analysis Da	ate: 6/ 2	27/2020	S	SeqNo: 24	429760	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	63	10	50.00	0	126	70	130			
Surr: DNOP	5.8		5.000		116	55.1	146			

Sample ID: LCS-53351	SampType: LCS			Test	TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: LCSS	Batch	ID: 53	351	R	RunNo: 6	9949					
Prep Date: 6/27/2020	Analysis D	ate: 6/	27/2020	S	SeqNo: 2	429761	Units: mg/K	(g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	53	10	50.00	0	105	70	130				
Surr: DNOP	4.8		5.000		95.5	55.1	146				

Sample ID: LCS-53354	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: 53354	RunNo: 69949
Prep Date: 6/27/2020	Analysis Date: 6/27/2020	SeqNo: 2429762 Units: mg/Kg
Analyte	Result PQL SPK value S	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

Sample ID: LCS-53347

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

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Hall Environmental Analysis Laboratory, Inc.

SampType: MBLK

ND

8.5

8.3

50

10.00

10.00

WO#: **2006D74** *08-Jul-20*

Client: Vertex Resource Group Ltd.

Sample ID: MB-53347

Motor Oil Range Organics (MRO)

Surr: DNOP

Surr: DNOP

Project: Black River Booster Station Riser #5

Sample ID: LCS-53354	SampType: LCS			TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch	n ID: 53	354	F	RunNo: 6	9949					
Prep Date: 6/27/2020	Analysis D	oate: 6/	27/2020	S	SeqNo: 2	429762	Units: mg/K	(g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	50	10	50.00	0	100	70	130				
Surr: DNOP	4.4		5.000		88.7	55.1	146				

Client ID: PBS Batch ID: 53347 RunNo: 69949 Prep Date: 6/26/2020 Analysis Date: 6/27/2020 SeqNo: 2429763 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 12 10.00 118 55.1 146

TestCode: EPA Method 8015M/D: Diesel Range Organics

Sample ID: MB-53351 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: PBS Batch ID: 53351 RunNo: 69949 Prep Date: 6/27/2020 Analysis Date: 6/27/2020 SeqNo: 2429764 Units: mg/Kg Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) ND 10

Sample ID: MB-53354 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: PBS Batch ID: 53354 RunNo: 69949 Prep Date: Analysis Date: 6/27/2020 SeqNo: 2429765 6/27/2020 Units: mg/Kg 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

85.2

83.3

55.1

55.1

146

146

TestCode: EPA Method 8015M/D: Diesel Range Organics Sample ID: 2006D74-061AMS SampType: MS Client ID: WS20-17 Batch ID: 53363 RunNo: 69959 Prep Date: 6/28/2020 Analysis Date: 6/28/2020 SeqNo: 2430453 Units: mg/Kg PQL SPK value SPK Ref Val %REC %RPD **RPDLimit** Analyte Result LowLimit HighLimit Qual

 Diesel Range Organics (DRO)
 48
 9.7
 48.31
 0
 100
 47.4
 136

 Surr: DNOP
 4.4
 4.831
 91.0
 55.1
 146

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of 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

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2006D74 08-Jul-20**

Client: Vertex Resource Group Ltd.

Project: Black River Booster Station Riser #5

Sample ID: 2006D74-061AM	Tes	tCode: El	PA Method	8015M/D: Die	esel Range	e Organics				
Client ID: WS20-17	Batch	1D: 53	363	F	RunNo: 6	9959				
Prep Date: 6/28/2020	SeqNo: 2430454 Units: mg/Kg									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	49.90	0	101	47.4	136	4.31	43.4	
Surr: DNOP	4.7		4.990		93.2	55.1	146	0	0	

Sample ID: LCS-53363	Sampi	ype: LC	S	Tes	tCode: El	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID: LCSS	Batch	n ID: 53	363	F	RunNo: 6	9959				
Prep Date: 6/28/2020	Analysis D	ate: 6/	28/2020	9	SeqNo: 2	430474	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	100	70	130			
Surr: DNOP	4.3		5.000		86.6	55.1	146			

ample ID: MB-53363 SampType: MBLK				TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch	n ID: 53	363	F	RunNo: 6	9959					
Prep Date: 6/28/2020	Analysis D	oate: 6/	28/2020	\$	SeqNo: 2	430475	Units: mg/K	(g			
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		91.9	55.1	146				

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of 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

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Hall Environmental Analysis Laboratory, Inc.

SampType: MS

WO#: **2006D74**

08-Jul-20

Client: Vertex Resource Group Ltd.

Sample ID: 2006D74-002AMS

Project: Black River Booster Station Riser #5

Client ID: BS20-02 1'	Batcl	n ID: 53	341	F	RunNo: 6	9963				
Prep Date: 6/26/2020	Analysis D	Date: 6/	28/2020	S	SeqNo: 2	430047	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.9	24.44	0	95.5	80	120			
Surr: BFB	1100		977.5		109	66.6	105			S
Sample ID: 2006D74-002AM	SD Samp1	ype: M \$	SD	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	е	
Client ID: BS20-02 1'	Batcl	n ID: 53	341	F	RunNo: 6	9963				
Prep Date: 6/26/2020	Analysis D	Date: 6/	28/2020	9	SeqNo: 2	430048	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	24.83	0	91.7	80	120	2.48	20	
Surr: BFB	1100		993.0		110	66.6	105	0	0	S
Sample ID: Ics-53341	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	e	
Client ID: LCSS	Batcl	n ID: 53	341	F	RunNo: 6	9963				
Prep Date: 6/26/2020	Analysis D	Date: 6/	28/2020	\$	SeqNo: 2	430054	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
•		5.0	25.00	0	94.2	80	120			
Gasoline Range Organics (GRO)	24	0.0	20.00							

TestCode: EPA Method 8015D: Gasoline Range

Sample ID: mb-53341	SampType: MBLK			Tes	tCode: El	е				
Client ID: PBS	Batch	ID: 53 3	341	F	RunNo: 6	9963				
Prep Date: 6/26/2020	Analysis D	ate: 6/ 2	28/2020	8	SeqNo: 24	430056	Units: mg/K	g		
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		103	66.6	105			

Sample ID: mb-53342	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	е	
Client ID: PBS	Batch	n ID: 53	342	F	RunNo: 6	9967				
Prep Date: 6/26/2020	Analysis D	oate: 6/	28/2020	8	SeqNo: 2	430406	Units: mg/k	ζg		
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		102	66.6	105			

Sample ID: Ics-53342	SampType: LCS	TestCode: EPA Method	8015D: Gasoline Range
Client ID: LCSS	Batch ID: 53342	RunNo: 69967	
Prep Date: 6/26/2020	Analysis Date: 6/28/2020	SeqNo: 2430407	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

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Hall Environmental Analysis Laboratory, Inc.

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WO#: 2006D74

08-Jul-20

Client: Vertex Resource Group Ltd.

Project: Black River Booster Station Riser #5

Sample ID: Ics-53342 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range Client ID: LCSS Batch ID: 53342 RunNo: 69967 Prep Date: Analysis Date: 6/28/2020 SeqNo: 2430407 6/26/2020 Units: mq/Kq SPK value SPK Ref Val %RPD **RPDLimit** Analyte Result PQL %REC LowLimit HighLimit Qual Gasoline Range Organics (GRO) 23 5.0 25.00 Λ 93.1 80 120 Surr: BFB 1200 1000 115 66.6 105 S

Sample ID: 2006d74-022ams SampType: MS TestCode: EPA Method 8015D: Gasoline Range Client ID: BS20-22 1' Batch ID: 53342 RunNo: 69967 Prep Date: 6/26/2020 Analysis Date: 6/28/2020 SeqNo: 2430410 Units: mg/Kg HighLimit Analyte Result PQL SPK value SPK Ref Val %REC LowLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 24 4.9 24.65 O 98.1 80 120 Surr: BFB S

118

66.6

105

986.2

Sample ID: 2006d74-022amsd SampType: MSD TestCode: EPA Method 8015D: Gasoline Range Client ID: BS20-22 1' Batch ID: 53342 RunNo: 69967 Prep Date: 6/26/2020 Analysis Date: 6/28/2020 SeqNo: 2430411 Units: mg/Kg HighLimit SPK value SPK Ref Val %RPD **RPDLimit** Analyte Result PQL %REC LowLimit Qual Gasoline Range Organics (GRO) 20 4.9 24.51 0 82.9 80 120 17.3 20 Surr: BFB 0 S 1100 980.4 115 66.6 105 0

Sample ID: mb-53345 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range Client ID: PBS Batch ID: 53345 RunNo: 69992 Prep Date: 6/26/2020 Analysis Date: 6/29/2020 SeqNo: 2431446 Units: mg/Kg SPK value SPK Ref Val %REC %RPD **RPDLimit** Result PQL LowLimit HighLimit Qual Gasoline Range Organics (GRO) ND 5.0 Surr: BFB 1000 1000 102 66.6 105

Sample ID: Ics-53345 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range Client ID: LCSS Batch ID: 53345 RunNo: 69992 Prep Date: 6/26/2020 Analysis Date: 6/29/2020 SeqNo: 2431447 Units: mq/Kq Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 25 5.0 0 25.00 98.2 80 120 Surr: BFB 1100 1000 112 66.6 105 S

TestCode: EPA Method 8015D: Gasoline Range Sample ID: 2006d74-042ams SampType: MS

Client ID: BS20-42 0.5 Batch ID: 53345 RunNo: 69992

Prep Date: Units: mg/Kg 6/26/2020 Analysis Date: 6/29/2020 SeqNo: 2431450

PQL SPK value SPK Ref Val %REC %RPD **RPDLimit** Analyte Result LowLimit HighLimit Qual

Qualifiers:

- Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- POL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix

- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits
- Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2006D74**

08-Jul-20

Client: Vertex Resource Group Ltd.

Project: Black River Booster Station Riser #5

Sample ID: 2006d74-042ams	SampT	ype: MS	3	Tes	tCode: El	е				
Client ID: BS20-42 0.5	Batch	ID: 53 3	345	F	RunNo: 6	9992				
Prep Date: 6/26/2020	Analysis D	ate: 6/ 2	29/2020	9	SeqNo: 2	431450	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	24.95	0	90.3	80	120			
Surr: BFB	1200		998.0		116	66.6	105			S
Sample ID: 2006d74-042amsc	J SampT	уре: М S	SD	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	e	

Client ID: BS20-42 0.5	Batch	n ID: 53	345	F	RunNo: 6	9992				
Prep Date: 6/26/2020	Analysis D	oate: 6/	29/2020	S	SeqNo: 2	431451	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.9	24.63	0	87.2	80	120	4.76	20	
Surr BER	1100		985.2		115	66.6	105	0	0	S

Sample ID: mb-53350	Sampi	ype: ME	SLK	res	(Code: E	PA Method	8015D: Gaso	line Rang	е	
Client ID: PBS	Batch	ID: 53	350	F	RunNo: 7	0053				
Prep Date: 6/27/2020	Analysis D	ate: 7/	1/2020	5	SeqNo: 2	434124	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	990		1000		99.4	66.6	105			

TantOnday EDA Mathaul 2045D Occasion

Sample ID: Ics-53350	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	е	
Client ID: LCSS	Batch	ID: 53	350	F	RunNo: 7	0053				
Prep Date: 6/27/2020	Analysis D	ate: 7/	1/2020	S	SeqNo: 2	434125	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	87.6	80	120			
Surr: BFB	1100		1000		109	66.6	105			S

Sample ID: 2006d74-062ams	SampT	уре: М	3	Tes	е					
Client ID: WS20-18	Batch	n ID: 53	350	F	RunNo: 7	0053				
Prep Date: 6/27/2020	Analysis D	Date: 7/	2/2020	S	SeqNo: 2	434128	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	4.7	23.54	0	84.7	80	120			
Surr: BFB	1000		941.6		110	66.6	105			S

Sample ID: 2006d74-062amsd SampType: MSD TestCode: EPA Method 8015D: Gasoline Range

Client ID: **WS20-18** Batch ID: **53350** RunNo: **70053**

Prep Date: 6/27/2020 Analysis Date: 7/2/2020 SeqNo: 2434129 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

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2006D74 08-Jul-20**

Client: Vertex Resource Group Ltd.

Project: Black River Booster Station Riser #5

Sample ID: 2006d74-062amsd SampType: MSD TestCode: EPA Method 8015D: Gasoline Range

Client ID: WS20-18 Batch ID: 53350 RunNo: 70053

Prep Date: 6/27/2020 Analysis Date: 7/2/2020 SeqNo: 2434129 Units: mg/Kg

Analyte PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Result 0 1.80 20 Gasoline Range Organics (GRO) 20 4.8 23.97 81.7 80 120 Surr: BFB 1000 958.8 108 66.6 105 0 0 S

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical 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

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2006D74 08-Jul-20**

Client: Vertex Resource Group Ltd.

Project: Black River Booster Station Riser #5

Sample ID: 2006D74-001AM	SD SampT	ype: MS	SD	Tes	tCode: El	PA Method	8021B: Volat	tiles		
Client ID: BS20-01 1'	Client ID: BS20-01 1' Batch ID: 53341					9963				
Prep Date: 6/26/2020	Analysis D	ate: 6/ 2	28/2020	8	SeqNo: 2	430061	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.024	0.9643	0	93.0	78.5	119	11.7	20	
Toluene	0.92	0.048	0.9643	0.01077	93.9	75.7	123	12.3	20	
Ethylbenzene	0.92	0.048	0.9643	0	95.3	74.3	126	14.0	20	
Xylenes, Total	2.8	0.096	2.893	0	96.8	72.9	130	13.4	20	
Surr: 4-Bromofluorobenzene	1.0		0.9643		104	80	120	0	0	

Sample ID: 2006D74-001AMS	SampT	ype: MS	3	Tes	tCode: El	PA Method	iles			
Client ID: BS20-01 1'	Batch	n ID: 53	341	F	RunNo: 6	9963				
Prep Date: 6/26/2020	Analysis D	oate: 6/ 2	28/2020	8	SeqNo: 2	430072	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	0.9891	0	102	78.5	119			
Toluene	1.0	0.049	0.9891	0.01077	104	75.7	123			
Ethylbenzene	1.1	0.049	0.9891	0	107	74.3	126			
Xylenes, Total	3.2	0.099	2.967	0	108	72.9	130			
Surr: 4-Bromofluorobenzene	1.1		0.9891		107	80	120			

Sample ID: LCS-53341	SampType: LCS TestCode: EPA Method 8021B: Volatiles									
Client ID: LCSS	Batcl	n ID: 53 3	341	F	RunNo: 6	9963				
Prep Date: 6/26/2020	Analysis D	Date: 6/ 2	28/2020	8	SeqNo: 2	430076	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.025	1.000	0	88.8	80	120			
Toluene	0.89	0.050	1.000	0	89.2	80	120			
Ethylbenzene	0.89	0.050	1.000	0	89.1	80	120			
Xylenes, Total	2.7	0.10	3.000	0	90.4	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			

Sample ID: mb-53341	SampT	уре: МЕ	BLK	Tes	tCode: El	iles		•		
Client ID: PBS	Batch	n ID: 53	341	F	RunNo: 6	9963				
Prep Date: 6/26/2020	Analysis D	nalysis Date: 6/28/2020			SeqNo: 2	430078	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		105	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

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Hall Environmental Analysis Laboratory, Inc.

3.1

1.1

0.099

2.970

0.9901

WO#: **2006D74 08-Jul-20**

Client: Vertex Resource Group Ltd.

Project: Black River Booster Station Riser #5

Sample ID: mb-53342 SampType: MBLK TestCode: EPA Method 8021B: Volatiles

Client ID: PBS Batch ID: 53342 RunNo: 69967

Prep Date: 6/26/2020 Analysis Date: 6/28/2020 SeqNo: 2430436 Units: mg/Kg

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

 Benzene
 ND
 0.025

 Toluene
 ND
 0.050

 Ethylbenzene
 ND
 0.050

 Xylenes, Total
 ND
 0.10

 Surr: 4-Bromofluorobenzene
 1.0
 1.000
 103
 80
 120

Sample ID: LCS-53342 SampType: LCS TestCode: EPA Method 8021B: Volatiles

Client ID: LCSS Batch ID: 53342 RunNo: 69967

Prep Date: 6/26/2020	Analysis [5	SeqNo: 2	430437	/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	1.000	0	91.8	80	120			
Toluene	0.94	0.050	1.000	0	93.9	80	120			
Ethylbenzene	0.94	0.050	1.000	0	93.7	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.1	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		105	80	120			

Sample ID: 2006d74-021ams	Samp	Гуре: МS	5	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: BS20-21 1'	Batc	h ID: 53 :	342	F	RunNo: 6	9967				
Prep Date: 6/26/2020	Analysis [Date: 6/	28/2020	S	SeqNo: 24	430439	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	0.9901	0	96.5	78.5	119			
Toluene	0.98	0.050	0.9901	0	99.3	75.7	123			
Ethylbenzene	1.0	0.050	0.9901	0	101	74.3	126			

0.01687

Sample ID: 2006d74-021am	sd SampT	ype: MS	SD	Tes	stCode: EPA Method 8021B: Volatiles						
Client ID: BS20-21 1'	Batcl	n ID: 53	342	F	RunNo: 6 9						
Prep Date: 6/26/2020	Analysis D	Date: 6/	28/2020	8	SeqNo: 2	430440	Units: mg/K	(g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	0.94	0.025	0.9814	0	95.9	78.5	119	1.55	20		
Toluene	0.97	0.049	0.9814	0	98.5	75.7	123	1.70	20		
Ethylbenzene	0.98	0.049	0.9814	0	99.7	74.3	126	2.00	20		
Xylenes, Total	3.0	0.098	2.944	0.01687	101	72.9	130	2.21	20		
Surr: 4-Bromofluorobenzene	1.1		0.9814		108	80	120	0	0		

Qualifiers:

Xylenes, Total

Surr: 4-Bromofluorobenzene

* 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

102

107

72.9

80

130

120

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2006D74**

08-Jul-20

Client: Vertex Resource Group Ltd.

Project: Black River Booster Station Riser #5

Sample ID: mb-53345 SampType: MBLK TestCode: EPA Method 8021B: Volatiles

Client ID: PBS Batch ID: 53345 RunNo: 69992

Prep Date: 6/26/2020 Analysis Date: 6/29/2020 SeqNo: 2431499 Units: mg/Kg

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

 Benzene
 ND
 0.025

 Toluene
 ND
 0.050

 Ethylbenzene
 ND
 0.050

 Xylenes, Total
 ND
 0.10

Surr: 4-Bromofluorobenzene 1.0 1.000 102 80 120

Sample ID: LCS-53345 SampType: LCS TestCode: EPA Method 8021B: Volatiles

Client ID: **LCSS** Batch ID: **53345** RunNo: **69992**

2.8

1.1

0.10

2.985

0.9950

Prep Date: 6/26/2020	Analysis [Date: 6/	29/2020	5	SeqNo: 2	431501	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	1.000	0	93.2	80	120			
Toluene	0.95	0.050	1.000	0	95.1	80	120			
Ethylbenzene	0.96	0.050	1.000	0	95.9	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.5	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		105	80	120			

Sample ID: 2006d74-041ams	SampT	ype: MS	5	Tes	tCode: EF	PA Method	8021B: Volat	iles		
Client ID: BS20-41 0.5	Batch	n ID: 53	345	F	RunNo: 69	9992				
Prep Date: 6/26/2020	Analysis D	ate: 6/	29/2020	S	SeqNo: 24	431504	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	0.9950	0	90.4	78.5	119			
Toluene	0.91	0.050	0.9950	0	91.9	75.7	123			
Ethylbenzene	0.93	0.050	0.9950	0	93.5	74.3	126			

0.01673

Sample ID: 2006d74-041amsd	SampT	уре: М	SD	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: BS20-41 0.5	Batcl	n ID: 53	345	F	RunNo: 6	9992				
Prep Date: 6/26/2020	Analysis D	oate: 6/	29/2020	S	SeqNo: 2	431506	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.025	0.9881	0	87.8	78.5	119	3.62	20	
Toluene	0.89	0.049	0.9881	0.9881 0 89.9 75.7 123 2.92 20						
Ethylbenzene	0.90	0.049	0.9881	0	91.2	74.3	126	3.19	20	
Xylenes, Total	2.8	0.099	99 2.964 0.01673 92.2 72.9 130 2.53 20							
Surr: 4-Bromofluorobenzene	1.0		0.9881		106	80	120	0	0	

Qualifiers:

Xylenes, Total

Surr: 4-Bromofluorobenzene

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

94.0

109

72.9

80

130

120

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2006D74**

08-Jul-20

Client: Vertex Resource Group Ltd.

Project: Black River Booster Station Riser #5

Sample ID: mb-53350 SampType: MBLK TestCode: EPA Method 8021B: Volatiles

Client ID: PBS Batch ID: 53350 RunNo: 70053

Prep Date: 6/27/2020 Analysis Date: 7/1/2020 SeqNo: 2434168 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

 Toluene
 ND
 0.050

 Ethylbenzene
 ND
 0.050

 Xylenes, Total
 ND
 0.10

 Surr: 4-Bromofluorobenzene
 1.0
 1.000
 104
 80
 120

Sample ID: LCS-53350 SampType: LCS TestCode: EPA Method 8021B: Volatiles

0.9921

Client ID: LCSS Batch ID: 53350 RunNo: 70053

1.1

Prep Date: 6/27/2020	Analysis [Date: 7/	1/2020	5	SeqNo: 2	434169	Units: mg/k	ζg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.025	1.000	0	89.1	80	120			
Toluene	0.91	0.050	1.000	0	91.0	80	120			
Ethylbenzene	0.91	0.050	1.000	0	91.2	80	120			
Xylenes, Total	2.8	0.10	3.000	0	92.5	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			

Sample ID: 2006d74-061ams	SampT	ype: MS	3	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: WS20-17	Batch	n ID: 53	350	F	RunNo: 7	0053				
Prep Date: 6/27/2020	Analysis D	ate: 7/	1/2020	S	SeqNo: 2	434171	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	0.9921	0	91.6	78.5	119			
Toluene	0.95	0.050	0.9921	0	95.8	75.7	123			
Ethylbenzene	0.96	0.050	0.9921	0	96.9	74.3	126			
Xvlenes Total	2.9	0.099	2.976	0	97.8	72.9	130			

Sample ID: 2006d74-061ams	d SampT	ype: MS	SD.	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: WS20-17	Batch	n ID: 53 3	350	F	RunNo: 70	0053				
Prep Date: 6/27/2020	Analysis D	ate: 7/ 2	2/2020	S	SeqNo: 24	434172	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	0.9901	0	92.1	78.5	119	0.357	20	
Toluene	0.95	0.050	0.9901	0	96.1	75.7	123	0.0727	20	
Ethylbenzene	0.96	0.050	0.9901	0	97.3	74.3	126	0.142	20	
Xylenes, Total	2.9	0.099	2.970	0 97.9 72.9			130	0.0961	20	
Surr: 4-Bromofluorobenzene	1.1		0.9901		107	80	120	0	0	

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Surr: 4-Bromofluorobenzene

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

109

80

120

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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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 Nam	e: Vertex Res Ltd.	ource Group	Work	Order Num	ber: 2006D7	4		RcptNo: 1	
Received B	y: Juan Roja	is	6/26/20	20 9:30:00	AM	Gears	39		
Completed I	By: Juan Roja	is	6/26/20	20 9:47:10	AM	Gleane	33		
Reviewed B	y: SPA 6	. 26.20)			8 F 1			
Chain of C	Custody								
1. Is Chain	of Custody comp	lete?			Yes 🗸	No		Not Present	
2. How was	the sample deliv	ered?			Courier				
Log In									
	ttempt made to c	cool the samp	les?		Yes 🗸	No		NA 🗌	
4. Were all s	samples received	at a tempera	ture of >0° C	to 6.0°C	Yes 🗸	No		NA 🗆	
5. Sample(s) in proper contai	ner(s)?			Yes 🗸	No			
6. Sufficient	sample volume f	or indicated te	est(s)?		Yes 🗸	No [
7. Are sample	les (except VOA	and ONG) pro	perly preserve	ed?	Yes 🗸	No [
8. Was prese	ervative added to	bottles?			Yes 🗌	No	~	NA 🗆	
9. Received	at least 1 vial with	h headspace	<1/4" for AQ V	OA?	Yes 🗌	No [NA 🗹	
10. Were any	sample containe	ers received b	roken?		Yes	No	~	# of preserved	/
	erwork match bot repancies on cha)		Yes 🗹	No		bottles checked for pH: (<2 or >1	2 unless noted)
	es correctly iden				Yes 🗸	No I		Adjusted?	
13. Is it clear	what analyses we	ere requested	?		Yes 🗸	No [1 /
	olding times able fy customer for a				Yes 🗸	No [Checked by:	6/26/20
	ndling (if app						/		
	nt notified of all di	Married Prints	vith this order?		Yes 🗌	No		NA 🗹	
Per	son Notified:			Date					
Ву	Whom:	1		Via:	eMail	Phone	Fax	☐ In Person	
Reg	garding:								
Clie	nt Instructions:								
16. Additiona	al remarks:								
17. Cooler In	nformation								
Cooler		Condition	Seal Intact	Seal No	Seal Date	Signed B	у		
1	3.6	Good							

Received by OCD: 12/5/2022 11:37:32 AM Page 169 of 211 **ANALYSIS LABORATORY** HALL ENVIRONMENTAL Send (eport to Natalic Gordon f hecessary, 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. Page 1 of 4901 Hawkins NE - Albuquerque, NM 87109 Fax 505-345-4107 www.hallenvironmental.com Analysis Request Total Coliform (Present/Absent) (AOV-imaS) 07S8 (AOV) 09S8 NO2, PO4, SO4 × NO3' Br, X X X X X X Tel. 505-345-3975 RCRA 8 Metals PAHs by 8310 or 8270SIMS EDB (Method 504.1) 8081 Pesticides/8082 PCB's Remarks: (OAM \ OAG \ OA6)G\$108:H97 X X X TMB's (8021) MTBE / **KX**3TB X X X 630 6/2/2 4:3c Black River Booster Station Riser とこののよ Time 3.3-0= 3 HEAL No. 500 DO0-P000-100-300 2005 000 200-1007 5 Day Turn 010-110-1/2/20 10-01 10 - 100-30t Smith Natalie Godo-□ Rush Cowler Preservative levi-Cooler Temp(including CF); □ Yes × × X X X X X Turn-Around Time: Type Y X Via: Project Manager: Project Name: X Standard 402. Jar # of Coolers: Type and # Received by: Container Received by: Project #: Sampler: On Ice: X X × □ Level 4 (Full Validation) Chain-of-Custody Record Sample Name 13 Sac - 09 18530-10 B520-01 850-058 BS20-08 8530-02 BSA0-07 18530-04 BS20-06 8530-03 BS20-11 B520-12 FILE □ Az Compliance Relinquished by: Relinquished by: □ Other_ 3 10 tex Matrix Soil X Mailing Address: Time QA/QC Package: 9:20 9:56 10:20 10:28 cololi SE:8 08/14/0 9:59 10:08 9:38 ☐ EDD (Type) 4:01 9:13 9:31 email or Fax#: Accreditation: Time: Time: □ Standard □ NELAC Phone #: Client: Date Date: X Date:

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QA/QC Packa □ Standard	QA/QC Package: □ Standard		☐ Level 4 (Full Validation)	lidation)	Na	Natalie Gordo-	dor	Soft L		3/1130	SIMILO	PO¢, S		iəsdA\tr		7:32 AN
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	□ EDD (Type)	1 1			# of Coolers:			277								
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	17:11		BS40-21	_			120-									
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	If necessary,	, samples sut	bmitted to Hall Environmental	I may be sub	contracted to other a	accredited laboratorie	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.	possibility.	Anv suk	-contrac	ted data	will be c	loarly n	total on the	analytical report	<i>21.</i>

Received by OCD: 12/5/2022 11:37:32 AM Page 171 of 211 **ANALYSIS LABORATORY** HALL ENVIRONMENTAL 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 Pase 3 of 7 4901 Hawkins NE - Albuquerque, NM 87109 Fax 505-345-4107 www.hallenvironmental.com Analysis Request Total Coliform (Present/Absent) Send to Natalie (AOV-ima2) 07S8 (AOV) 09S8 6 NO₂, PO₄, SO₄ NO31 Br, Tel. 505-345-3975 RCRA 8 Metals PAHs by 8310 or 8270SIMS EDB (Method 504.1) 8081 Pesticides/8082 PCB's Remarks: PH:8015D(GRO / DRO / MRO) MTBE / TMB's (8021) BTEXY 030 Project Name: Black River Rooster Station 3.6-0=3.6 (°C) rowler 6/76/20 9.30 S DAY FURN 2006074 Time HEAL No. 620--630 220-200 -623 280-1024 -035 1031 250-950-120-125/20 Date Riser AS Natalie Gordon 110-65600-306 Smith □ Rush Preservative (w: # Cooler Temp(including CF): JCE B-Yes Type Turn-Around Time: 0 Via: Via: Project Manager: MStandard # of Coolers: 1 NOZ ich Type and # Received My: Container Project #: Sampler: On Ice: 0.5 □ Level 4 (Full Validation) -Chain-of-Custody Record B 520-36 BS20-34 BS20-35 Sample Name 8870-25 B520-30 8520-29 BS20-33 850-26 BS20-27 BS+0-28 BS20-31 BS40-37 □ Az Compliance Relinquished by: Relinquished by: /とてたメ 70 □ Other Matrix Mailing Address: 12:21 52:21 QA/QC Package: 17:30 12:36 12:39 6/24/2d 11:36 12:31 24:21 15/20 1910 □ EDD (Type) 11:28 1:5 15:21 17:18 email or Fax#: Time Accreditation: Time: Time: □ Standard □ NELAC Phone #: Client: Date Date:

Received by OCD: 12/5/2022 11:37:32 AM Page 172 of 211 ANALYSIS LABORATORY HALL ENVIRONMENTAL f 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 Page 4 of 7 4901 Hawkins NE - Albuquerque, NM 87109 Fax 505-345-4107 www.hallenvironmental.com Send to Natalia Analysis Request Total Coliform (Present/Absent) (AOV-ima2) 07S8 (AOV) 09S8 (JE) Bt' NO3' NO5, PO4, SO4 Tel. 505-345-3975 RCRA 8 Metals PAHs by 8310 or 8270SIMS EDB (Method 504.1) 8081 Pesticides/8082 PCB's Remarks: TPH:8015D(GRO / DRO / MRO) MTBE / TMB's (8021) RTEXY 6/21/20 9/30 (S) 1030 700 6074 Time Time Booster Station HEAL No. 5 DAY TURN 260-1000 -043 上の4子 pho -637 860-010-110-NOho-10=3.6 150-206-00239-011 Date Kerin Smith Waterie Gordon □ Rush OINP Preservative M Cooler Temp(including CF): Black River A Yes H Turn-Around Time: Type Via: Via: Project Manager: Project Name: # of Coolers: 以 Standard Type and # Container Received Project #: Sampler: 704 On Ice: Received 0.51 150 0.5 0.5 0.5 150 0.5 □ Level 4 (Full Validation) 0.5 Chain-of-Custody Record BS20- 43 BS20-38 8540-40 BS20-42 46-042M BS20-37 8520-39 Sample Name 800-44 40-08SM W530-03 BS30-41 10-065 N □ Az Compliance 4.5 Relinquished by: Relinquished by: Vertex □ Other 0 Matrix 3 Mailing Address: 55:21 od/h2/9 QA/QC Package: Time 12:58 1:24 . 28 1610 ☐ EDD (Type) 1:00 1:03 1.70 1:22 email or Fax#: 80:1 61: 1.35 Accreditation: =: Time: Time: □ Standard □ NELAC Phone #: 6/2/20 Client: Date Date: Date:

Received by OCD: 12/5/2022 11:37:32 AM Page 173 of 211 **ANALYSIS LABORATORY** HALL ENVIRONMENTAL 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 Pase 5 of 7 4901 Hawkins NE - Albuquerque, NM 87109 Fax 505-345-4107 www.hallenvironmental.com Analysis Request Send to Noraliz Total Coliform (Present/Absent) (AOV-ima2) 07S8 (AOV) 09S8 Br, NO3, NO2, PO4, SO4 X Tel. 505-345-3975 RCRA 8 Metals PAHs by 8310 or 8270SIMS EDB (Method 504.1) 8081 Pesticides/8082 PCB's Remarks: (PH:8015D(GRO / DRO / MRO) MTBE / TMB's (8021) N KETE 7006 DFY 6/76/10 01:30 Cooler Temp(including CF): 3.6-0-7.6 (°C) 3.3-6=3.5 100 Time 5 DAY FURN Black River Boustor Station -050-250-1055 105-6 ESO-600-1050 7054 150--652 053 260 13/20 Smith Natalie Gordon 206-00239-011 **%**□ Riser #5 □ Rush Preservative CUNPV 16evin ICE E-Yes Type Turn-Around Time: Via: Via: Project Manager: Project Name: Standard Standard # of Coolers: Type and # Container Received by Project #: 402 101 Sampler: Received On Ice: ☐ Level 4 (Full Validation) Chain-of-Custody Record WS20-10 80-075M MS40-09 MS20-07 7540-06 11-085M 50-085 M 11-08SM 11-085N 81-085M 41-085M NSPO IS Sample Name □ Az Compliance 不派 Relinquished by: Relinquished by: Vertex □ Other N Matrix So Mailing Address: 45:2 QA/QC Package: 94:1 ce/he/9 8:03 30:2 91:2 25:2 1.58 2:30 1.58 2.07 2:15 ☐ EDD (Type) Time 2:21 email or Fax#: Accreditation: Time: Time: □ Standard □ NELAC Phone #: Client: Date Date: Date:

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alles la	MM	selomes	f 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.	contracted to other	accredited laboratorie	es. This serves as notice of this	possibilit	v. Anv	sub-con	tracted d	d llive etc	Jacob	404	legitulede odt en b	1.020

Received by OCD: 12/5/2022 11:37:32 AM Page 175 of 211 ANALYSIS LABORATORY HALL ENVIRONMENTAL f 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 4901 Hawkins NE - Albuquerque, NM 87109 Page 7 of 7 Fax 505-345-4107 www.hallenvironmental.com Analysis Request Total Coliform (Present/Absent) (AOV-ima2) 07S8 (AOV) 09S8 NO3' NO5, PO4, SO4 Br, CI'E' Tel. 505-345-3975 RCRA 8 Metals PAHs by 8310 or 8270SIMS EDB (Method 504.1) 8081 Pesticides/8082 PCB's Remarks: PH:8015D(GRO / DRO / MRO) BTEX / MTBE / TMB's (8021) rourier apabo 9:30 3.6-023.6 (°C) 6/25/20 1030 いちのららっちつ Time Black River Rooster Station Riser #5 -630 Pt0-140-S DAY TURN h£0-250-140-2F0-メナー 205-00239-011 Natalie Gordon Rest Swith **%** □ □ Rush Preservative TLE Cooler Temp(including CF): B Yes Turn-Around Time: Via: Project Manager: Project Name: **X** Standard # of Coolers: 4 02 jar Type and # Container Project #: Received by: Received by Sampler: On Ice: ☐ Level 4 (Full Validation) Chain-of-Custody Record WS20-36 NSB-35 48-085M WS20-29 W540-30 WS20-32 WS20-33 Sample Name 18-085M □ Az Compliance ON FILE Relinquished by: Relinquished by: □ Other Matrix ンペセン 50,1 Mailing Address: CO:4 QA/QC Package: 3:56 6/24/20 3:29 3.33 3,35 12/20 (40) ☐ EDD (Type) Time 3:39 email or Fax#: Accreditation: Time: Time: □ Standard □ NELAC Phone #: Client: Date Date:



July 29, 2020

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

FAX

RE: Black River Booster Station Riser 5

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

OrderNo.: 2007B62

Dear Natalie Gordon:

Hall Environmental Analysis Laboratory received 3 sample(s) on 7/23/2020 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

Indes

4901 Hawkins NE

Albuquerque, NM 87109

Date Reported: 7/29/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS20-33 2.5

Project: Black River Booster Station Riser 5 Collection Date: 7/21/2020 11:53:00 AM

Lab ID: 2007B62-001 Matrix: SOIL Received Date: 7/23/2020 9:44:00 AM

Result **RL Qual Units** DF **Date Analyzed** Analyses **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: BRM Diesel Range Organics (DRO) ND 10 mg/Kg 1 7/24/2020 5:20:12 PM Motor Oil Range Organics (MRO) ND 50 mg/Kg 1 7/24/2020 5:20:12 PM Surr: DNOP 67.9 30.4-154 %Rec 1 7/24/2020 5:20:12 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: RAA Gasoline Range Organics (GRO) ND 7/25/2020 2:43:25 AM 4.8 mg/Kg 1 Surr: BFB 92.1 66.6-105 %Rec 1 7/25/2020 2:43:25 AM **EPA METHOD 8021B: VOLATILES** Analyst: RAA Benzene ND 0.024 mg/Kg 7/25/2020 2:43:25 AM 1 Toluene ND 0.048 mg/Kg 1 7/25/2020 2:43:25 AM Ethylbenzene ND 0.048 mg/Kg 1 7/25/2020 2:43:25 AM Xylenes, Total ND 0.096 mg/Kg 1 7/25/2020 2:43:25 AM Surr: 4-Bromofluorobenzene 102 80-120 %Rec 1 7/25/2020 2:43:25 AM **EPA METHOD 300.0: ANIONS** Analyst: JMT Chloride 3700 300 7/29/2020 1:24:37 AM ma/Ka 100

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

Page 1 of 6

Date Reported: 7/29/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-25

Project: Black River Booster Station Riser 5 Collection Date: 7/21/2020 12:18:00 PM

Lab ID: 2007B62-002 Matrix: SOIL Received Date: 7/23/2020 9:44:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	7/24/2020 5:44:25 PM
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	7/24/2020 5:44:25 PM
Surr: DNOP	68.7	30.4-154	%Rec	1	7/24/2020 5:44:25 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	7/25/2020 3:06:57 AM
Surr: BFB	90.6	66.6-105	%Rec	1	7/25/2020 3:06:57 AM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.025	mg/Kg	1	7/25/2020 3:06:57 AM
Toluene	ND	0.050	mg/Kg	1	7/25/2020 3:06:57 AM
Ethylbenzene	ND	0.050	mg/Kg	1	7/25/2020 3:06:57 AM
Xylenes, Total	ND	0.099	mg/Kg	1	7/25/2020 3:06:57 AM
Surr: 4-Bromofluorobenzene	102	80-120	%Rec	1	7/25/2020 3:06:57 AM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	3700	150	mg/Kg	50	7/29/2020 1:37:02 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

Page 2 of 6

Date Reported: 7/29/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd. Client Sample ID: WS20-33

Project: Black River Booster Station Riser 5 Collection Date: 7/21/2020 12:41:00 PM

Lab ID: 2007B62-003 Matrix: SOIL Received Date: 7/23/2020 9:44:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	ANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	7/24/2020 6:08:23 PM
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	7/24/2020 6:08:23 PM
Surr: DNOP	77.4	30.4-154	%Rec	1	7/24/2020 6:08:23 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	7/25/2020 3:30:31 AM
Surr: BFB	88.8	66.6-105	%Rec	1	7/25/2020 3:30:31 AM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.024	mg/Kg	1	7/25/2020 3:30:31 AM
Toluene	ND	0.049	mg/Kg	1	7/25/2020 3:30:31 AM
Ethylbenzene	ND	0.049	mg/Kg	1	7/25/2020 3:30:31 AM
Xylenes, Total	ND	0.098	mg/Kg	1	7/25/2020 3:30:31 AM
Surr: 4-Bromofluorobenzene	101	80-120	%Rec	1	7/25/2020 3:30:31 AM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	3600	150	mg/Kg	50	7/29/2020 1:49:26 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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

Page 3 of 6

Hall Environmental Analysis Laboratory, Inc.

2007B62

WO#:

29-Jul-20

Client: Vertex Resource Group Ltd.

Project: Black River Booster Station Riser 5

Sample ID: LCS-53926 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: LCSS Batch ID: 53926 RunNo: 70581

Prep Date: 7/23/2020 Analysis Date: 7/24/2020 SeqNo: 2455254 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO) 58 10 50.00 0 116 70 130

 Diesel Range Organics (DRO)
 58
 10
 50.00
 0
 116
 70
 130

 Surr: DNOP
 5.8
 5.000
 117
 55.1
 146

Sample ID: MB-53926 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: PBS Batch ID: 53926 RunNo: 70581

Prep Date: 7/23/2020 Analysis Date: 7/24/2020 SeqNo: 2455255 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 13 10.00 127 55.1 146

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of 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

Page 4 of 6

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2007B62**

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29-Jul-20

Client: Vertex Resource Group Ltd.

Project: Black River Booster Station Riser 5

Sample ID: Ics-53918 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSS Batch ID: 53918 RunNo: 70588

Prep Date: 7/23/2020 Analysis Date: 7/24/2020 SeqNo: 2455823 Units: mg/Kg

PQL SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Qual Analyte Result LowLimit 0 Gasoline Range Organics (GRO) 21 5.0 25.00 83.6 72.5 106

Surr: BFB 1100 1000 105 66.6 105

Sample ID: mb-53918 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS Batch ID: 53918 RunNo: 70588

Prep Date: 7/23/2020 Analysis Date: 7/24/2020 SeqNo: 2455825 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 90.1 66.6 105

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
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- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 5 of 6

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2007B62 29-Jul-20**

Client: Vertex Resource Group Ltd.

Project: Black River Booster Station Riser 5

Sample ID: LCS-53918 SampType: LCS TestCode: EPA Method 8021B: Volatiles Client ID: LCSS Batch ID: 53918 RunNo: 70588 Prep Date: 7/23/2020 Analysis Date: 7/24/2020 SeqNo: 2455880 Units: mg/Kg PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Analyte Result Benzene 0.93 0.025 1.000 0 92.7 80 120 Toluene 0.94 0.050 1.000 0 93.6 80 120 0.050 0 95.3 80 Ethylbenzene 0.95 1.000 120 0 Xylenes, Total 2.9 0.10 3.000 96.6 80 120 Surr: 4-Bromofluorobenzene 1.1 1.000 107 80 120

Sample ID: mb-53918	SampType: MBLK Batch ID: 53918			TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS				F	RunNo: 70588					
Prep Date: 7/23/2020	Analysis Date: 7/24/2020		SeqNo: 2455882			Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		102	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

Page 6 of 6



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	ce Group	Work	Order Nur	nber: 200	7B62			RcptNo	: 1
Received By:	Cheyenne Ca	son	7/23/20	20 9:44:00	AM					
Completed By:	Juan Rojas			20 10:04:1	3 AM		Glean	3	maraka.	
Reviewed By:	SPA 7.	23.20	įč	1.40						
Chain of Cu	stody									
1. Is Chain of 0	Custody complete?	?			Yes	✓	No		Not Present	
2. How was the	e sample delivered	l?			Cou	<u>rier</u>				
Log In	mpt made to cool	the compless?			Yes		No		NA 🗆	
O. Was all alle	mpt made to cool	ine samples?			res	•	140		NA L	
4. Were all san	nples received at a	temperature o	of >0°C1	to 6.0°C	Yes	~	No		NA 🗆	
5. Sample(s) in	proper container(s)?			Yes	~	No			
6. Sufficient sar	mple volume for in	dicated test(s)	?		Yes	✓	No			
7. Are samples	(except VOA and	ONG) properly	preserve	ed?	Yes	✓	No			
8. Was preserv	ative added to bot	tles?			Yes		No	✓	NA \square	
9. Received at I	east 1 vial with he	adspace <1/4"	for AQ V	OA?	Yes				NA 🗹	
10. Were any sa	imple containers re	eceived broker	1?		Yes		No	~	# of preserved	
	ork match bottle la pancies on chain o				Yes	¥	No		bottles checked for pH:	>12 unless noted)
	correctly identified	••	Custody?		Yes		No	П	Adjusted?	- 12 dilicas noted)
	at analyses were re					<u> </u>	No		_	
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17. Cooler Info	rmation									
Cooler No		ondition Se	al Intact	Seal No	Seal Da	rte	Signed I	3y 🔻		
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2	2 Go									
3	2.7 Go	od Yes								

Page 184 of 211 Received by OCD: 12/5/202 1:37:32 AM **ANALYSIS LABORATORY** HALL ENVIRONMENTAL Send to Natalle Griden f 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 Fr. 90 A 42 A 4901 Hawkins NE - Albuquerque, NM 87109 Fax 505-345-4107 www.hallenvironmental.com **Analysis Request** Total Coliform (Present/Absent) (AOV-im92) 0YS8 (AOV) 09S8 NO2, PO4, SO4 © E' BL' NO3" Tel. 505-345-3975 RCRA 8 Metals 5.4-0.1=5.3, 2.8-0.1=2.7, 2:1-0.1=2.0c PAHs by 8310 or 82705IMS EDB (Method 504.1) 8081 Pesticides/8082 PCB's Remarks: (OAM \ OAG \ OA9)G8181H9T BTEX/ MTBE / TMB's (8021) × Bluck River Booster Station RiserAS CANH Cooler Temp(including CF): $\mathcal{L}_{m,n}(\mathcal{C})$ AOUTRO 183 5 Day Two -00L Time 0 Natalla Bordon 101 ON-III Soir - Covin 206-00339 □ Rush Preservative JCE ž Š On Ice: کلاً Yes Type Via: Turn-Around Time: Ş. Project Manager: # of Coolers: 3 Project Name: Standard
 Standard 1402 161 Type and # Sampler: Received by Received by: Container Project #: □ Level 4 (Full Validation) Ņ **Chain-of-Custody Record** Sample Name 57-0CSM WS20-33 B320-33 □ Az Compliance 子くり Relinquished by: Relinquished by: □ Other Matrix 151 52 11 called Vタカ× Mailing Address: □ NELAC □ EDD (Type) QA/QC Package: Time F;71 email or Fax#: alb! alea! Accreditation: Time: Time: □ Standard Phone #: Client: Date Date:

ATTACHMENT 6

Client Contact Phone #:

Daily Site Visit Report



Client:	Matador Resources	Inspection Date:	5/4/2020
Site Location Name:	Black River Booster Riser #5	Report Run Date:	5/5/2020 5:12 PM
Project Owner:	John Hurt	File (Project) #:	20E-00239
Project Manager:	Natalie Gordon	API #:	
Client Contact Name:	John Hurt	Reference	50bbl PW release

Summary of Times								
Left Office	5/4/2020 7:30 AM							
Arrived at Site	5/4/2020 8:00 AM							
Departed Site								
Returned to Office								

Summary of Daily Operations

- **9:10** Affected area from release has already been scraped and partially cleaned up. Point of release is on pump #5 and filled lines containment and overflowed underneath piping of risers traveling south with the contour of the land sloping. Spill ended on matador location. Pasture area where undisturbed has a calcareous/gypsum layer in spotted areas. Across the road is an irrigation ditch for farm use
- 14:50 Scraped area is around 0.5" deep in pasture area and hand digging occurred underneath equipment and risers near lined containment
- 14:54 Pad area has been scraped to get rid of staining and along fence line where it came down hill and ran onto pad

Next Steps & Recommendations

1



Site Photos



Spill area



Spill area where emergency clean up took place



Pasture area that is undisturbed but has calcereous/gypsum layer



Area near point of release under piping and risers





Area where already standing water from irrigation ditch filled in borehole for riser



Scraped area near equipment



Containment area where point of release is located and where overflow happened



Undisturbed areas in between where scrape occurred





Area where scrape occurred to clean up spill in pasture area that travelled down to pad



Scraped area north of pad



Scraped area in pasture



Scraped area near riser next to dirt mound from bore under road





Dirt mound next to equipment and risers



Area where spill ran downhill onto pad



Scraped area along north fence line



Scraped area on pad







Daily Site Visit Signature

Inspector: Monica Peppin

Signature:

The same of the sa	ponse ar	id Samplin	ľ.					*
Client:		Mato	dor	eringele er veren i seut het i troeksteel van 14 maa 1900 en 2000.	**************************************	country, servicent newcoss dimension results	Notation and the contraction of	F IS
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Client:	Matador Resources	Inspection Date:	6/22/2020
Site Location Name:	Black River Booster Station Riser #5	Report Run Date:	6/23/2020 12:13 AM
Client Contact Name:	John Hurt	API #:	N/A
Client Contact Phone #:			
Unique Project ID	-Black River Booster Station Riser #5	Project Owner:	John Hurt
Project Reference #	NM OCD Tracking # NRM2012930770	Project Manager:	Natalie Gordon
		Summary of	Times
Arrived at Site	6/22/2020 7:00 AM		
Departed Site	6/22/2020 4:30 PM		

Field Notes

- **10:41** Containment where point of release occurred has been extended and is a metal lined containment. Large dirt pile that was here during characterization has been knocked down and filled in the borehole where pipeline went across road
- 10:47 Using background sample to determine depth of full excavation. Depth at 1 ft matches what background levels are at. Area is very high in natural chlorides and old farm land. Gypsum stringers are within the soil and also contains a layer of gypsum caliche. Area has different patches of white crystallized substance away from where spill occurred and is a natural occurrence for the area
- 17:12 Loamy soil compared to caliche soil seemed to have a higher reading when running titration

Next Steps & Recommendations

- 1 Finish collecting photos
- 2 Possible further excavation



Site Photos

Viewing Direction: West

New metal berm around pumps



Viewing Direction: North

Description Photos
Hawking Direction: North

Lined containment



Excavation area 1ft



Daily Site Visit Signature

Inspector: Monica Peppin

Signature:

ignature

VERTEX

Client:			dor		Initial Spill Information - Re	cord on First	Visit	MAN .
Date:	_	6-23	3- 2020		Spill Date:			
Site Name:		Booste	dor 3- 2020 r Risace	75	Spill Volume:			
Site Location:					Spill Cause:			
Project Owner:					Spill Product:			
Project Manager:					Recovered Spill Volume:			40.00
Project #:				Sampling	Recovery Method:			
			Field Screening		Data Collection	(Check for Ye	rimble	Marked or
Sample ID	Depth (ft)	VOC (PID)	PetroFlag TPH (ppm)	Quantab (High/Low) + or -	Lab Analysis	Picture	Coordinates	Site Sketch
SS/TP/BH - Year - Number Ex. BH18-01	Ex. '2ft	Ex. 400 ppm	200 ppm	Titohs~	Ex. Hydrocarbon Chloride			
WS20-01	0-6"			5200				
INS40-02				4300				
WS20-03				4000				
WS20-04				6100	9			
WS20-05				5900				
Ws20-06				6200				
WSZ2-07				4700				
W520-08				4300				
PORESW				4600				
W520-16				4900			*	
				9,600				
M20-115				6100				
WS70-13				6300				
MSLOTA				7400	-			
wsto 15				2900	0			
WELD 16				2600				
MSHO 17				3300	W.			
WSP 18				1860				
W580 14				1900	1			
WS20 20				2300			1	
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WSX0 22				3100)	6

VERTEX

Spill Resp	onse and	d Sampling			VERTE						
Client:		Made	dor		Initial Spill Information - F	Record on Firs	t Visit				
Date:		6-24-1	to		Spill Date:						
Site Name:		6-24-2 Riser	45		Spill Volume:		III.				
Site Location:					Spill Cause:						
Project Owner:					Spill Product:						
Project Manager:		-			Recovered Spill Volume:						
Project #:					Recovery Method:						
			Field Screening	Sampling	Data Collection	n (Check for Y	es)				
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. BH18-01	Ex. '2ft	Ex. 400 ppm	200 ppm	Tibration— Ex. 'High +	Ex. Hydrocarbon Chloride			Site Silection.			
BS20-23	B 1'			3100							
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29				7200							
30				2100							
31				2800							
37				1300							
33				4700							
34		(I)		2600							
35	1			1700							
36	0.5'			700							
37				3800							
36				900							
39				800							
40				700							
41				1700							
42				800							
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Spill Resp	onse and	d Sampling	3	evin Smit	h			V	ERTE
Client:		Matad	lor			Initial Spill Information	- Record on Firs	t Visit	
Date:		6-24-	20			Spill Date:			
Site Name:		Black R	iver Booser	Station Piser II	5	Spill Volume:	1		
Site Location:		_ Eda	y, Nm			Spill Cause:			
Project Owner:						Spill Product:	1		
Project Manager:						Recovered Spill Volume	f		
Project #:				Sampling		Recovery Method:			
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Sample ID	Depth (ft)	VOC (PID)	(ppm)	- Quant ab (High/Low) + or -		Lab Analysis	Picture	Trimble Coordinates	Marked on Site Sketch
SS/TP/BH - Year - Number Ex. BH18-01	Ex. '2ft	Ex. 400 ppm	200 ppm	-Ex: "High+" Titroution		Ex. Hydrocarbon Chloride			
B520-01	11			1100					
B520-02	1			1600					
B520-03				900					
BS20-04				2000					
BSLD-05				1700					
BS20-04 BS20-05 BS20-06				1200					
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89				1600					
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20				7500					
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Client:	Matador Resources	Inspection Date:	7/21/2020
Site Location Name:	Black River Booster Station Riser #5	Report Run Date:	7/21/2020 9:21 PM
Client Contact Name:	John Hurt	API #:	N/A
Client Contact Phone #:		_	
Unique Project ID	-Black River Booster Station Riser #5	Project Owner:	John Hurt
Project Reference #	NM OCD Tracking # NRM2012930770	Project Manager:	Natalie Gordon
		Summary of ¹	Times
Arrived at Site	7/21/2020 7:56 AM		
Departed Site	7/21/2020 1:03 PM		
		Field Note	es

Field Notes

- 15:12 Completing additional remediation for areas which exceeded initial confirmatory sampling.
- **15:13** Samples area will be extended in six inch increments until field screens are below NMOCD criteria. Samples recollected will be BS20-33,WS20-25, and WS20-33.

Next Steps & Recommendations

- 1 Submit confirmatory samples for laboratory analysis
- **2** After awaiting laboratory results complete incident closure report.



Site Photos



Additional remediation at WS20-25





Additional remediation at WS20-25 sampling area



Final excavation







Daily Site Visit Signature

Inspector: Kevin Smith

Signature: Signature

ATTACHMENT 7

Natalie Gordon

From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>

Sent: Friday, June 19, 2020 4:42 PM

To: Natalie Gordon

Subject: Fwd: NRM2012930770: Black River Booster Station Riser #5 48-hour Notification of

Confirmatory Sampling

----- Forwarded message ------

From: **Dhugal Hanton** <vertexresourcegroupusa@gmail.com>

Date: Fri, Jun 19, 2020 at 4:41 PM

Subject: NRM2012930770: Black River Booster Station Riser #5 48-hour Notification of Confirmatory Sampling

To: Bratcher, Mike, EMNRD < Mike.Bratcher@state.nm.us, Venegas, Victoria, EMNRD < Venegas@state.nm.us, Venegas, Victoria, EMNRD < Venegas@state.nm.us, CFO_Spill, BLM_NM < blm_nm_cfo_spill@blm.gov, Kelsey

<<u>KWade@blm.gov</u>>, Amos, James A <<u>Jamos@blm.gov</u>>

All,

Please accept this email as 48-hr notification that Vertex Resource Services has scheduled remediation field activities and confirmatory sampling to be conducted at Black River Booster Station Riser #5 for the release that occurred on May 3, 2020, incident tracking # NRM2012930770.

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

On Monday, June 22, 2020 at approximately 7:00 a.m., Monica Peppin of Vertex will be onsite using field screening methods to guide remediation activities. This work is expected to last several days. Final confirmatory sampling will be conducted as the remediation activities finish up, beginning on the morning of Wednesday, June 24, 2020. If you have any questions or concerns regarding this notification, or need directions to the site, please give me a call at 505-506-0040.

Thank you, Natalie

Natalie Gordon

Project Manager

Vertex Resource Group Ltd. 213 S. Mesa Street Carlsbad, NM 88220

P 575.725.5001 ext 709 C 505.506.0040

www.vertex.ca

Confidentiality Notice: This message and any attachments are solely for the intended recipient and may contain confidential or privileged information. If you are not the intended recipient, any disclosure, copying, use, or distribution of the information included in this message and any attachment is prohibited. If you have received this communication in error, please notify us by reply email and immediately and permanently delete this message and any attachments. Thank you.

Natalie Gordon

From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>

Sent: Monday, May 4, 2020 10:02 AM

To: Natalie Gordon

Subject: Fwd: Notice of PW Release > 25bbls (Matador Production CompanY)

----- Forwarded message -----

From: Dhugal Hanton < vertexresourcegroupusa@gmail.com >

Date: Mon, May 4, 2020 at 10:01 AM

Subject: Re: Notice of PW Release > 25bbls (Matador Production Company)

To: Griswold, Jim, EMNRD < <u>iim.griswold@state.nm.us</u>>, Bratcher, Mike, EMNRD < <u>Mike.Bratcher@state.nm.us</u>>, Venegas, Victoria, EMNRD < <u>Victoria.Venegas@state.nm.us</u>>, Hamlet, Robert, EMNRD < <u>Robert.Hamlet@state.nm.us</u>>

All:

Sorry for the second email, but in reference to the phone call notification to Jim Griswold earlier and the 24-hour notification email of this PW release: This incident was from a San Mateo Midstream riser but because San Mateo Midstream does not have their own OGRID number with OCD, it is being submitted under Matador's name, which is the company used for these regulatory matters. I'm not sure this makes much difference in the long-run on reporting and cleanup, but San Mateo and Vertex want to assure that OCD has all of the most accurate information on these releases.

As always, if you have any questions, please let me know.

Thank you, Natalie

On Mon, May 4, 2020 at 8:43 AM Dhugal Hanton < vertexresourcegroupusa@gmail.com> wrote:

All:

Please accept this email as immediate notification on behalf of Matador Production Company of a produced water (PW) release that occurred on Sunday, May 3, 2020, at the #5 Riser of the Black River Booster Station. Coordinates for the general location are: 32.24646, -104.10155.

Yesterday morning, Sunday, May 3, 2020, Matador was notified that there was a release at the #5 riser of approximately 40-50 bbls of produced water onto the right of way. No produced water is believed to have been released into undisturbed areas. The surface land in this area is privately owned.

Vertex is in the process of delineating and remediating this release and uncovering more detailed information about the location and cause of release. An initial C-141 notification form will be submitted by Matador's environmental rep in the next few days followed by a closure report within 90 days.

If you have any questions or need additional information about this release, please don't hesitate to give me a call at 505-506-0040.

Thank you very much, Natalie

Natalie Gordon

Project Manager

Vertex Resource Group Ltd. 213 S. Mesa Street Carlsbad, NM 88220

P 575.725.5001 ext 709 C 505.506.0040 F

www.vertex.ca

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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 163800

CONDITIONS

Operator:	OGRID:
MATADOR PRODUCTION COMPANY	228937
One Lincoln Centre	Action Number:
Dallas, TX 75240	163800
	Action Type:
	[C-141] Release Corrective Action (C-141)

CONDITIONS

Created B	y Condition	Condition Date
rhamlet	We have received your closure report and final C-141 for Incident #NRM2012930770 BLACK RIVER BOOSTER STATION RISER #5, thank you. This closure is approved.	4/24/2023