VERTEX

April 14, 2023 Vertex Project #: 22E-00123-07

Spill Closure Report: Gill BGJ #1 (Section 29, Township 9 South, Range 35 East)
API: 30-025-37103
County: Lea
Incident Reports: nGRL1116854671 (1RP-2717), and nJXK1620138458

Prepared For: **EOG Resources, Inc.**
104 South 4th Street
Artesia, New Mexico 88210

New Mexico Oil Conservation Division - District 1
1625 North French Drive
Hobbs, NM 88240

EOG Resources, Inc. (EOG) retained Vertex Resource Services Inc. (Vertex) to conduct a Spill Assessment for two releases at Gill BGJ #1, API 30-025-37103 (hereafter referred to as "Gill"). The first incident was a release of produced water caused by a flowline break on pad, assigned Incident number nGRL1116854671, and Administrative Work Order 1RP-2717. The second was a release of crude oil due to equipment malfunction also on pad at Gill with corresponding Incident number nJXK1620138458. This letter provides a description of the Spill Assessment and Remediation Activities supervised by Vertex. The spill area is located at N 33.50238, W 103.38888.

Background

The site is located approximately 17 miles north of Tatum, New Mexico (Google Inc., 2022). The legal location for the site is Section 29, Township 9 South and Range 35 East in Lea County, New Mexico. The spill area is located on State property. Aerial photographs and site schematics are included in Attachment 1.

The *Geological Map of New Mexico* indicates the site's surface geology is comprised primarily of To - Ogallala Formation (lower Pleistocene to middle Miocene; New Mexico Bureau of Geology and Mineral Resources, 2021). Predominant soil texture on the site is Loamy. The Natural Resources Conservation Service *Web Soil Survey* characterizes the predominant soil texture on the site is Portales Loam. It tends to be well drained with negligible runoff and moderate available moisture levels in the soil profile (United States Department of Agriculture, Natural Resources Conservation Service, 2021).

The surrounding landscape is associated with interdunes, playa steps, and plains at elevations of 2,750 to 5,000 feet above sea level. The climate is semi-arid, with an annual precipitation ranging between 8 to 16 inches. Historically, the plant community has grassland aspect, dominated by grasses with forbs and a few woody shrubs. Sideoats grama and blue grama are dominant with a mixture of other grasses, mesquite, and forbs. Overgrazing and extended drought can reduce grass cover (United States Department of Agriculture, Natural Resources Conservation Service, 2021).

There is no surface water located on-site. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 Mexico Administrative Code (NMAC; New Mexico Oil Conservation Division, 2018), is the Pecos River located approximately 57 miles west of the site. There are no continuous flowing watercourses or significant watercourses, lakebeds, sinkholes, playa lakes, or other critical water or community features as outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

Incident Description

The first release, Incident nJXK1620138458, occurred on February 8, 2011, due to the knockout dumps not working properly causing a release from the production tanks. The spill report was received by NMOCD on February 23, 2011. The spill involved the release of approximately 20 bbl. of oil into the lined containment. Approximately 15 bbl. of free fluid was removed during initial spill clean-up.

The second release, 1RP-2717 occurred and was reported on March 29, 2011, due to a flowline break. The spill involved the release of approximately 25 barrels (bbl.) of produced water into the lined containment. Approximately 20 bbl. of free fluid was removed during initial spill clean-up.

Per the surface owner's instruction regarding incident NJXK1620138458, Micro-Blaze bio-remedial spill control liquids were applied to the overspray area at the time of the release in 2011. The overspray surface area was then fenced off to prevent disturbance from cattle grazing. During Vertex's initial on-site assessment, the area south of the tank battery was noted as having successfully revegetated. The Daily Field Report (DFR) for the initial site visit is included Attachment 3. No indications of remaining impacts were observed, and confirmation samples collected during the remedial excavation came back under reclamation closure criteria for the top 4 feet of soil.

Closure Criteria Determination

Groundwater determination was initially inferred using information from Oil and Gas Drilling records and the New Mexico Office of the State Engineer Water Column/Average Depth to Water report. The closest recorded depth to groundwater was determined to be 137 feet below ground surface (bgs) and 1.2 miles from the site (New Mexico Office of the State Engineer, New Mexico Water Rights Reporting System, 2022). All documentation used in Closure Criteria Determination research is included in Attachment 4. NMOCD incident records indicated that prior releases on the Gill having groundwater being accepted as greater than 100 ft.

The depth to groundwater for the site was initially confirmed on October 28, 2022, when a Vertex field technician gauged an active legacy well with the private surface owner's permission using an interface probe. This legacy water well is not found on the NMOSE database and contains no USGS measurement data, however it is on the same surface owner's property as the Gill and is within a reasonable distance (0.74 miles). Water was encountered at 148 feet below ground surface (bgs). Documentation for the site visit, gauging event, and well log can also be found in Attachment 4.

EOG received a denial for closure of this incident from NMOCD due to the groundwater data being outside of the 0.5-mile guidance requirement. In order to again affirm that groundwater is greater than 100 feet, further depth to groundwater data was collected by drilling a borehole permitted by the New Mexico Office of the State Engineer (NMOSE) within a 0.5-mile radius of the site. The borehole was drilled to a depth of 105 feet bgs and was left open as

per requirements on the WR-07 Application for Permit to Drill a Well with No Water Right. The borehole remained open for more than 72 hours to allow for infiltration of groundwater, then an interface probe was lowered into the bottom of the borehole to investigate if groundwater had accumulated. No water was detected, thus confirming that groundwater is greater than 100 feet. The borehole was then plugged as per requirements on the WR-08, Well Plugging Plan of Operations. The documentation that was used is included in Attachment 4.

Closure Criteria Worksheet				
Site Name: Gill BGJ #1				
Spill Coordinates:		**X: 33.50238**	**Y: -103.38888**	
Site Specific Conditions		**Value**	**Unit**	**Reference**
1	Depth to Groundwater	**>105**	feet	1
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	300,000	feet	2
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	4,203	feet	3
4	Within 300 feet from an occupied residence, school, hospital, institution or church	3,723	feet	4
5	i) Within 500 feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, **or**	3,723	feet	5
	ii) Within 1000 feet of any fresh water well or spring	3,723	feet	5
6	Within incorporated municipal boundaries or within a defined municipal fresh water field covered under a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978 as amended, unless the municipality specifically approves	No	(Y/N)	6
7	Within 300 feet of a wetland	61,184	feet	7
8	Within the area overlying a subsurface mine	No	(Y/N)	8
9	Within an unstable area (Karst Map)	Low	Critical High Medium Low	9
10	Within a 100-year Floodplain	Zone D "undetermined flood risk"	year	10
11	Soil Type	Portales Loam		11
12	Ecological Classification	Limy Upland		12
13	Geology	To		13
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	>100'	<50' 51-100' >100'	

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

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

	Constituent	Limit
0-4 feet bgs (19.15.29.13)	Chloride	600 mg/kg
	TPH (GRO+DRO+MRO)	100 mg/kg
DTGW > 100 feet (19.15.29.12)	Chloride	20,000 mg/kg
	TPH (GRO+DRO+MRO)	2,500 mg/kg
	GRO+DRO	1,000 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

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

Remedial Actions Taken

An initial site inspection of the spill area was completed on September 23, 2021, which identified the area of the spill specified in the initial C-141 Reports, estimated the approximate volume of the spill and white lined the area required for the 811 One Call request. The DFR associated with the site inspection is included in Attachment 3.

Site characterization was completed on November 6, 2021. A total of 18 sample points were established, and samples collected for field screening. Samples at the deepest vertical distance below closure criteria were submitted to the laboratory for analysis. In total, 38 samples were submitted to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico. The sample locations are presented in Figure 2 (Attachment 1). Laboratory analytical results are included in Table 2 (Attachment 2). The release was determined to be approximately 80 feet long and 85 feet wide; the total affected area was determined to be 4,907 square feet. The DFR associated with the site characterization is included in Attachment 4.

Remediation efforts began on October 13, 2022, and were completed on November 2, 2022. Vertex personnel supervised the excavation of impacted soils. Field screening results were used to identify areas requiring further remediation from those areas showing concentrations below determined closure criteria levels. Field screening consisted of analysis using a Dexsil Petroflag using EPA SW-846 Method 9074 (extractable hydrocarbons) and silver nitrate titration (chlorides). Soils were removed to a depth a maximum depth of 4 to 6 feet bgs. Impacted soil was transported by a licensed waste hauler and disposed of at an approved waste management facility. Field screening results are included in Attachment 2.

Notifications that confirmatory samples were being collected was provided to the NMOCD on October 6, 13, 20, and 31, 2022, and are included in Attachment 6. Confirmatory 5-point composite samples were collected from the base and walls of the excavation in 200 square foot increments. A total of 42 samples were sent in for laboratory analysis following NMOCD soil sampling procedures. Samples were submitted to Hall Environmental Analysis Laboratory in

Albuquerque, New Mexico for laboratory analysis under chain-of-custody (COC) protocols and analyzed for BTEX (EPA Method 8021B), total Petroleum hydrocarbons (GRO, DRO, MRO – EPA Method 8015D) and total chlorides (EPA Method 300.0). Laboratory results are presented in Table 3 (Attachment 2) and the laboratory data reports can be found in Attachment 6. All confirmatory samples collected and analyzed were below the closure criteria for the site. The confirmatory sample locations are presented in Figure 3 (Attachment 1).

Closure Request

The spill area was fully delineated, remediated on November 2, 2022, and has been backfilled with local soils procured from the private surface owner. Confirmatory samples were analyzed by the laboratory and found to be below allowable concentrations as per the New Mexico Administrative Code (NMAC) Closure Criteria for Soils Impacted by a Release locations "greater than 100 feet to groundwater". Based on these findings, EOG Resources, Inc. requests that these incidents be closed.

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

Chance Dixon

Chance Dixon, B. Sc.
PROJECT MANAGER, REPORTING

12/5/2023
Date

Attachments

Attachment 1. C-141 Reports
Attachment 2. Figures
Attachment 3. Tables
Attachment 4. Daily Field Reports with Photographs
Attachment 5. Closure Criteria
Attachment 6. Confirmatory Sampling Notifications to NMOCD
Attachment 7. Lab Reports with COCs

References

Google Inc. (2022). *Google Earth Pro* (Version 7.3.4) [Software]. Retrieved from http://www.google.com/earth on September 28, 2022.

New Mexico Bureau of Geology and Mineral Resources. (2022). *Interactive Geologic Map.* Retrieved from http://geoinfo.nmt.edu.

New Mexico Department of Surface Water Quality Bureau. (2022). *Assessed and Impaired Waters of New Mexico Report*. Retrieved from https://gis.web.env.nm.gov/oem/?map=swqb

New Mexico Mining and Minerals Division (2019). *Interactive Coal Mine Resources in New Mexico Map*. Retrieved from http://www.emnrd.state.nm.us/MMD/gismapminedata.html

New Mexico Office of the State Engineer, New Mexico Water Rights Reporting System. (2022). *Water Column/Average Depth to Water Report.* Retrieved from http://nmwrrs.ose.state.nm.us/nmwrrs/waterColumn.html

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United States Department of Agriculture, Natural Resources Conservation Service. (2021). *Web Soil Survey.* Retrieved from https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx.

United States Department of Homeland Security, FEMA Flood Map Service Center. (2020). *Flood Map Number 35025C0075D*. Retrieved from https://msc.fema.gov/portal/search?AddressQuery=malaga%20new%20mexico#searchresultsanchor

United States Department of the Interior, Bureau of Land Management. (2018). *New Mexico Cave/Karsts.* Retrieved from https://www.blm.gov/programs/recreation/recreation-programs/caves/new-mexico.

United States Fish and Wildlife Service. (2022). *National Wetlands Inventory Surface Waters and Wetland*. Retrieved from https://www.fws.gov/ wetlands/data/Mapper.html.

Limitations

This report has been prepared for the sole benefit of EOG Resources, Inc. (EOG). 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 EOG. 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
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	OGRID Number	Contact
Yates Petroleum Corporation	25575	Robert Asher
Address		Telephone No.
104 S. 4TH Street		575-748-1471
Facility Name	API Number	Facility Type
Gill BGJ #1	30-025-37103	Battery

Surface Owner	Mineral Owner	Lease No.
Fee		

LOCATION OF RELEASE API # 30-025-37163-00-00

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	29	9S	35E	1650	South	660	West	Lea

Latitude 33.50238 **Longitude** 103.38888

NATURE OF RELEASE WATER 91150

Type of Release	Volume of Release	Volume Recovered
Produced Water	25 B/PW	20 B/PW
Source of Release	Date and Hour of Occurrence	Date and Hour of Discovery
Flow line	3/29/2010, AM	3/29/2010, AM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Larry Hill/NMOCD I	
By Whom? Robert Asher/Yates Petroleum Corporation	Date and Hour 3/29/2011, PM	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

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

Describe Cause of Problem and Remedial Action Taken.*
Flow line break. Vacuum truck called.

Describe Area Affected and Cleanup Action Taken.*
An approximate area of 15' X 40' (south side of battery). Vacuum truck recovered remaining produced water. Vertical/horizontal delineation samples will be taken and analysis ran for TPH & BTEX, (chlorides for documentation). If initial analytical results for TPH & BTEX are under RRAL's a Final Report, C-141 will be submitted to the NMOCD requesting closure. **Depth to Ground Water: >100' (approx. 135', per ChevronTexaco Trend Map), Wellhead Protection Area: No, Distance to Surface Water Body: >1000', SITE RANKING IS 0. Based on enclosed analytical results (TPH & BTEX below RRAL's (Chlorides decreasing and for documentation) & impacted soils excavated, Yates Petroleum Corporation requests closure.**

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

Signature:

Printed Name: Robert Asher

Title: Environmental Regulatory Agent

E-mail Address: boba@yatespetroleum.com

Date: Monday, June 13, 2011 Phone: 575-748-4217

OIL CONSERVATION DIVISION

Approved by ~~District Supervisor~~ ENV ENGINEER:

Approval Date: 06/17/11 Expiration Date: 08/17/11

Conditions of Approval: SUBMIT FINAL C-141 BY 08/17/11
1RP-06-11-2717

Attached ☐
1RP-06-11-2717

* Attach Additional Sheets If Necessary

State of New Mexico
Oil Conservation Division

Incident ID	nGRL1116854671
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	>105 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	nGRL1116854671
District RP	
Facility ID	
Application ID	

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

Printed Name: Chase Settle Title: Rep Safety & Environmental Sr

Signature: Chase Settle Date: 12/6/2023

email: Chase_Settle@eogresources.com Telephone: 575-703-6537

OCD Only

Received by: _____ Date: _____

Incident ID	nGRL1116854671
District RP	
Facility ID	
Application ID	

Closure

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

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

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

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

☒ Description of remediation activities

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

Printed Name: Chase Settle Title: Rep Safety & Environmental Sr

Signature: Chase Settle Date: 12/6/2023

email: Chase_Settle@eogresources.com Telephone: 575-703-6537

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

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Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☒ Final Report

Name of Company	OGRID Number	Contact
Yates Petroleum Corporation	25575	Robert Asher
Address		Telephone No.
104 S. 4TH Street		575-748-1471
Facility Name	API Number	Facility Type
Gill BGJ #1	30-025-37103	Battery

Surface Owner	Mineral Owner	Lease No.
Fee		

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	29	19S	35E	1650	South	660	West	Lea

Latitude 33.50238 **Longitude** 103.38888

NATURE OF RELEASE

Type of Release	Volume of Release	Volume Recovered
Oil	20 B/O	15 B/O
Source of Release	Date and Hour of Occurrence	Date and Hour of Discovery
Production Tank	2/8/2010, PM	2/8/2010, PM
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom? N/A	
By Whom? N/A	Date and Hour N/A	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

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

Describe Cause of Problem and Remedial Action Taken.*
Equipment malfunction (knockout dumps not working properly) caused release on production tank. Vacuum truck called.

Describe Area Affected and Cleanup Action Taken.*
An approximate area of 15' X 40' (south side of battery) & 100' X 100' (overspray outside of fence on fee surface). Vacuum truck recovered oil inside bermed/lined battery, because of high winds at time of release approximately 5 B/O were not recovered and impacted area south of battery. Those soils were excavated at a depth of 6" and taken to an NMOCD approved facility. Initial samples taken and analysis ran for TPH & BTEX, based on results an additional 12" of impacted soils being excavated and taken to an NMOCD approved facility. Per the fee surface owner, Yates has been instructed to fence off overspray area, and microblaze applied, the area will be monitored and remediated per surface owner's request. **Depth to Ground Water: >100' (approx. 135', per ChevronTexaco Trend Map), Wellhead Protection Area: No, Distance to Surface Water Body: >1000', SITE RANKING IS 0. Based on enclosed analytical results, impacted soils excavated/removed, battery lined, Yates Petroleum Corporation requests closure.**

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

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Robert Asher	Approved by District Supervisor:	
Title: Environmental Regulatory Agent	Approval Date:	Expiration Date:
E-mail Address: boba@yatespetroleum.com	Conditions of Approval:	Attached ☐
Date: Monday, February 21, 2011 Phone: 575-748-4217	1RP-	

* Attach Additional Sheets If Necessary

State of New Mexico
Oil Conservation Division

Incident ID	NJXK1620138458
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	>105 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
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Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
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Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	NJXK1620138458
District RP	
Facility ID	
Application ID	

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

Printed Name: Chase Settle Title: Rep Safety & Environmental Sr

Signature: Chase Settle Date: 12/6/2023

email: Chase_Settle@eogresources.com Telephone: 575-703-6537

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	NJXK1620138458
District RP	
Facility ID	
Application ID	

Closure

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

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

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

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

☒ Description of remediation activities

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

Printed Name: Chase Settle Title: Rep Safety & Environmental Sr

Signature: Chase Settle Date: 12/6/2023

email: Chase_Settle@eogresources.com Telephone: 575-703-6537

OCD Only

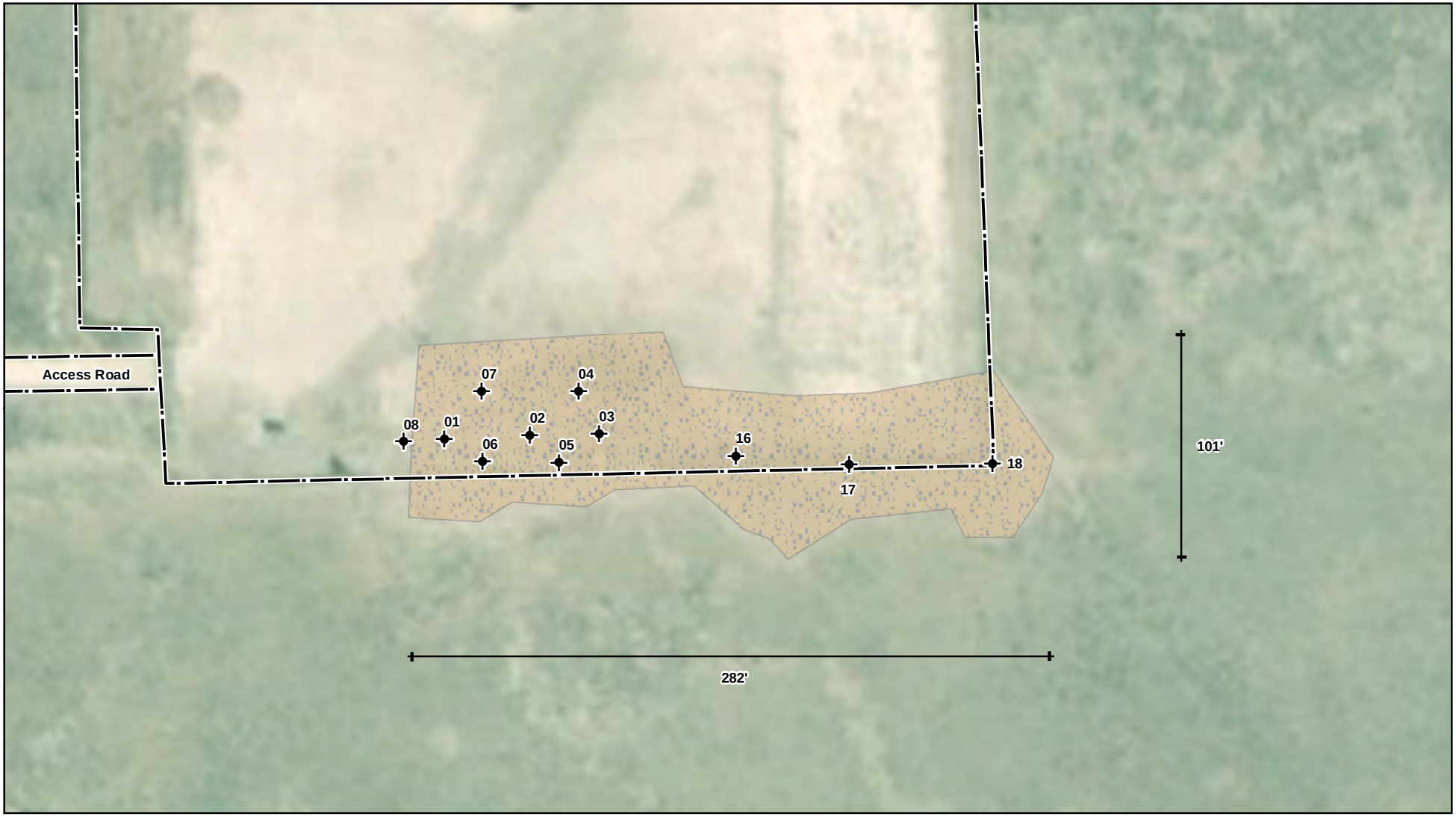
Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

ATTACHMENT 2



Borehole (Prefixed by "BH21-")

Approximate Lease Boundary

Bare Area (17,518 sq. ft.)

VERTEX

0 10 20 40 60 ft

Map Center:
Lat/Long: 33.502067, -103.389162

NAD 1983 UTM Zone 13N
Date: Nov 17/21

N

Initial Sampling Schematic
Gill BGJ #1

FIGURE:
1

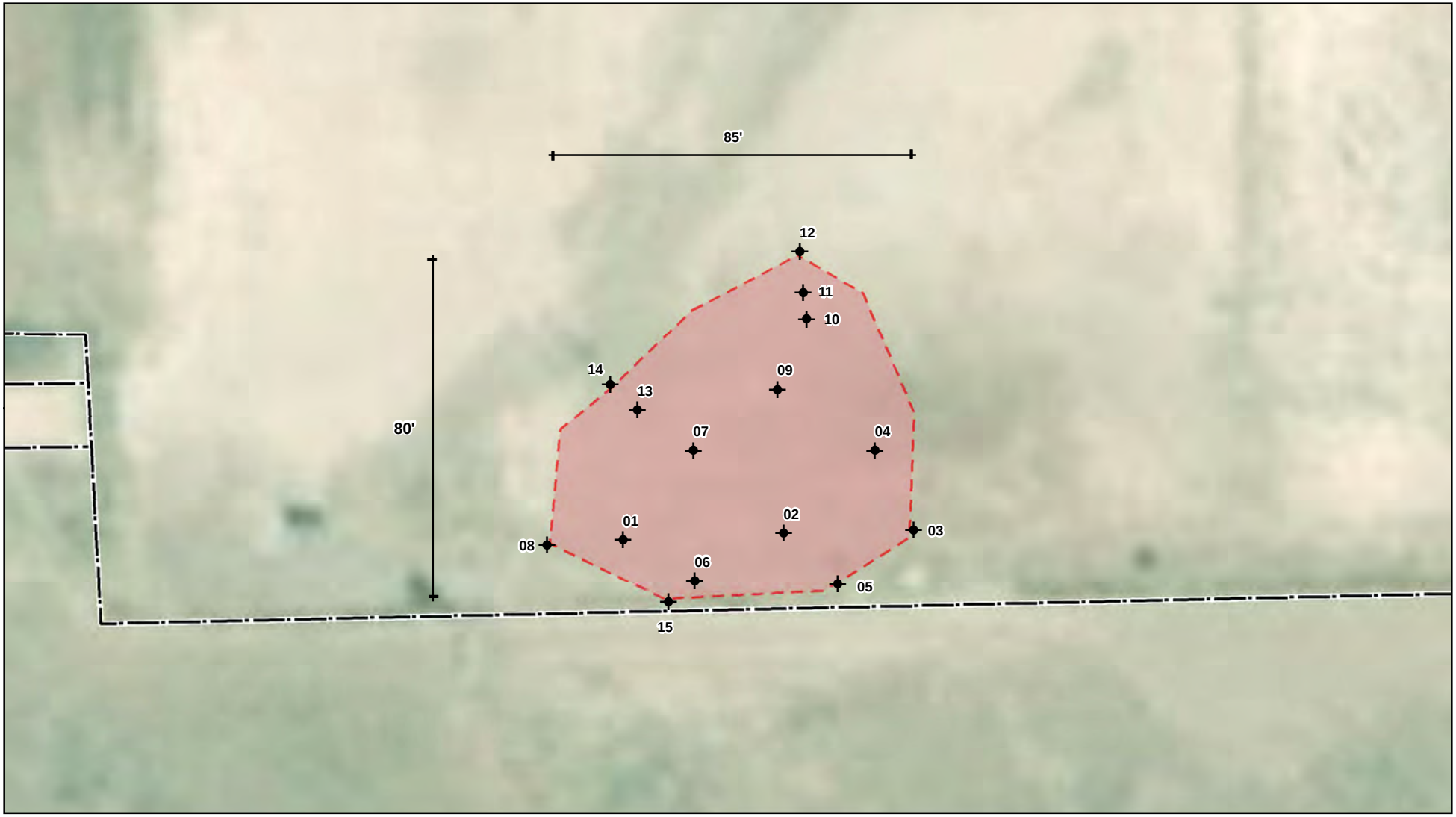
eog resources

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

Note: Imagery from ESRI, 2020. Borehole locations from GPS, Vertex Professional Services, Ltd., 2021.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\EOG Resources Inc\21E-03278\007 - Gill BGJ #1\Figure 1 Initial Sampling Schematic Gill BGJ #1.mxd



Borehole (Prefixed by "BH21-")

Approximate Spill Extent (4,907 sq. ft.)

Approximate Lease Boundary

VERTEX

0 5 10 20 30 ft

Map Center:
Lat/Long: 33.502119, -103.389487

NAD 1983 UTM Zone 13N

Date: Nov 17/21

N

Characterization Schematic
Gill BGJ #1

FIGURE:
2

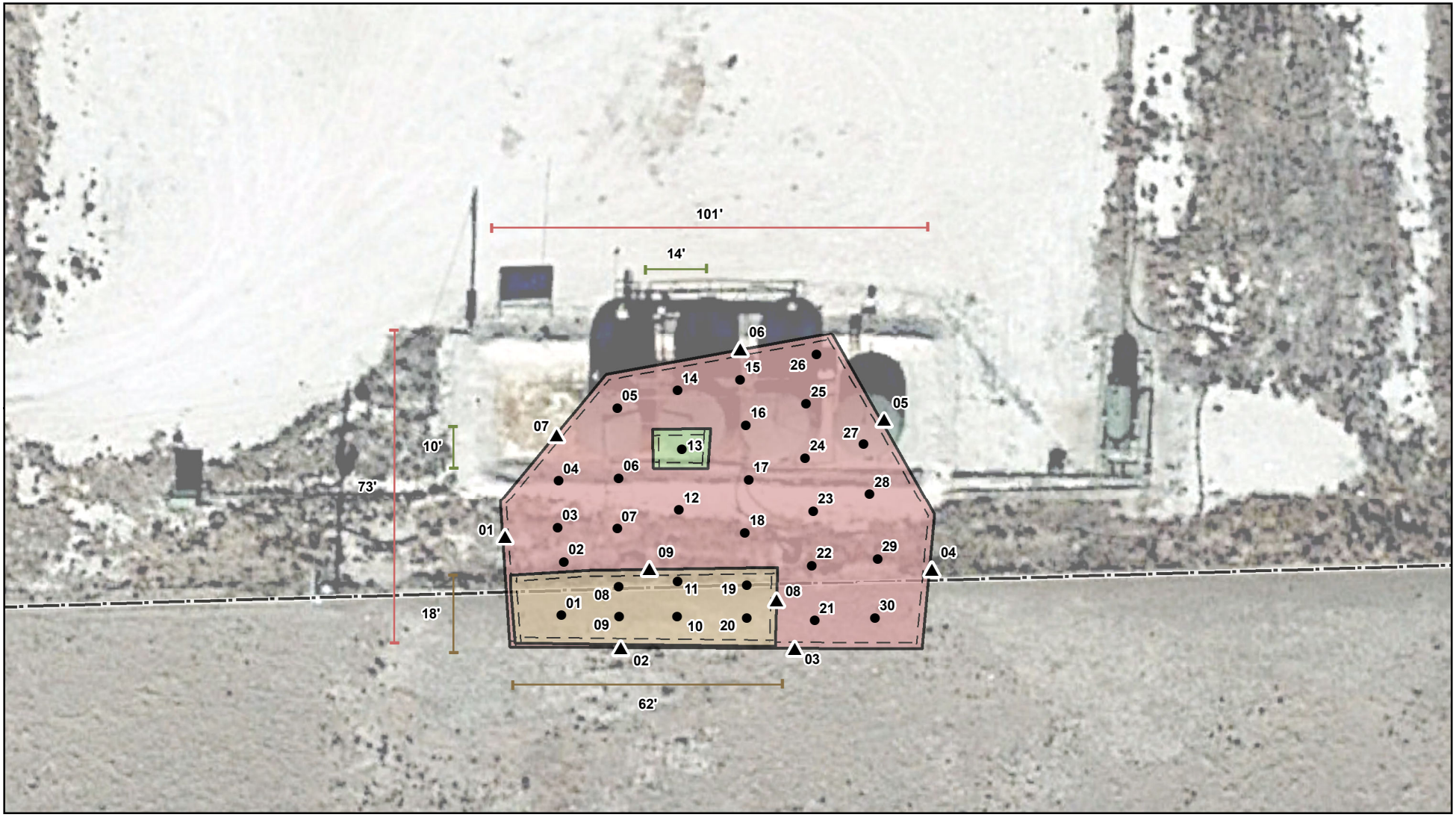
eog resources

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

Note: Imagery from ESRI, 2020. Borehole locations from GPS, Vertex Professional Services, Ltd., 2021.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\EOG Resources Inc\21E-03278\007 - Gill BGJ #1\Figure 2 Characterization Schematic Gill BGJ #1.mxd



● Base Sample (Prefixed with "WES22-")

▲ Wall Sample (Prefixed with "BES22-")

4' Excavation (~5,934 sq. ft.)

5' Excavation (~120 sq. ft.)

6' Excavation (~1,067 sq. ft.)

Approximate Lease Boundary

VERTEX

0 5 10 20 feet

Map Center:
Lat/Long: 33.502113, -103.389410

NAD 1983 UTM Zone 13N
Date: Nov 07/22

N

Confirmation Schematic
Gill BGJ #1

FIGURE:
3

eog resources

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

Note: Background imagery from Google Earth, 2018. Features from GPS. Vertex Professional Services Ltd., 2022.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\EOG Resources Inc\22E-001230\007 - Gill BGJ #1\007 - Gill BGJ #1\Figure 3 Confirmation Schematic Gill BGJ #1.mxd

ATTACHMENT 3

Client Name: EOG Resources, Inc.
Site Name: Gill BGJ #1
NM OCD Tracking #: nGRL1116854671, nJXK1620138458
Project #: 22E-00123-07
Lab Reports: 2109D89, 2110611, 2111430

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

Sample Description			Field Screening			Petroleum Hydrocarbons						Inorganic
						Volatile		Extractable				
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BH21-01	0	2021-09-24	-	-	**1,847**	ND	ND	ND	35	ND	35	**1500**
	0.5	2021-09-24	-	-	**1,610**	-	-	-	-	-	-	-
	1	2021-09-24	-	-	**1,150**	ND	ND	ND	19	ND	19	**750**
	2	2021-09-24	-	-	**1,580**	ND	ND	ND	ND	ND	ND	**610**
	2.5	2021-10-11	1	23	147	ND	ND	ND	ND	ND	ND	74
BH21-02	0	2021-09-24	-	-	**2,075**	ND	ND	ND	**120**	**150**	**270**	**1400**
	0.5	2021-09-24	-	-	**972**	-	-	-	-	-	-	-
	1	2021-09-24	-	-	**1,195**	ND	ND	ND	14	ND	14	**780**
	2	2021-09-24	-	-	**1,305**	ND	ND	ND	ND	ND	ND	**720**
	3	2021-10-11	0	9	580	ND	ND	ND	ND	ND	ND	330
	4	2021-10-11	0	13	475	-	-	-	-	-	-	-
BH21-03	0	2021-09-24	-	-	522	ND	ND	ND	88	93	**181**	270
	0.5	2021-09-24	-	-	490	-	-	-	-	-	-	-
	1	2021-09-24	-	-	**740**	ND	ND	ND	46	ND	46	470
BH21-04	0	2021-09-24	-	-	**2,475**	ND	ND	ND	86	**110**	**196**	**1400**
	0.5	2021-09-24	-	-	**797**	-	-	-	-	-	-	-
	1	2021-09-24	-	-	**1,257**	ND	ND	ND	61	80	**141**	580
	2	2021-09-24	-	-	**1,937**	ND	ND	ND	29	ND	29	**1100**
	3	2021-10-11	**396**	**550**	**4,477**	-	-	-	-	-	-	-
	4	2021-10-11	**279**	**290**	**1,242**	ND	46.2	**1700**	**620**	58	**2378**	**890**
	5	2021-10-11	**319**	250	830	-	-	-	-	-	-	-
	6	2021-10-11	19	340	767	-	-	-	-	-	-	-
	6.5	2021-10-11	11	100	571	ND	ND	ND	ND	ND	ND	330
BH21-05	0	2021-09-24	-	-	280	ND	ND	ND	ND	ND	ND	ND
	0.5	2021-09-24	-	-	252	-	-	-	-	-	-	-
	1	2021-09-24	-	-	242	ND	ND	ND	ND	ND	ND	ND
BH21-06	0	2021-09-24	-	-	235	ND	ND	ND	ND	ND	ND	ND
	0.5	2021-09-24	-	-	297	-	-	-	-	-	-	-
	1	2021-09-24	-	-	232	ND	ND	ND	ND	ND	ND	ND
	1.5	2021-09-24	-	-	120	ND	ND	ND	56	98	**154**	ND
BH21-07	0	2021-09-24	-	-	97	ND	ND	ND	65	75	**140**	ND
	0.5	2021-09-24	-	-	125	-	-	-	-	-	-	-
	1	2021-09-24	-	-	97	ND	ND	ND	86	**110**	**196**	ND
	2	2021-09-24	-	-	142	ND	ND	ND	ND	ND	ND	ND
BH21-08	0	2021-09-24	-	-	225	ND	ND	ND	ND	ND	ND	ND
	0.5	2021-09-24	-	-	200	-	-	-	-	-	-	-
	1	2021-09-24	-	-	245	ND	ND	ND	ND	ND	ND	78
BH21-09	0	2021-10-11	0	**566**	177	ND	ND	ND	**100**	85	**185**	66
	1	2021-10-11	0	31	277	ND	ND	ND	ND	ND	ND	87
	2	2021-10-11	0	24	172	-	-	-	-	-	-	-
	3	2021-10-11	0	18	210	-	-	-	-	-	-	-

Table 2. Initial Characterization Sample Field Screen and Laboratory Results - Depth to Groundwater >100 feet bgs														
Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic	
						Volatile		Extractable						
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration		
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)		
BH21-10	0	2021-10-11	1	**518**	527	-	-	-	-	-	-	-		
	1	2021-10-11	1	**485**	512	-	-	-	-	-	-	-		
	2	2021-10-11	1	**385**	525	-	-	-	-	-	-	-		
	3	2021-10-11	0	86	362	-	-	-	-	-	-	-		
	4	2021-10-11	0	9	117	-	-	-	-	-	-	-		
BH21-11	0	2021-10-11	1	**316**	285	ND	ND	ND	33	ND	33	ND		
	1	2021-10-11	1	12	257	ND	ND	ND	ND	ND	ND	68		
	2	2021-10-11	1	11	540	-	-	-	-	-	-	-		
	3	2021-10-11	0	47	552	-	-	-	-	-	-	-		
	4	2021-10-11	0	28	260	-	-	-	-	-	-	-		
BH21-12	0	2021-10-12	1	25	247	ND	ND	ND	ND	ND	ND	82		
	1	2021-10-12	0	17	260	-	-	-	-	-	-	-		
	2	2021-10-12	0	16	352	ND	ND	ND	ND	ND	ND	140		
	3	2021-10-12	0	8	325	-	-	-	-	-	-	-		
	4	2021-10-12	0	33	347	-	-	-	-	-	-	-		
BH21-13	0	2021-10-12	0	**337**	110	-	-	-	-	-	-	-		
	1	2021-10-12	0	23	67	-	-	-	-	-	-	-		
	2	2021-10-12	0	18	110	-	-	-	-	-	-	-		
	3	2021-10-12	0	10	95	-	-	-	-	-	-	-		
BH21-14	0	2021-10-12	1	**124**	105	ND	ND	ND	ND	ND	ND	73		
	1	2021-10-12	0	17	345	-	-	-	-	-	-	-		
	2	2021-10-12	0	15	320	ND	ND	ND	ND	ND	ND	150		
	3	2021-10-12	0	6	315	-	-	-	-	-	-	-		
BH21-15	0	2021-10-12	1	30	557	-	-	-	-	-	-	250		
	1	2021-10-12	0	47	375	-	-	-	-	-	-	-		
	2	2021-10-12	0	**114**	482	ND	ND	ND	27	ND	27	460		
BH21-16	0.5	2021-11-06	1	86	0	ND	ND	ND	ND	ND	ND	ND		
BH21-17	0.5	2021-11-06	1	74	0	ND	ND	ND	ND	ND	ND	ND		
BH21-18	0.5	2021-11-06	1	91	421	ND	ND	ND	ND	ND	ND	220		

"ND" Not Detected at the Reporting Limit
"-" indicates not analyzed/assessed
Bold and grey shaded indicates exceedance outside of NMOCD Reclamation Closure Criteria

Client Name: EOG Resources, Inc.
Site Name: Gill BGJ #1
NMOCD Tracking #: nGRL1116854671, nJXK1620138458
Project #: 22E-00123-07
Lab Reports: 2210929, 2210B02, 2210C44, 2210C45, 2210D54, 2211147

Table 3. Confirmatory Sample Field Screen and Laboratory Results - Depth to Groundwater >100 feet bgs

Sample Description					Petroleum Hydrocarbons							Inorganic
					Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
WES22-01	0-4'	10/17/22	165	245	ND	ND	ND	84	ND	84	84	210
	4-6'	10/25/22	352	195	ND	ND	ND	76	52	76	128	380
WES22-02	0-4'	10/17/22	84	130	ND	ND	ND	ND	ND	ND	ND	84
	4-6'	10/25/22	160	185	ND	ND	ND	59	ND	59	59	150
WES22-03	0-4'	10/17/22	111	75	ND	ND	ND	ND	ND	ND	ND	ND
WES22-04	0-4'	10/17/22	185	165	ND	ND	ND	57	ND	57	57	120
WES22-05	0-4'	10/19/22	151	308	ND	ND	ND	53	ND	53	53	320
WES22-06	0-4'	10/24/22	12	150	ND	ND	ND	ND	ND	ND	ND	89
WES22-07	0-4'	10/19/22-	41	113	ND	ND	ND	ND	ND	ND	ND	68
WES22-08	4-6'	10/25/22	206	100	ND	ND	ND	36	ND	36	36	150
WES22-09	4-6'	10/25/22	192	205	ND	ND	ND	51	ND	51	51	68
BES22-01	6'	10/24/22	687	245	ND	ND	ND	210	91	210	301	250
BES22-02	4'	10/20/22	68	50	ND	ND	ND	ND	ND	ND	ND	ND
BES22-03	4'	10/20/22	43	50	ND	ND	ND	ND	ND	ND	ND	ND
BES22-04	4'	10/20/22	57	150	ND	ND	ND	ND	ND	ND	ND	100
BES22-05	4'	10/24/22	539	113	ND	ND	ND	530	110	530	640	200
BES22-06	4'	10/20/22	134	60	ND	ND	ND	130	63	130	193	ND
BES22-07	4'	10/20/22	156	50	ND	ND	ND	61	ND	60	60	ND
BES22-08	6'	10/24/22	266	280	ND	ND	ND	70	ND	70	70	ND
BES22-09	6'	10/24/22	499	300	ND	ND	ND	340	140	340	480	510
BES22-10	6'	10/24/22	135	300	ND	ND	ND	59	ND	59	59	510
BES22-11	6'	10/24/22	0	478	ND	ND	ND	68	ND	68	68	180
BES22-12	4'	10/20/22	25	370	ND	ND	ND	ND	ND	ND	ND	360
BES22-13	5'	11/02/22	269	330	ND	ND	ND	340	540	340	880	230
BES22-14	4'	10/24/22	192	453	ND	ND	28	700	100	728	828	390
BES22-15	4'	10/24/22	459	480	ND	ND	ND	630	150	630	780	380
BES22-16	4'	10/24/22	258	505	ND	ND	ND	200	84	200	284	170
BES22-17	4'	10/24/22	87	425	ND	ND	ND	87	ND	87	87	490
BES22-18	4'	10/24/22	150	310	ND	ND	ND	120	51	120	171	470
BES22-19	6'	10/24/22	218	180	ND	ND	ND	150	68	150	218	76
BES22-20	6'	10/24/22	55	195	ND	ND	ND	19	ND	19	19	340
BES22-21	4'	10/25/22	171	150	ND	ND	ND	37	ND	37	37	150
BES22-22	4'	10/25/22	326	295	ND	ND	ND	89	49	89	138	390
BES22-23	4'	10/25/22	382	355	ND	ND	ND	130	96	130	226	280
BES22-24	4'	10/25/22	233	340	ND	ND	ND	49	ND	49	49	200
BES22-25	4'	10/25/22	455	400	ND	ND	ND	730	120	730	850	240
BES22-26	4'	10/25/22	430	370	ND	ND	ND	380	130	380	510	230
BES22-27	4'	10/25/22	207	225	ND	ND	ND	140	ND	140	140	330
BES22-28	4'	10/25/22	314	333	ND	ND	ND	57	ND	57	57	770
BES22-29	4'	10/25/22	348	313	ND	ND	ND	49	ND	49	49	300
BES22-30	4'	10/25/22	47	220	ND	ND	ND	ND	ND	ND	ND	120

"ND" Not Detected at the Reporting Limit
"-" indicates not analyzed/assessed

ATTACHMENT 4

Daily Site Visit Report

Client:	EOG Resources Inc.	Inspection Date:	9/23/2021
Site Location Name:	Gill BGJ #1	Report Run Date:	9/24/2021 4:23 PM
Client Contact Name:	Chase Settle	API #:	
Client Contact Phone #:	575-703-6537		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	9/23/2021 7:35 AM
Departed Site	9/23/2021 3:57 PM

Field Notes

7:36 Site has been reclaimed. Vegetation has come back. Site does have a few bare spots. South area where tank battery was located will be sampled for potential contamination

11:28 Dark loamy type soil. No odors. Area in front of pad contains more rock that was turned over and a right of way is behind where containment was located

13:50 Hard layer being hit with hand auger at 2 ft. Potential to use geoprobe to break through and sample deeper

14:01 Samples at 2 feet are lighter in color and very sticky and clay like mixed with cobbles

15:40 Mapped out the area that has minimal vegetation or bare. Sending samples to lab to get idea of the area and potential contamination

Next Steps & Recommendations

1 Send samples for lab analysis

2 Determine sampling plan with geoprobe

Daily Site Visit Report

Site Photos

Viewing Direction: North

Reclaimed area where tanks were located

Viewing Direction: West

Old pad area

Viewing Direction: North

Area sampled

Viewing Direction: North

Area sampled

Daily Site Visit Report

Viewing Direction: North	**Viewing Direction**: West
	
Area sampled	Area sampled
Viewing Direction: East	**Viewing Direction**: West
	
Reclaimed area	Reclaimed area

Daily Site Visit Report

Viewing Direction: South	**Viewing Direction**: East
	
Reclaimed area	Reclaimed area north of tanks
Viewing Direction: North	**Viewing Direction**: West
	
Reclaimed area pictured is South of former TB	Reclaimed area

Daily Site Visit Report

Viewing Direction: North	**Viewing Direction**: Southeast
	
East area of pad	East corner of pad

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Monica Peppin

Signature:

Daily Site Visit Report

Client:	EOG Resources Inc.	Inspection Date:	10/25/2022
Site Location Name:	Gill BGJ #1	Report Run Date:	10/25/2022 10:40 PM
Client Contact Name:	Chase Settle	API #:	
Client Contact Phone #:	575-703-6537		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	10/25/2022 9:15 AM
Departed Site	10/25/2022 1:30 PM

Field Notes

9:27 On site, safety meeting complete. Gathering sampling materials and mapping sample points

9:49 Re-mapped polygon

9:50 Beginning sample collection with WES22-01 4-6’

12:04 Completed field screens on all samples. Preparing them for lab

Next Steps & Recommendations

1 Send all confirmation samples to lab

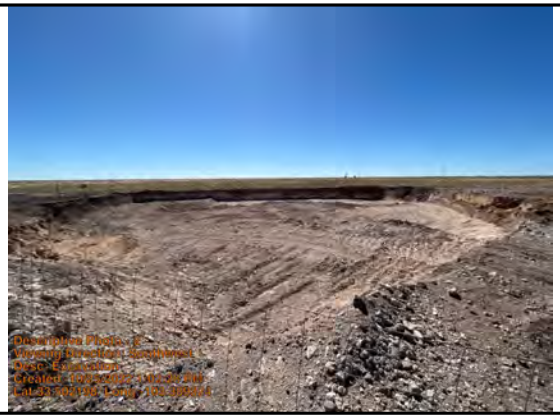
Daily Site Visit Report

Site Photos

Viewing Direction: Southeast

Excavation

Viewing Direction: Southwest



Excavation

Viewing Direction: West

Excavation

Viewing Direction: East

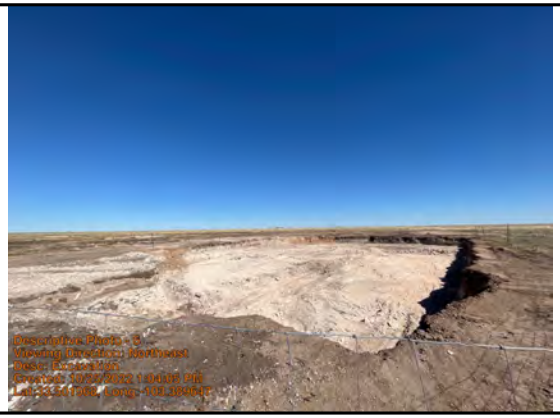
6' bgs area

Daily Site Visit Report

Viewing Direction: Northwest

Excavation

Viewing Direction: Northeast



Excavation

Viewing Direction: East

Excavation with capped line

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Sally Carttar

Signature: 

Daily Site Visit Report

Client:	EOG Resources Inc.	Inspection Date:	3/30/2023
Site Location Name:	Gill BGJ #1	Report Run Date:	4/13/2023 4:19 PM
Client Contact Name:	Chase Settle	API #:	
Client Contact Phone #:	575-703-6537		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	3/30/2023 11:30 AM
Departed Site	3/30/2023 12:30 PM

Field Notes

11:41 Arrived on site to gauge the DTGW borehole.

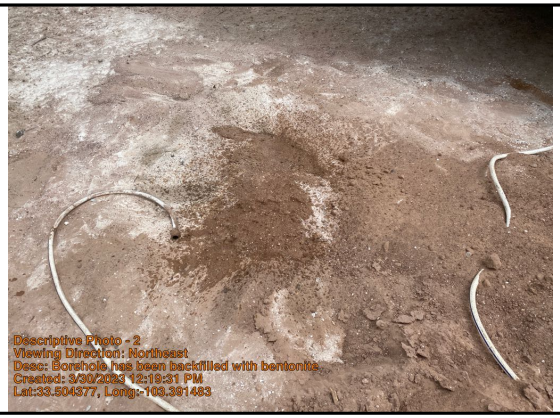
11:43 Borehole has been gauged at 105’ with no water detected. Borehole is not as deep as before due to sand caving in at the bottom

Next Steps & Recommendations

1 Put bore logs into closure report

Daily Site Visit Report

Site Photos

Viewing Direction: South	**Viewing Direction**: Northeast
	
Borehole gauged	Borehole has been backfilled with bentonite

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Chance Dixon

Signature: 

Signature

ATTACHMENT 5

VERTEX

Depth to Ground Water Determination Well Log

Client Name: EOG Resources, Inc.	**Exploratory Borehole Location: 33.504322°, -103.391452°**	**Borehole Diameter (in): 8 inches**
Project Number: 22E-00123-07	**Instrument used to determine DTGW: Solinst Interface Probe**	**Depth to Water (ft): N/A**
Project Name: Gill BGJ #1	**Checked by: Chance Dixon**	**Elevation (ft): 4,165 Feet**
Project Location: Lea County	**Drill Date: March 21, 2023 Plug Date: March 30, 2023**	**Elevation of Water (ft):**

Top of Well and Depth in Ft (Below)	8 inch Well Diameter	Notes and Pictures
0-4 Ft	Brown Topsoil	No water was encountered at 105 feet bgs. All drilling and plugging activities were consistent with the approved plans.
4-18 Ft	White Caliche	
18-35 Ft	White Hard Caliche	
35-70 Ft	Brown Fine Sand	
70-80 Ft	Red Clay	
80-105 Ft	Brown Sandstone	

PLUGGING RECORD

NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

I. GENERAL / WELL OWNERSHIP:

State Engineer Well Number: L-15443 POD 1

Well owner: EOG Resources Phone No.: _____

Mailing address: 104 South 4th Street

City: Artesia State: New Mexico Zip code: 88210

II. WELL PLUGGING INFORMATION:

1) Name of well drilling company that plugged well: Vision Resources

2) New Mexico Well Driller License No.: 1833 Expiration Date: 88210

3) Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Jason Maley

4) Date well plugging began: 3-30-23 Date well plugging concluded: 3-30-23

5) GPS Well Location: Latitude: 33 deg, 30 min, 15.55 sec
Longitude: 103 deg, 23 min, 29.24 sec, WGS 84

6) Depth of well confirmed at initiation of plugging as: 105 ft below ground level (bgl), by the following manner: Tape

7) Static water level measured at initiation of plugging: NA ft bgl

8) Date well plugging plan of operations was approved by the State Engineer: 3/21/2023

9) Were all plugging activities consistent with an approved plugging plan? Yes If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed):

Version: September 8, 2009
Page 1 of 2

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
0	155	155	Open Hole		
Bentonite Chips					
105					

MULTIPLY		BY		AND OBTAIN
cubic feet	x	7.4805	=	gallons
cubic yards	x	201.97	=	gallons

III. SIGNATURE:

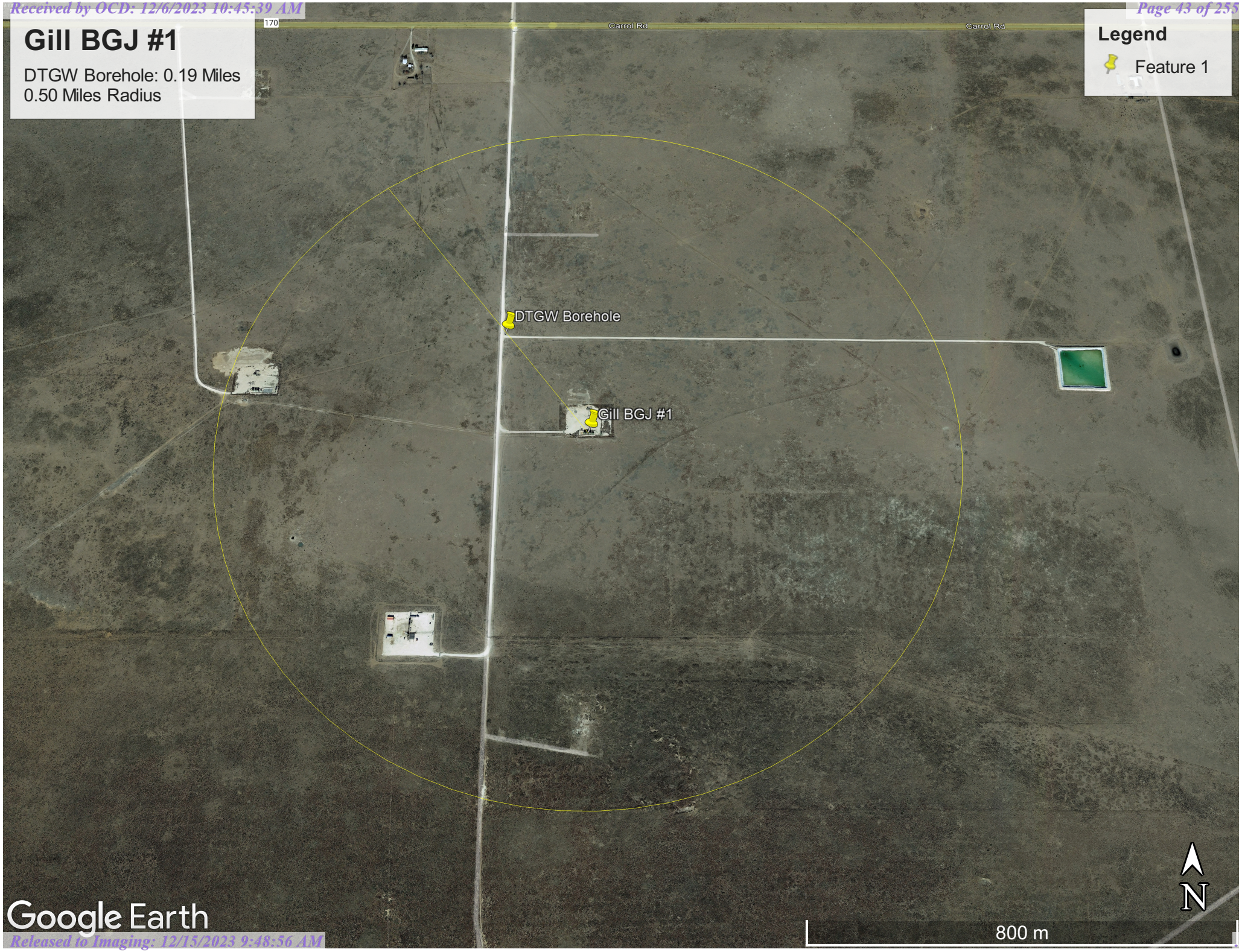
I, Jason Maley , say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

Signature of Well Driller

3-31-2023
Date

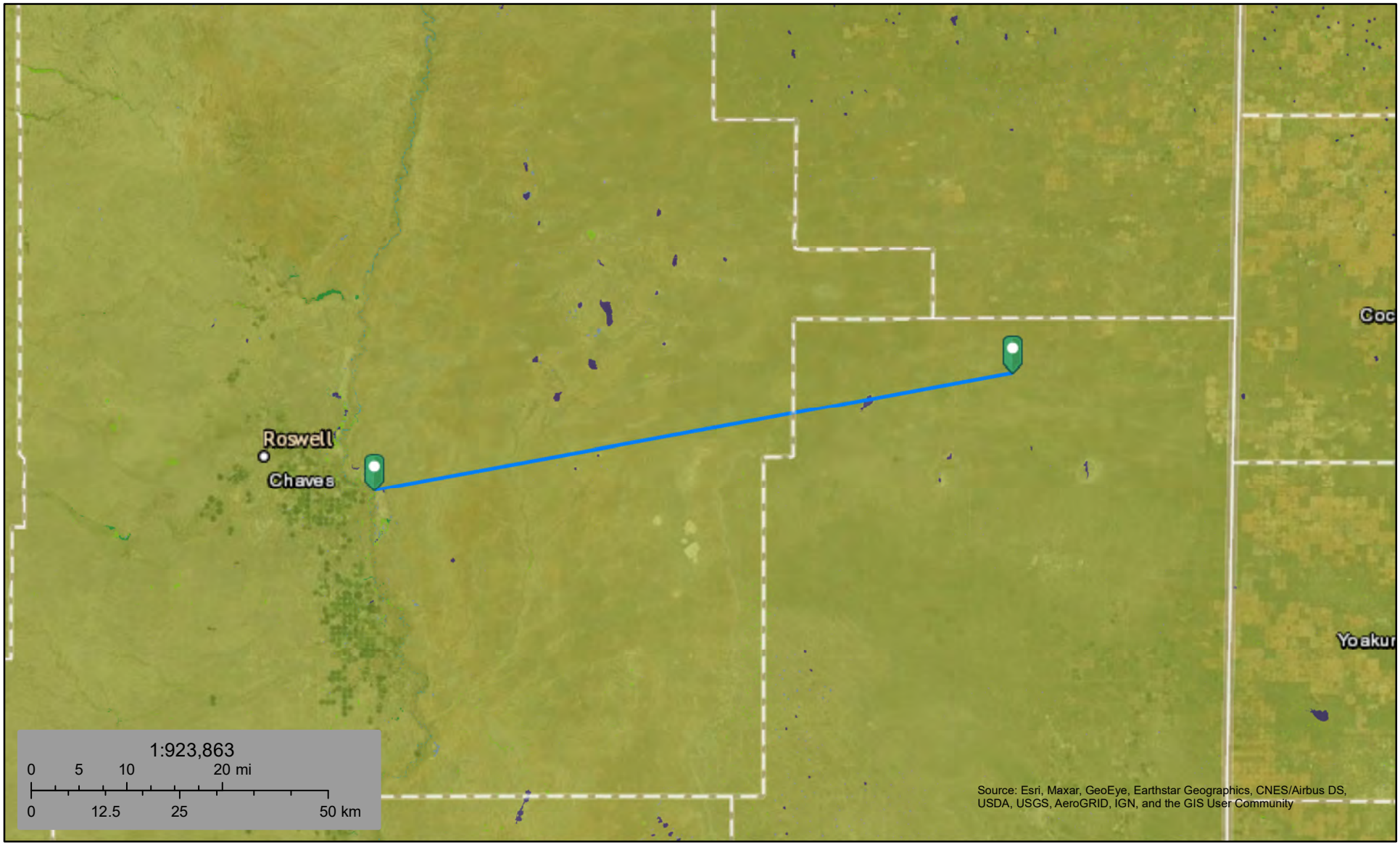
Gill BGJ #1

DTGW Borehole: 0.19 Miles
0.50 Miles Radius



U.S. Fish and Wildlife Service
National Wetlands Inventory

Gill Watercourse 300,000ft



September 10, 2021

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

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

U.S. Fish and Wildlife Service

National Wetlands Inventory

Gill Lake 4,203ft

September 10, 2021

Wetlands

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

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

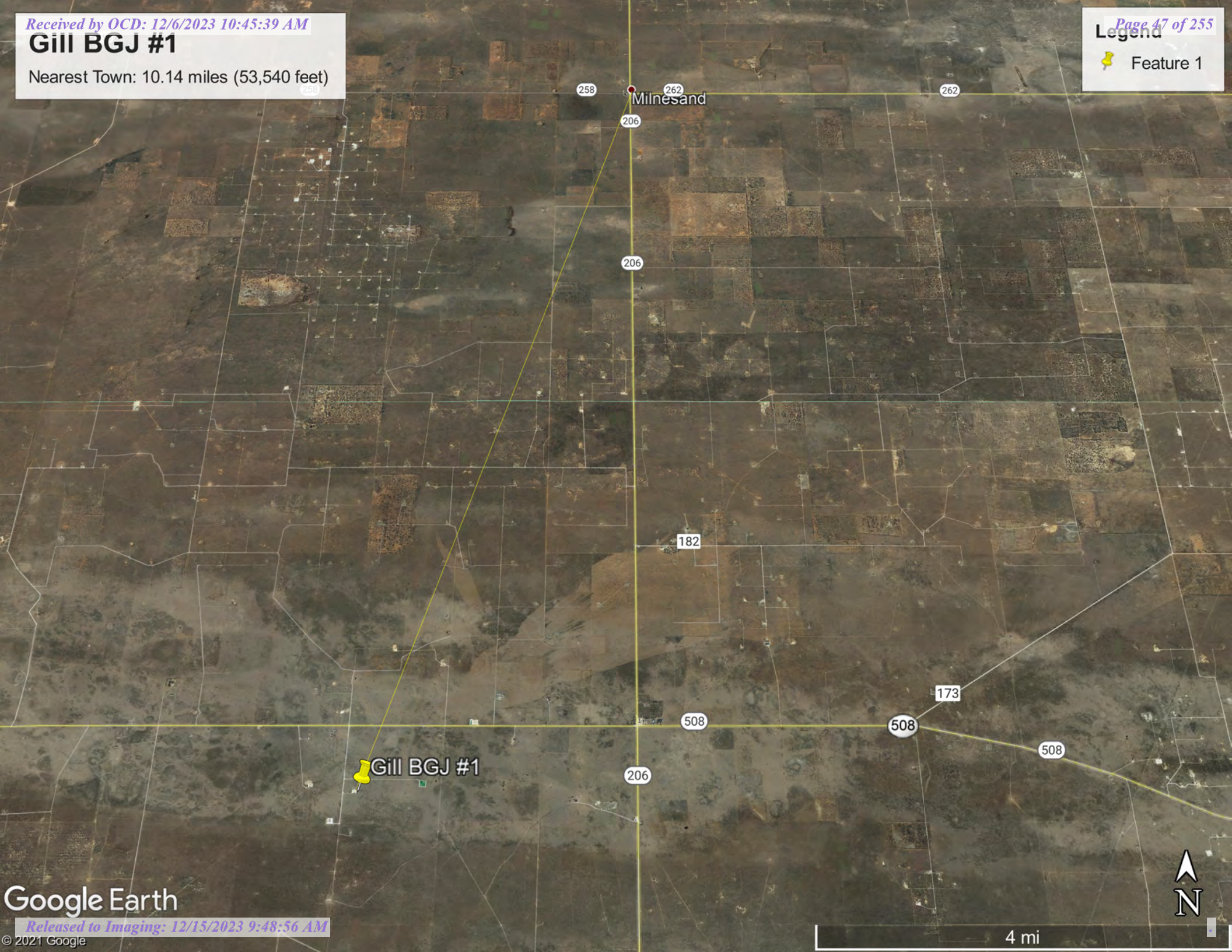
National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Gill BGJ #1

Nearest Residence: 0.70 miles (3,723 feet)

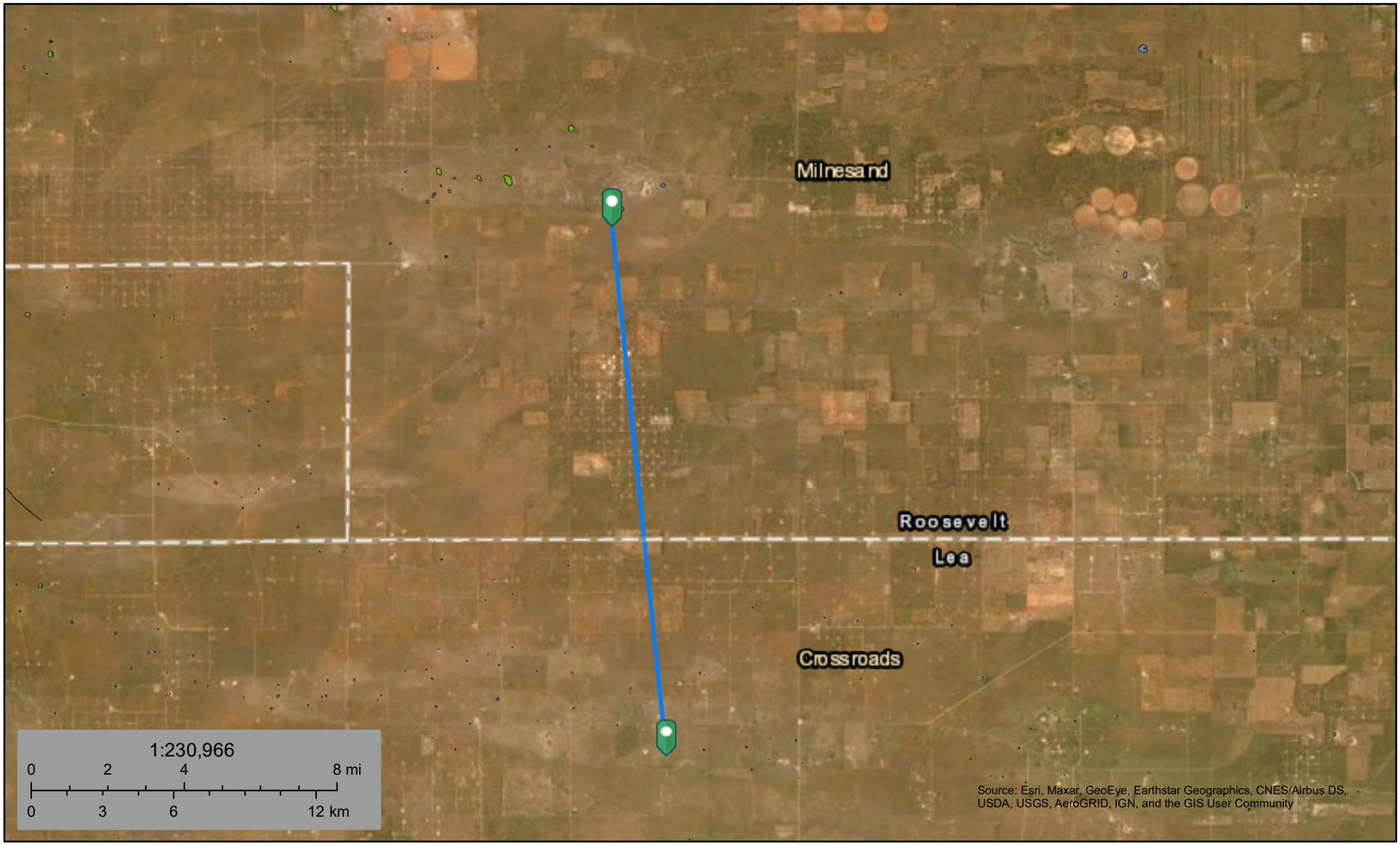
Gill BGJ #1

Nearest Town: 10.14 miles (53,540 feet)



U.S. Fish and Wildlife Service
National Wetlands Inventory

Gill Wetland 61,184ft



September 10, 2021

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
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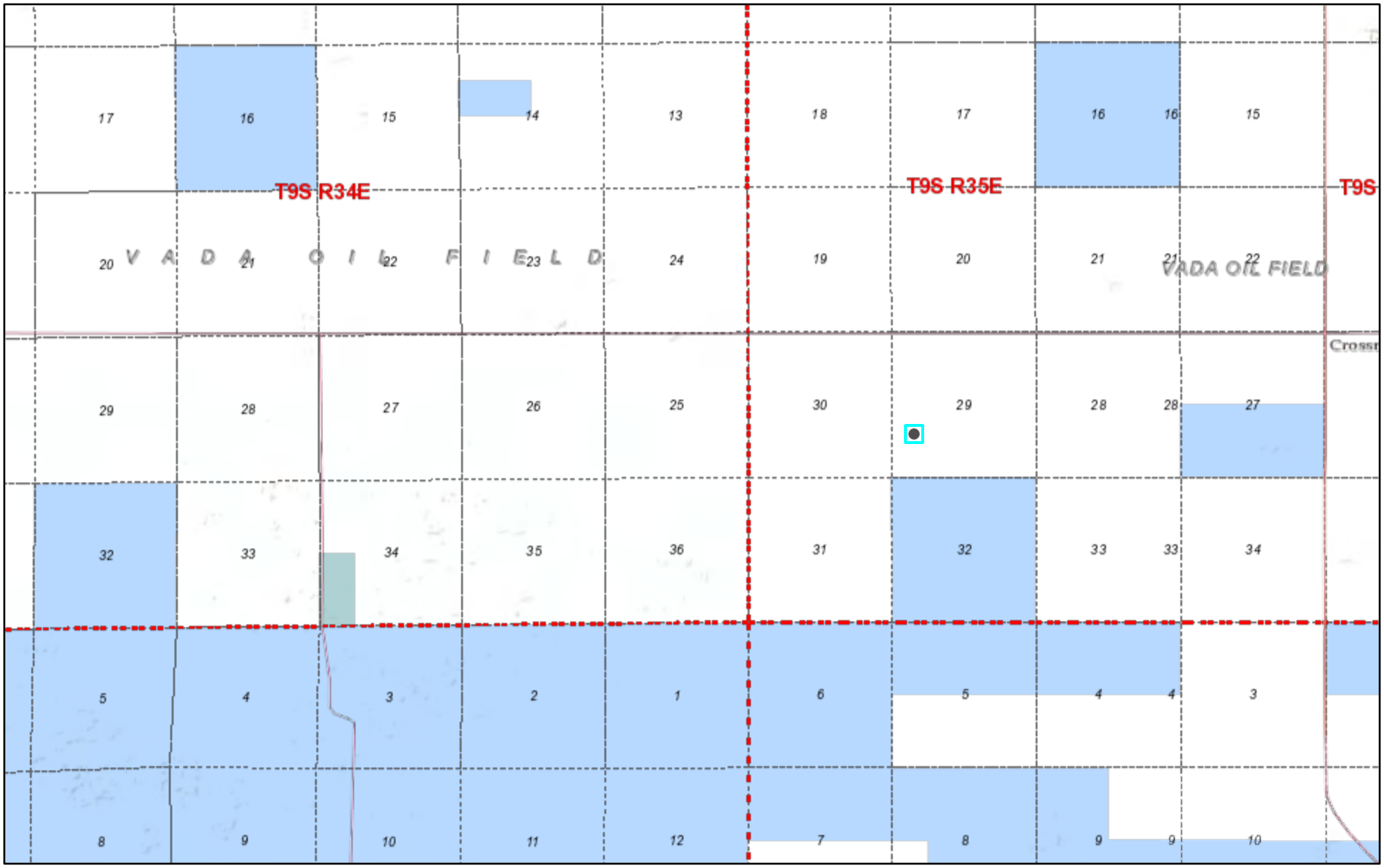
National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Active Mines in New Mexico



9/10/2021, 12:11:50 PM

1:72,224

0 0.5 1 2 mi

0 0.75 1.5 3 km

Township / Range

Sections

Land Ownership

Bureau of Land Management

Bureau of Reclamation

Department of Agriculture

Department of Defense

Department of Energy

National Park Service

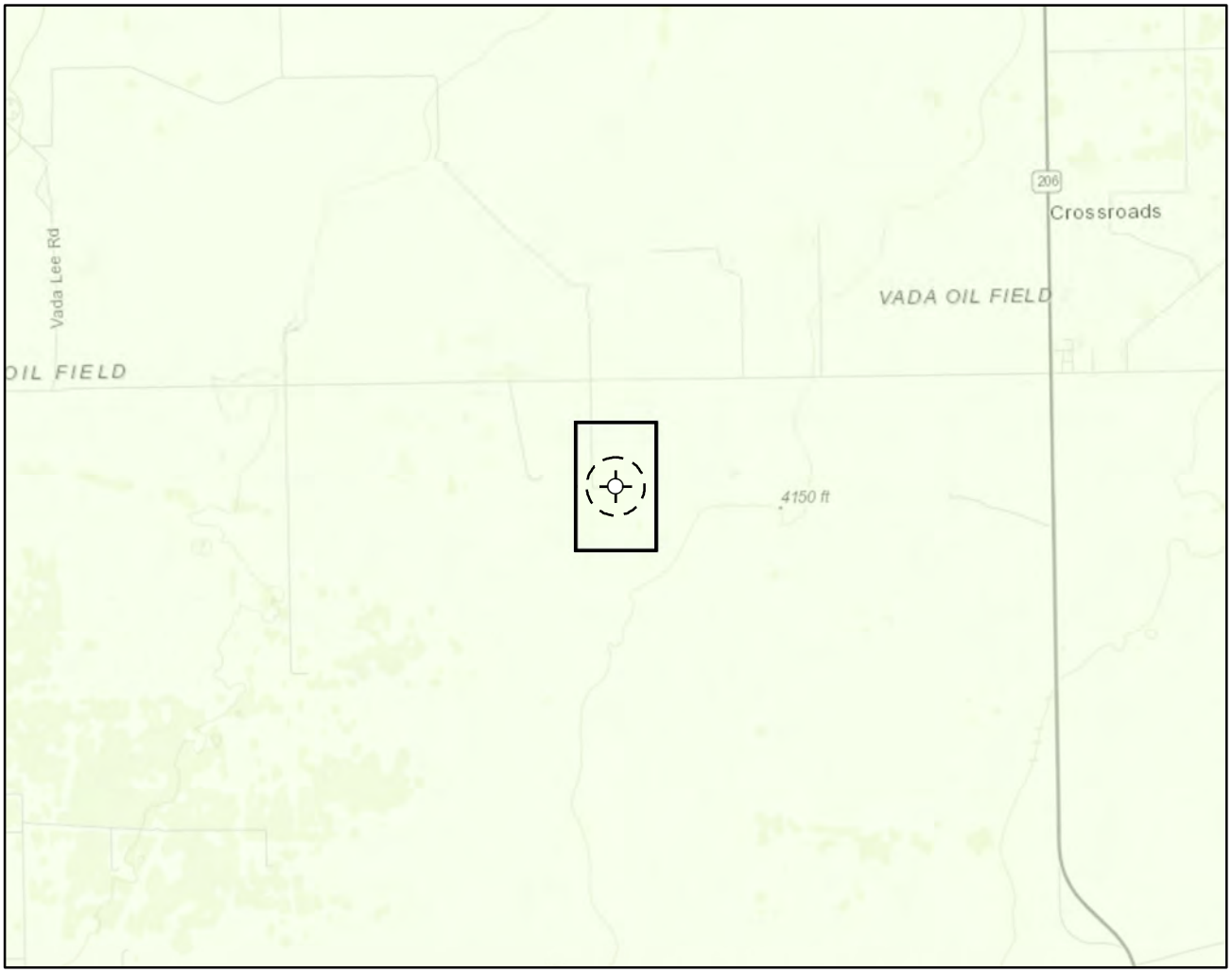
Private Land

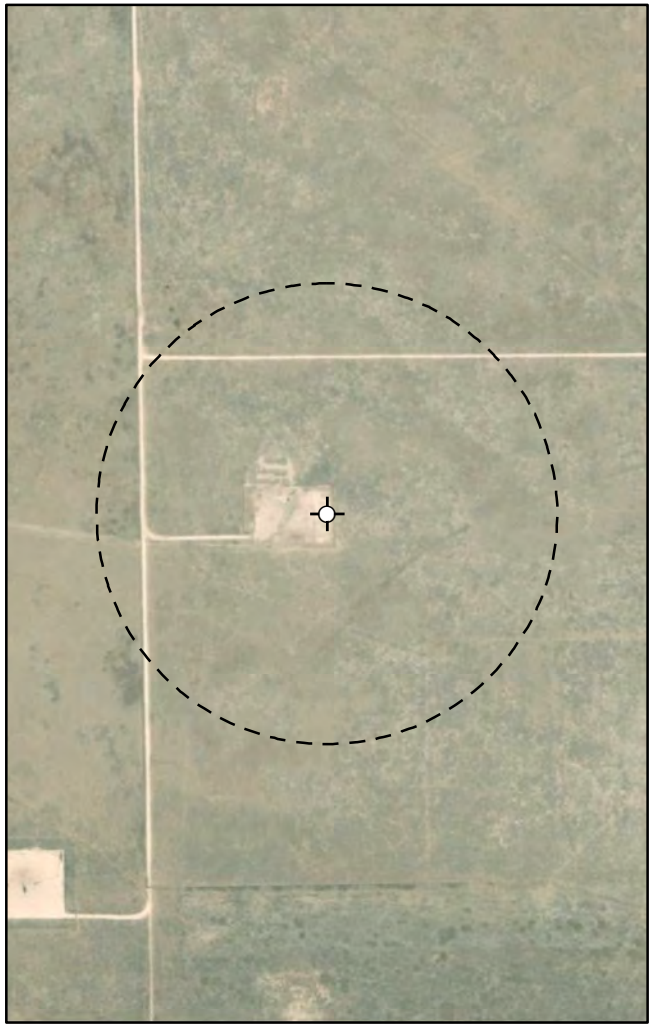
State Game and Fish

U.S. Bureau of Land Management - New Mexico State Office, Sources: Esri,

EMNRD MMD GIS Coordinator

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





Karst Potential

- Critical
- High
- Medium
- Low

Site Location

Site Buffer (1,000 ft.)

Overview Map

0 0.25 0.5 1 mi

Detail Map

0 150 300 600 ft.

VERTEX

Map Center:
Lat/Long: 33.502390, -103.388886

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

N

Karst Potential
Gill BGJ #1

FIGURE:

X

eog resources

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

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

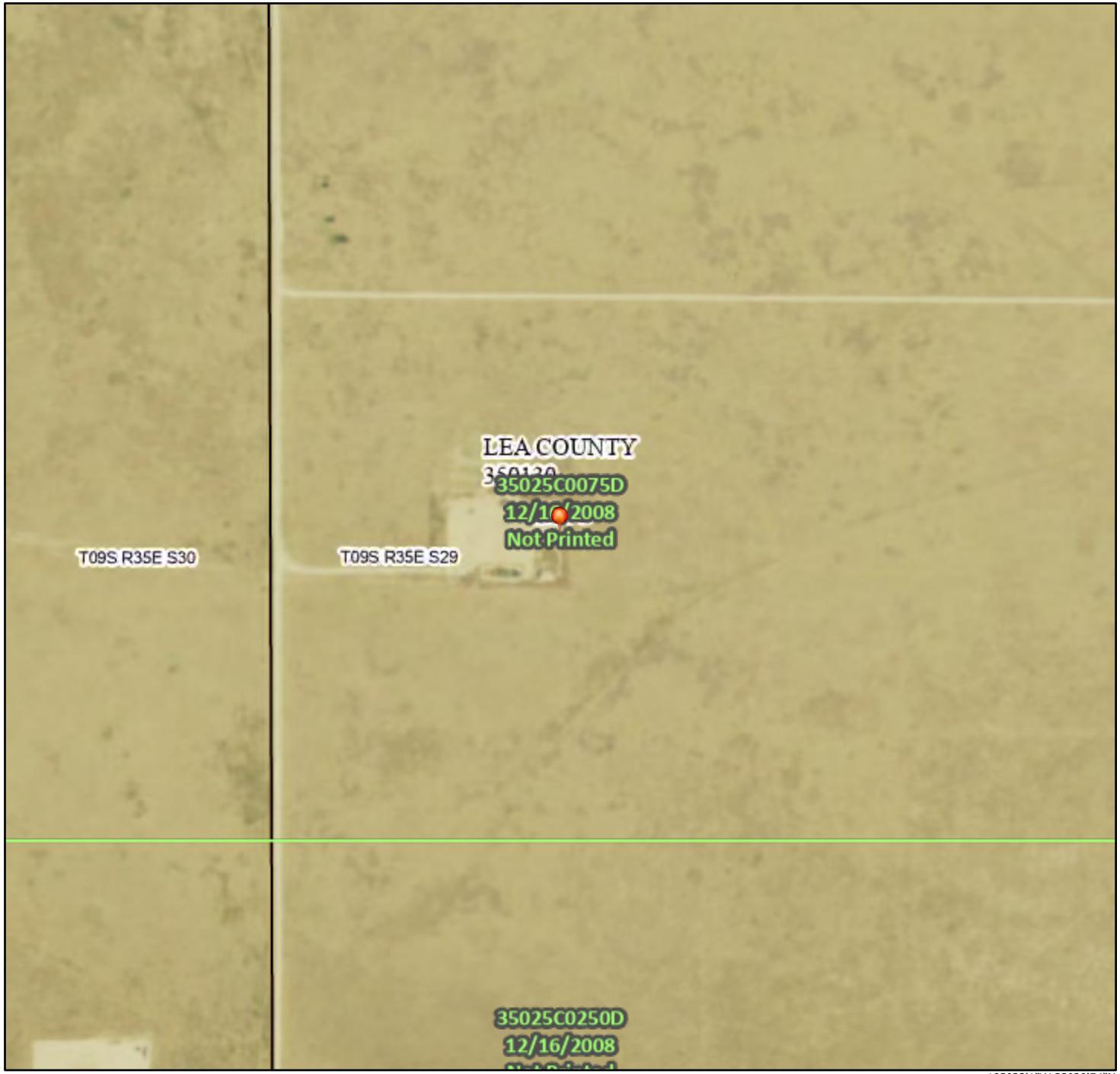
VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\EOG Resources Inc\21E-03278\007 - Gill BGJ #1\Fig X Karst Potential Gill BGJ #1.mxd

National Flood Hazard Layer FIRMette

FEMA

103°23'39"W 33°30'24"N



103°23'1"W 33°29'54"N

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

1:6,000

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

Legend

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

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

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

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

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

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

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

N

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

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 9/10/2021 at 1:31 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Lea County, New Mexico

September 10, 2021

Preface

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

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

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

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

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

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

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Contents

How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

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

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

Soil Map

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

Custom Soil Resource Report
Soil Map

Map Scale: 1:835 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 10 20 40 60

Feet
0 40 80 160 240

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

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Lea County, New Mexico
Survey Area Data: Version 17, Jun 8, 2020

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

Date(s) aerial images were photographed: Mar 13, 2017—Nov 20, 2017

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Le	Lea loam	0.3	9.7%
Ph	Portales loam, 0 to 1 percent slopes	2.8	90.3%
Totals for Area of Interest		**3.0**	**100.0%**

Map Unit Descriptions

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

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

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

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

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

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

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

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

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

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

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

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

Lea County, New Mexico

Le—Lea loam

Map Unit Setting

National map unit symbol: dmq9
Elevation: 2,500 to 4,400 feet
Mean annual precipitation: 12 to 20 inches
Mean annual air temperature: 57 to 64 degrees F
Frost-free period: 195 to 230 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

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

Description of Lea

Setting

Landform: Plains
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy alluvium derived from sedimentary rock

Typical profile

A - 0 to 4 inches: loam
Bk - 4 to 26 inches: loam
Bkm - 26 to 36 inches: cemented material

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: 20 to 40 inches to petrocalcic
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4c
Hydrologic Soil Group: C
Ecological site: R077CY028TX - Limy Upland 16-21" PZ
Hydric soil rating: No

Minor Components

Kimbrough

Percent of map unit: 6 percent
Ecological site: R077CY037TX - Very Shallow 16-21" PZ
Hydric soil rating: No

Stegall, loam

Percent of map unit: 5 percent
Ecological site: R077CY028TX - Limy Upland 16-21" PZ
Hydric soil rating: No

Arvana

Percent of map unit: 4 percent
Ecological site: R077CY035TX - Sandy 16-21" PZ
Hydric soil rating: No

Ph—Portales loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: f5t2
Elevation: 2,600 to 5,300 feet
Mean annual precipitation: 16 to 21 inches
Mean annual air temperature: 57 to 63 degrees F
Frost-free period: 185 to 220 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

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

Description of Portales

Setting

Landform: Interdunes, playa steps, plains
Down-slope shape: Linear, convex, concave
Across-slope shape: Linear
Parent material: Calcareous loamy eolian deposits and/or lacustrine deposits

Typical profile

Ap - 0 to 15 inches: loam
Bk1 - 15 to 35 inches: clay loam
Bk2 - 35 to 43 inches: loam
Bkk - 43 to 80 inches: clay loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 75 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 3.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: Moderate (about 7.6 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: R077CY028TX - Limy Upland 16-21" PZ
Hydric soil rating: No

Minor Components

Midessa

Percent of map unit: 10 percent
Landform: Plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R077CY028TX - Limy Upland 16-21" PZ
Hydric soil rating: No

Posey

Percent of map unit: 3 percent
Landform: Plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R077CY028TX - Limy Upland 16-21" PZ
Hydric soil rating: No

Acuff

Percent of map unit: 2 percent
Landform: Plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R077CY022TX - Deep Hardland 16-21" PZ
Hydric soil rating: No

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USDA Natural Resources Conservation Service

Ecological site R077CY028TX
Limy Upland 16-21" PZ

Accessed: 09/14/2021

General information

Provisional. A provisional ecological site description has undergone quality control and quality assurance review. It contains a working state and transition model and enough information to identify the ecological site.

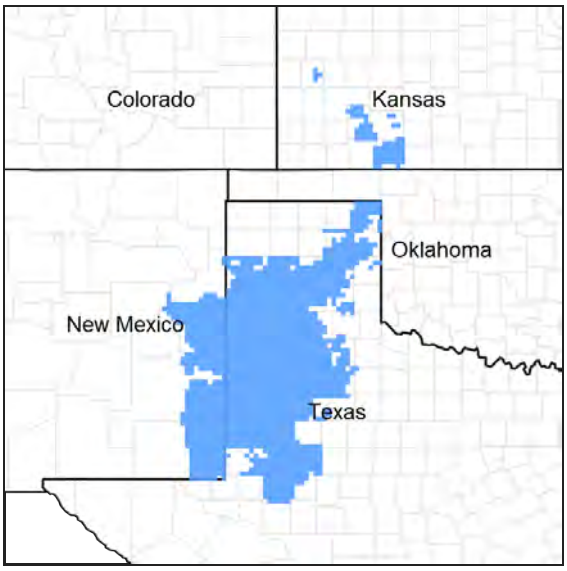

Figure 1. Mapped extent

Areas shown in blue indicate the maximum mapped extent of this ecological site. Other ecological sites likely occur within the highlighted areas. It is also possible for this ecological site to occur outside of highlighted areas if detailed soil survey has not been completed or recently updated.

MLRA notes

Major Land Resource Area (MLRA): 077C–Southern High Plains, Southern Part

This unit is characterized by nearly level plains with numerous playa depressions, moderately sloping breaks along drainageways, and a steep escarpment along the eastern margin. From southwest to northeast, soils grade from coarse-textured to fine-textured. Soils are generally deep and occur in a thermic soil temperature regime and ustic soil moisture regime bordering on aridic. Current land use is dominantly cropland.

Classification relationships

This ecological site is correlated to soil components at the Major Land Resource Area (MLRA) level which is further described in USDA Ag Handbook 296.

Ecological site concept

This site occurs on calcareous loamy soils on uplands. Reference vegetation includes midgrasses, shortgrasses, forbs and few woody species. Abusive grazing practices can lead to a shift in the plant community. Without fire or other brush management, woody species may increase across the site.

Associated sites

R077CY022TX	**Deep Hardland 16-21" PZ** The Limy Upland site is associated with Deep Hardland sites in MLRA-77C, occurring as upland convex ridge tops and slopes. The Deep Hardland sites occur on level topography adjacent to the Limy Upland sites.

Similar sites

R077CY028TX	**Limy Upland 16-21" PZ** Loamy sites are similar to Limy Upland sites but generally have more blue grama and less sideoats grama. The limy upland site has a high calcium and lime content and will have yucca where as the loamy site will not. Production similar.

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	(1) *Bouteloua curtipendula* (2) *Schizachyrium scoparium*

Physiographic features

The site occurs as nearly level to strongly sloping plains, slightly concave plains associated with playa lake basins, slightly convex playa terraces, and adjacent to draws or escarpments. It is an upland plains site with slopes ranging from nearly level to strongly sloping.

Exposures are not well defined due to minimal relief.

Table 2. Representative physiographic features

Landforms	(1) Plain (2) Draw (3) Terrace
Flooding frequency	None
Ponding frequency	None
Elevation	2,400–4,600 ft
Slope	0–12%
Aspect	Aspect is not a significant factor

Climatic features

Climate is semi-arid dry steppe. Summers are hot with winters being generally mild with numerous cold fronts that drop temperatures into the single digits for 24 to 48 hours. Temperature extremes are the rule rather than the exception. Humidity is generally low and evaporation high. Wind speeds are highest in the spring and are generally southwesterly. Canadian and Pacific cold fronts come through the region in fall, winter and spring with predictability and temperature changes can be rapid. Most of the precipitation comes in the form of rain and during the period from May through October. Snowfall averages around 15 inches but may be as little as 8 inches or as much as 36 inches. Rainfall in the growing season often comes as intense showers of relatively short duration. Long-term droughts occur on the average of once every 20 years and may last as long as five to six years (during these drought years moisture during the growing season is from 50 to 60 percent of the mean). Based on long term records, approximately 60 percent of years are below the mean rainfall and approximately 40 percent are above the mean. May, June and July are the main growth months for perennial warm-season grasses. Forbs make their growth somewhat earlier.

Table 3. Representative climatic features

Frost-free period (average)	188 days

Freeze-free period (average)	204 days
Precipitation total (average)	20 in

Climate stations used

- (1) PORTALES [USC00297008], Portales, NM
- (2) BIG SPRING [USW00023041], Big Spring, TX
- (3) AMARILLO [USW00023047], Amarillo, TX
- (4) DENVER CITY [USC00412408], Denver City, TX
- (5) FLOYDADA [USC00413214], Floydada, TX
- (6) CAMERON [USC00291332], Grady, NM

Influencing water features

Some surface runoff to draws below. Moderate rate of infiltration with good cover.

Stream Type: No perennial streams are associated with this site.

Soil features

These soils have disseminated secondary calcium carbonates present throughout the soil profile. Some have argillic subsurface horizons and all have calcic horizons. Subsurface carbonates are in the form of films, threads, concretions, masses, and nodules.

Major Soil Taxonomic Units correlated to this site include: Bovina clay loam, Bovina loam, Mansker loam, Midessa fine sandy loam, Pep clay loam, Portales loam, Posey fine sandy loam, and Tulia loam.

Table 4. Representative soil features

Surface texture	(1) Clay loam (2) Loam (3) Fine sandy loam
Family particle size	(1) Loamy
Drainage class	Well drained
Permeability class	Moderate
Soil depth	60 in
Surface fragment cover <=3"	0–20%
Surface fragment cover >3"	0%
Available water capacity (0-40in)	4–7.2 in
Calcium carbonate equivalent (0-40in)	5–65%
Electrical conductivity (0-40in)	0–2 mmhos/cm
Sodium adsorption ratio (0-40in)	0
Soil reaction (1:1 water) (0-40in)	7.4–8.4
Subsurface fragment volume <=3" (Depth not specified)	5–60%
Subsurface fragment volume >3" (Depth not specified)	0–1%

Ecological dynamics

The Reference Plant Community consists of mid and shortgrasses with few tallgrasses. Some perennial forbs are present with small numbers of annual forbs and a few scattered woody shrubs. Productivity is moderate with most of the production coming from sideoats grama (*Bouteloua curtipendula*) and blue grama (*Bouteloua gracilis*). Lesser amounts of buffalograss (*Bouteloua dactyloides*), hairy grama (*Bouteloua hirsuta*), sand dropseed (*Sporobolus cryptandrus*), and perennial three-awn (Aristida wrightii) are found on the site. Vine mesquite (*Panicum obtusum*) and western wheatgrass (*Pascopyrum smithii*) are found growing in depressional areas. Small pockets of sand bluestem (*Andropogon hallii*) and Indiangrass (*Sorghastrum nutans*) may be found scattered throughout the site. Little bluestem (*Schizachyrium scoparium*) will occur in small amounts where the soil becomes shallower. The more commonly found forbs are dotted gayfeather (*Liatris punctata*), scarlet globemallow (*Sphaeralcea coccinea*), Engelmann's daisy (*Engelmannia peristenia*), baby white aster (*Chaetopappa ericoides*), halfshrub sundrop (Calyophus serrulatus), trailing ratany (*Krameria lanceolata*) and annual forbs. The primary woody species found are yucca (*Yucca glauca*) and broom snakeweed (*Gutierrezia sarothrae*), with an occasional catclaw mimosa (*Mimosa aculeaticarpa* var. biuncifera) and plains pricklypear (Opuntia polycantha); however, trees are seldom found on this site.

The site occurs on slightly to moderately sloping areas on upland plains where some small amount of geologic erosion may have occurred and the soils are somewhat "thinner" than those of the associated Deep Hardland ecological site that occurs on the more level terrain. Higher calcium carbonate content throughout the soil profile accounts for the amount of sideoats grama growing on this site. This differs from the closely associated Deep Hardland site that is dominated by blue grama. The forb component is more apparent in years of above average rainfall. Pronghorn favor this site because of the variety of forbs present. Cryptogamic crusts are more common on this site than on nearby Deep Hardland sites. Production on this site is quite close to that of the Deep Hardland sites. The two main indicator plants on the Limy Upland ecological site are sideoats grama and yucca. Yucca has a tendency to increase on limy upland sites that have had regular spring and early summer deferment for many years with good yucca seed production. Yucca blooms are very palatable to deer, pronghorn and cattle.

Fire played a role in the ecology of this site as well as all other high plains sites. The general role of fire was to sustain natural grassland and suppress shrubby species. Fire helped to keep a balance between the grasses, forbs and shrubs. However, in the shortgrass region, fire was probably secondary to climate in promoting the historic vegetative state. A drier climate (<20 inches annual precipitation) creates a situation where the subsoil is dry more often than it is wet. Plant roots grow in response to moisture and this dryer climate favors shortgrasses with fibrous root systems or short rhizomatous grasses. Yucca is a major increaser on this site and natural fire no doubt kept yucca suppressed significantly. Annual forbs are stimulated by fire and diversity is generally increased. Heavy grazing after a fire can have a negative effect if conditions are dry and remain so for an extended period.

Periodic overgrazing and trampling by migrating herds of bison and elk as well as resident herds of pronghorn antelope occurred during drought periods. Bison moved about in large herds over the region somewhat regulated by water sources and fire frequency. However, long rest periods followed once the large herds of bison moved out of the area, allowing the resilient grassland to re-establish and maintain its reference community structure.

Variations in climatic factors, especially the amount and timing of precipitation, greatly influence the productivity of ecological sites and are largely responsible for the fluctuations in the amount of vegetative growth from one season to the next. It is not unusual for fluctuations of greater than 50 percent to occur from one year to another. These types of climatic variation are part of the overall environment in which the reference plant community developed. However, it needs to be pointed out that long-term drought (4 to 6 years of rainfall 50 percent below the mean) can act in concert with other forces to affect changes in plant communities. For instance, extended drought weakens plants and makes them more susceptible to the effects of overgrazing. Drought conditions coupled with fire can be damaging and need long periods of time to fully recover. Extremely dry summers followed by wet winters can favor cool-season annual grasses at the expense of perennial warm-season species. A well-adapted, healthy community could better withstand such rigors of drought. However, even they experience damage that would result in some departure from the former stable state. Usually, the departure would be temporary.

When domestic livestock were brought to the plains in the 1870's, it was largely an open range situation. By 1890, however, most of the area had been fenced and livestock were confined to theses areas continually.

The major forces influencing the transition to the Shrub/Shortgrass community is continued over-grazing by

livestock and the decrease in the frequency and intensity of fire. As livestock and wildlife numbers increase and grazing use exceeds a plants ability to sustain defoliation, the more palatable and generally more productive species decline in stature, productivity and density. Early day settlers often had little information upon which to base stocking rates. In many cases, more animals were grazed than the grassland resources could safely support. The tendency of this site is to become a shortgrass dominant site if long-term grazing abuse occurs. This will lead to a decline in the vigor of sideoats grama and other desirable mid and tallgrass species. Blue grama and buffalograss will increase because they are better able to withstand grazing pressure. With constant grazing pressure, the blue grama will eventually become sod bound and lose its bunch grass appearance.

Yucca will increase on the site if the grass cover is weakened and the yucca makes seed for several years. With the weakened grass cover, broom snakeweed will often gain a major foothold on the site. On some of the western portions of MLRA 77C, cholla cactus (*Cylindropuntia imbricata*) has increased on some deep hardland and limy upland sites. The decrease in density and stature of the mid and tallgrasses, an increase in shortgrasses, and an increase of yucca and other woody vegetation brings about a new plant community, the Midgrass/Shortgrass/Shrub Community (1.2).

In the Midgrass/Shortgrass/Shrub Community (1.2), the transition back to the reference community is possible with proper grazing management and chemical brush and pest management. Prescribed burning could be used if the conditions allow. The production of vegetation has shifted from mostly herbaceous vegetation to increasing amounts of woody shrubs. Herbaceous vegetation is still the largest production in this phase. Nutrient cycling, the water cycle, watershed protection and biological functions have changed little.

If heavy grazing continues with no form of brush and pest management, a threshold will be crossed to a Shortgrass/Shrub Community (2.1). In this state, typical vegetation will be low vigor, blue grama with increasing amounts of low quality shortgrasses. Bare areas will increase with annuals filling the voids. Perennial three-awn will invade this site when the more desirable grasses are weakened and/or removed. Yucca, and occasionally broom snakeweed, will increase dramatically. Nutrient cycling, the water cycle, watershed protection and biological functions have been severely reduced. The plant community is so degraded that it cannot reverse retrogression without extensive energy and management inputs. Restoration of the Shortgrass/Shrub Community (2.1) will require prescribed grazing with rest periods during the growing season, re-seeding bare areas with adapted native grass species, chemical and/or mechanical brush management, and some form of pest management. With the reduced amounts of grass fuel, prescribed burning is usually not an option in this phase.

When long-term, continuous heavy grazing occurs, this site will regress to the Shrub/ Shortgrass/Annuals Community (3.1). In this degraded state, yucca and broom snakeweed will dominate the site (>50 percent). Typical herbaceous vegetation will be perennial three-awn, low quality shortgrasses, and low vigor, sod bound blue grama. The large, connected bare areas will have numerous annual species present. The loss of herbaceous cover and increased bare ground encourages accelerated erosion. Nutrient cycling, the water cycle, watershed protection and biological functions are not functioning well in this phase. Restoration of the Shortgrass/Annuals Community (3.1) to reference conditions will require major energy, economic and management inputs. Conservation practices required include prescribed grazing with several consecutive (3-4 years) rest periods during the growing season, re-seeding bare areas with adapted native grass species, and chemical brush and pest management. Prescribed burning is not an option in this phase. Full recovery and maintenance of the reference community requires continued proper grazing management as well as occasional brush and pest management.

NOTE: Rangeland Health Reference Worksheets have been posted for this site on the Texas NRCS website (www.tx.nrcs.usda.gov) in Section II of the eFOTG under (F) Ecological Site Descriptions.

STATE AND TRANSITIONAL PATHWAYS: (DIAGRAM)
The following diagram suggests some pathways that the vegetation on this site might take in response to various treatment or natural stimuli over time. There may be other states not shown on the diagram. Those shown are some of the most commonly seen. This information is intended to illustrate the changes in vegetative states that can occur in a given set of circumstances, and may not happen this way in all cases. Local professional guidance should be sought when making plans to manipulate plant communities for specific purposes.

As a site changes in the structure and makeup of the plant community, the changes may be due to management or due to natural occurrences or both. At some point in time thresholds are crossed. Once changes have progressed to a certain point, the balance of the community has been altered to the extent that a return to the former state is

generally not possible. Some form of energy must be applied in order to make the community respond in that direction. These changes in plant communities occur on all ecological sites with some sites being more resistant to change than others. Also, some sites seem to be more resilient being able to heal or restore more easily than other sites. Usually, changes in management practices alone, such as different grazing methods, will not result in restoration of former vegetative states. An example of an energy input that might be necessary to effect change might be the implementation of chemical brush management and complete growing season rest to reduce domination of woody shrubs and promote more perennial grasses and forbs. This might have to be done more than once and could take several years. Such a vegetative shift could not be accomplished by regulation of grazing alone. The amount of energy required to effect a change would depend on the present vegetative state and the desired state.

State and transition model

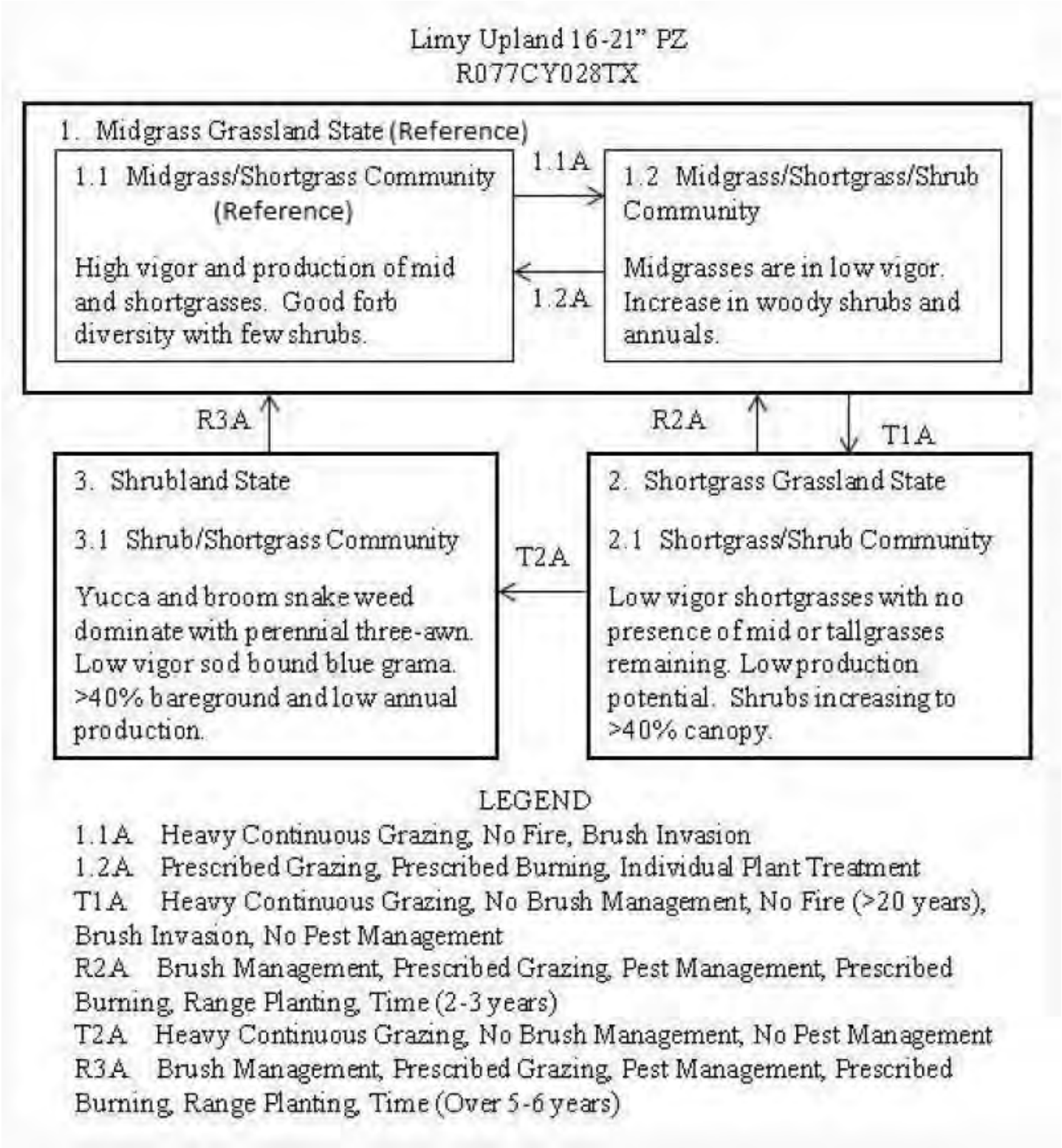

Figure 6. R077CY028TX

State 1
Midgrass Grassland State

The Midgrass/Shortgrass Community consists of mid and shortgrasses with few tallgrasses. Productivity is moderate with most of the production coming from sideoats grama and blue grama. Lesser amounts of buffalograss, hairy grama, sand dropseed, and perennial three-awn are found on the site. Vine mesquite and western wheatgrass are found growing in depressional areas. Small pockets of sand bluestem and Indiangrass may be found scattered throughout the site. Little bluestem will occur in small amounts where the soil becomes shallower. Some perennial forbs are present with small numbers of annual forbs and a few scattered woody shrubs. The primary woody species found are yucca and broom snakeweed, with an occasional catclaw mimosa and plains pricklypear; however, trees are seldom found on this site.

The tendency of this site is to become a shortgrass dominant site if long-term grazing abuse occurs. This will lead to a decline in the vigor of sideoats grama and other desirable mid and tallgrass species. Blue grama and buffalograss will increase because they are better able to withstand grazing pressure. Cholla, yucca and broom snakeweed will increase due to weakened grass cover and produces seed for several yearsThe decrease in density and stature of the mid and tallgrasses, an increase in shortgrasses, and an increase of yucca and other woody vegetation brings about a new plant community, the Midgrass/Shortgrass/Shrub Community (1.2).

Community 1.1
Midgrass/Shortgrass Community

Figure 7. 1.1 Midgrass/Shortgrass Community

The interpretive or "reference" plant community for this site is a good mixture of highly productive and high vigor midgrasses, shortgrasses along with small amounts of tallgrasses to make up approximately 90 percent of the plant community. Midgrasses tend to dominate over most of the site with sideoats grama being the overall dominant species. Blue grama is the dominant shortgrass species. There is a good variety of perennial forbs making up 3–5 percent of the total plant community. Yucca and broom snakeweed are the primary woody species. Generally these woody species are lightly scattered across the site and make up less than 5 percent of the total annual production. The plant community’s ecological processes are in balance with the environment. Most energy and nutrient cycling is contained in the narrow grass/soil interface and evapo-transpiration is minimal. Maintenance of the this community requires continued proper grazing management as well as occasional brush and pest management.

Table 5. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Grass/Grasslike	1100	1450	1800
Forb	60	115	170
Shrub/Vine	30	45	60
Tree	0	0	0
Microbiotic Crusts	0	0	0
Total	**1190**	**1610**	**2030**

Figure 9. Plant community growth curve (percent production by month). TX1015, Shortgrass/Midgrass Community. Shortgrasses and midgrasses with majority of growh in May, June and July with lesser amounts in August, September and October..

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	3	5	8	23	25	12	5	10	5	3	1

Community 1.2
Midgrass/Shortgrass/Shrub Community

Figure 10. 1.2 Midgrass/Shortgrass/Shrub Community

Some woody shrub encroachment is beginning. As retrogression occurs, the tendency of this site is to become a shortgrass dominant site. Sideoats grama has entered a low vigor state and decreasing. Blue grama and low quality shortgrasses are beginning to increase. There has been an increase in low value perennial and annual forbs, with increasing amounts of yucca and broom snakeweed. The production of vegetation has shifted from mostly herbaceous vegetation to more yucca and woody, although the herbaceous vegetation biomass is still the largest amount. Nutrient cycling, the water cycle, watershed protection, and biological functions have changed some. The transition back to the reference community is reversible with proper grazing management, brush and pest management.

Table 6. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Grass/Grasslike	1000	1300	1600
Shrub/Vine	150	225	300
Forb	70	125	180
Tree	0	0	0
Microbiotic Crusts	0	0	0
Total	**1220**	**1650**	**2080**

Figure 12. Plant community growth curve (percent production by month). TX1016, Midgrass/Shortgrass/Shrubs Community. Warm-season mid and shortgrasses, increase of forbs and shrubs, grasses in lower vigor and production..

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	2	5	9	23	24	12	7	10	5	2	1

Pathway 1.1A
Community 1.1 to 1.2

Midgrass/Shortgrass Community

Midgrass/Shortgrass/Shrub Community

With heavy continuous grazing, no fires, and brush invasion, the Midgrass/Shortgrass Community (1.1) will shift to the Midgrass/Shortgrass/Shrub Community (1.2).

State 2
Shortgrass Grassland State

If heavy grazing continues with no form of brush and pest management, a threshold will be crossed to a Shortgrass/Shrub State. Typical vegetation will be low vigor, blue grama with increasing amounts of low quality shortgrasses. Bare areas will increase with annuals filling the voids. Perennial three-awn will invade this site when the more desirable grasses are weakened and/or removed. Yucca, and occasionally broom snakeweed, will increase dramatically. Nutrient cycling, the water cycle, watershed protection and biological functions have been severely reduced.

Community 2.1
Shortgrass/Shrub Community

Figure 13. 2.1 Shortgrass/Shrub Community

In this phase of retrogression a threshold has been crossed to the Shortgrass/Shrub Community. In this degraded state, mid and tallgrasses have been replaced with low vigor blue grama, perennial three-awn and low quality shortgrasses. Bare areas have increased with exposed mineral soil having low quality annuals filling the voids. Yucca and broom snakeweed will increase dramatically (>40 percent canopy). On some of the western portions of MLRA 77C, cholla has invaded the limey upland and deep hardland sites to the point of domination. The loss of herbaceous cover and increased bare ground encourages accelerated erosion. Nutrient cycling, the water cycle, watershed protection, and biological functions have been severely reduced. The plant community is so degraded that it cannot reverse retrogression without extensive energy and management inputs. Restoration of Shortgrass/Shrub Community (2.1) will require prescribed grazing with rest periods during the growing season, re-

seeding bare areas with adapted native grass species, and chemical and/or mechanical brush management and some form of pest management. With the reduced amounts of grass fuel, prescribed burning is usually not an option in this phase.

Table 7. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Grass/Grasslike	400	550	700
Shrub/Vine	300	400	500
Forb	30	55	80
Microbiotic Crusts	0	3	5
Tree	0	0	0
Total	**730**	**1008**	**1285**

Figure 15. Plant community growth curve (percent production by month). TX1017, Shortgrass/Shrub Community. Warm-season shortgrasses with increased shrubs and annuals..

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	3	5	15	30	20	5	5	8	5	2	1

State 3
Shrubland State

When long-term, continuous heavy grazing occurs, this site will regress to the Shrub/ Shortgrass/Annuals Community (3.1). In this degraded state, yucca and broom snakeweed will dominate the site (>50 percent). Typical herbaceous vegetation will be perennial three-awn, low quality shortgrasses, and low vigor, sod bound blue grama. The large, connected bare areas will have numerous annual species present. The loss of herbaceous cover and increased bare ground encourages accelerated erosion.

Community 3.1
Shrub/Shortgrass Community

Figure 16. 3.1 Shrub/Shortgrass Community

In this degraded state, yucca and broom snakeweed will dominate the site (>50 percent). Typical herbaceous vegetation will be perennial three-awn, low quality shortgrasses, and low vigor, sod bound blue grama. The large, connected bare areas will have numerous annual species present. The loss of herbaceous cover and increased bare ground encourages accelerated erosion. Nutrient cycling, the water cycle, watershed protection, and biological functions are not functioning well in this phase. Restoration of phase (3.1) to the reference state will require major energy, economic and management inputs. Conservation practices required include prescribed grazing with several consecutive (3-4 years) rest periods during the growing season, re-seeding bare areas with adapted native grass

species, and chemical brush and pest management. Prescribed burning is not often an option in this phase due to lack of fuel. Full recovery and maintenance of the reference community requires continued proper grazing management as well as occasional brush and pest management.

Table 8. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Shrub/Vine	400	500	600
Grass/Grasslike	300	400	500
Forb	40	65	90
Microbiotic Crusts	13	21	28
Tree	0	0	0
Total	**753**	**986**	**1218**

Figure 18. Plant community growth curve (percent production by month). TX1042, Shrub/Shortgrass Community. Growth is predominantly shrubs and shortgrasses from April through October with peak growth from May through July..

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	1	3	8	16	25	5	5	10	16	8	3

Transition T1A
State 1 to 2

With heavy continuous grazing, no brush management, no fires (periods greater than twenty years between fires), brush invasion of yucca, pricklypear, and cholla, and no pest management, the Midgrass Grassland State will transition to the Shortgrass/Shrub Community.

Restoration pathway R2A
State 2 to 1

With the application of various conservation practices for rangeland including Brush Management, Prescribed Grazing, Pest Management, Prescribed Burning over a two to three year period, the Shortgrass/Shrub State can be restored to the Midgrass Grassland State.

Conservation practices

Brush Management
Prescribed Burning
Prescribed Grazing
Integrated Pest Management (IPM)

Transition T2A
State 2 to 3

With heavy continuous grazing pressure by livestock and wildlife, no brush management, and no pest management, the Shortgrass Grassland State will transition to the Shrubland State.

Restoration pathway R3A
State 3 to 2

Conservation practices required include prescribed grazing with several consecutive (3-4 years) rest periods during the growing season, re-seeding bare areas with adapted native grass species, and chemical brush and pest management. Prescribed burning is not an option in this phase.

Conservation practices

Brush Management
Prescribed Grazing
Range Planting

Additional community tables

Table 9. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Lb/Acre)	Foliar Cover (%)
Grass/Grasslike					
1	**Midgrass/Shortgrass**			800–1300	
	sideoats grama	BOCU	*Bouteloua curtipendula*	400–650	–
	blue grama	BOGR2	*Bouteloua gracilis*	400–650	–
2	**Midgrasses**			240–380	
	Wright's threeawn	ARPUW	*Aristida purpurea var. wrightii*	240–380	–
	little bluestem	SCSC	*Schizachyrium scoparium*	50–150	–
	large-spike bristlegrass	SEMA5	*Setaria macrostachya*	25–100	–
	buffalograss	BODA2	*Bouteloua dactyloides*	25–100	–
	Arizona cottontop	DICA8	*Digitaria californica*	25–100	–
	vine mesquite	PAOB	*Panicum obtusum*	25–100	–
	sand dropseed	SPCR	*Sporobolus cryptandrus*	25–75	–
	slim tridens	TRMU	*Tridens muticus*	25–50	–
	hairy grama	BOHI2	*Bouteloua hirsuta*	25–50	–
	silver beardgrass	BOLAT	*Bothriochloa laguroides ssp. torreyana*	25–50	–
	hooded windmill grass	CHCU2	*Chloris cucullata*	25–50	–
	tumble windmill grass	CHVE2	*Chloris verticillata*	25–50	–
	ear muhly	MUAR	*Muhlenbergia arenacea*	25–50	–
3	**Cool-season grasses**			30–60	
	Canada wildrye	ELCA4	*Elymus canadensis*	20–50	–
	squirreltail	ELELE	*Elymus elymoides ssp. elymoides*	25–50	–
	western wheatgrass	PASM	*Pascopyrum smithii*	25–50	–
4	**tallgrasses**			30–60	
	sand bluestem	ANHA	*Andropogon hallii*	30–60	–
	Indiangrass	SONU2	*Sorghastrum nutans*	30–60	–
Forb					
5	**Forbs**			60–170	
	Cuman ragweed	AMPS	*Ambrosia psilostachya*	15–40	–
	white sagebrush	ARLU	*Artemisia ludoviciana*	15–40	–
	lyreleaf greeneyes	BELY	*Berlandiera lyrata*	15–40	–
	yellow sundrops	CASE12	*Calylophus serrulatus*	15–40	–
	rose heath	CHER2	*Chaetopappa ericoides*	15–40	–
	golden prairie clover	DAAU	*Dalea aurea*	15–40	–

	Engelmann's daisy	ENPE4	*Engelmannia peristenia*	15–40	–
	buckwheat	ERIOG	*Eriogonum*	15–40	–
	trailing krameria	KRLA	*Krameria lanceolata*	15–40	–
	dotted blazing star	LIPU	*Liatris punctata*	15–40	–
	plains blackfoot	MELE2	*Melampodium leucanthum*	15–40	–
	Nuttall's sensitive-briar	MINU6	*Mimosa nuttallii*	15–40	–
	James' holdback	POJA5	*Pomaria jamesii*	15–40	–
	slimflower scurfpea	PSTE5	*Psoralidium tenuiflorum*	15–40	–
	upright prairie coneflower	RACO3	*Ratibida columnifera*	15–40	–
	scarlet globemallow	SPCO	*Sphaeralcea coccinea*	15–40	–
	stemmy four-nerve daisy	TESC2	*Tetraneuris scaposa*	15–40	–
	stiff greenthread	THFI	*Thelesperma filifolium*	15–30	–
	white milkwort	POAL4	*Polygala alba*	15–30	–
	shaggy dwarf morning-glory	EVNU	*Evolvulus nuttallianus*	15–30	–
	Forb, annual	2FA	*Forb, annual*	0–25	–
Shrub/Vine					
6	**Shrubs**			30–60	
	tree cholla	CYIMI	*Cylindropuntia imbricata var. imbricata*	20–30	–
	broom snakeweed	GUSA2	*Gutierrezia sarothrae*	20–30	–
	catclaw mimosa	MIACB	*Mimosa aculeaticarpa var. biuncifera*	20–30	–
	plains pricklypear	OPPO	*Opuntia polyacantha*	20–30	–
	soapweed yucca	YUGL	*Yucca glauca*	20–30	–

Animal community

The Limey Upland site is habitat for a variety of plains grassland birds and mammals. Some animals commonly seen on the site include pronghorn, scaled quail, prairie dogs, coyotes, various raptors, and songbirds. These include meadowlark, Texas horned lizard, jackrabbit, and other species that prefer an open plains grassland habitat.

Animal Preferences:

This rating system provides general guidance as to animal preference for plant species. It also suggests possible competition between kinds of herbivores for various plants. Grazing preference changes between seasons, and between animal kinds and classes. Grazing preference does not necessarily reflect the ecological status of the plant within the plant community. For wildlife, plant preferences for food and plant suitability for cover are rated separately.

Preferred (P) – Percentage of plant in animal diet is greater than it occurs on the land
Desirable (D) – Percentage of plant in animal diet is similar to the percentage composition on the land
Undesirable (U) – Percentage of plant in animal diet is less than it occurs on the land
Not Consumed (N) – Plant would not be eaten under normal conditions. It is only consumed when other forages not available.
Toxic (T) – Rare occurrence in diet and, if consumed in any tangible amounts results in death or severe illness in animal

Hydrological functions

This site contributes runoff to draws and larger watercourses lower on the landscape. Runoff is reduced and

infiltration is increased with good vegetative cover. Good vegetative cover also results in cleaner runoff and minimal sedimentation the plains region. When cover is poor and sites are ecologically degraded, runoff can be as much as 70 percent. With little infiltration occurring, the soil becomes artificially shallow and production potential is very limited.

Recreational uses

Hunting, Camping, Bird watching, Hiking, Horseback riding

Wood products

None.

Other products

Sometimes native plant species seed are collected for planting materials.

Other information

None.

Inventory data references

NRCS FOTG – Section II of the FOTG Range Site Descriptions and numerous historical accounts of vegetative conditions at the time of
early settlement in the area were used in the development of this site description. Vegetative inventories were made at several site locations
for support documentation.
Inventory Data References (documents):
NRCS FOTG – Section II - Range Site Descriptions
NRCS Clipping Data summaries over a 20 year period

Other references

1. Archer S. 1994. Woody plant encroachment into southwestern grasslands and savannas: rates, patterns and proximate causes. In Ecological implications of livestock herbivory in the West, Ed M Vavra, W Laycock, R Pieper, pp13-68, Denver, CO: society for Range Management
2. Gould F. 1978. Common Texas Grasses: an illustrated guide. College Station, TX: Texas A & M Press.
3. Hatch, Brown and Ghandi, Vascular Plants of Texas (An Ecological Checklist)
4. Heischmidt RK, Stuth, Eds. 1991 Grazing Management: an ecological perspective. Portland OR: Timberline Press
5. North Rolling Plains RC&D, NRCS, and GLCI. 2006 edition. Common Rangeland Plants of the Texas Panhandle.
6. Scifres CJ, Hamilton WT. 1993. Prescribed burning for brushland management: the South Texas example. College Station, TX: Texas A & M Press.
7. Natural Resources Conservation Service - Range Site Descriptions
8. USDA-Natural Resources Conservation Service - Soil Surveys & Website soil database

The following individuals assisted with the development of this site description:
Clint Rollins –Rangeland Management Specialist- NRCS; Amarillo, Texas
Justin Clary – Rangeland Management Specialist – NRCS; Temple, Texas
Kelly Attebury - Resource Soil Scientist – NRCS, Lubbock, Texas

Contributors

Duckworth-Cole, Inc, Bryan Texas
J.R. Bell, SCS, Amarillo, Texas

Acknowledgments

Site Development and Testing Plan

Future work, as described in a Project Plan, to validate the information in this Provisional Ecological Site Description is needed. This will include field activities to collect low, medium and high intensity sampling, soil correlations, and analysis of that data. Annual field reviews should be done by soil scientists and vegetation specialists. A final field review, peer review, quality control, and quality assurance reviews of the ESD will be needed to produce the final document.

Annual reviews of the Project Plan are to be conducted by the Ecological Site Technical Team.

Rangeland health reference sheet

Interpreting Indicators of Rangeland Health is a qualitative assessment protocol used to determine ecosystem condition based on benchmark characteristics described in the Reference Sheet. A suite of 17 (or more) indicators are typically considered in an assessment. The ecological site(s) representative of an assessment location must be known prior to applying the protocol and must be verified based on soils and climate. Current plant community cannot be used to identify the ecological site.

Author(s)/participant(s)	Stan Bradbury, Zone RMS, NRCS, Lubbock, Texas
Contact for lead author	806-791-0581
Date	09/04/2007
Approved by	Mark Moseley, RMS, NRCS, San Antonio, Texas
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** None to slight.

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2. **Presence of water flow patterns:** None to slight.

---

3. **Number and height of erosional pedestals or terracettes:** None to slight.

---

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 20-25%.

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5. **Number of gullies and erosion associated with gullies:** None to slight.

---

6. **Extent of wind scoured, blowouts and/or depositional areas:** Slight to moderate.

---

7. **Amount of litter movement (describe size and distance expected to travel):** None to slight.

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Moderate resistance to surface erosion.

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Loamy friable surface and medium SOM.

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Basal cover and density with moderate interspaces should make rainfall impact minimal. This site has moderate permeable soil, runoff is slow to medium and available water holding capacity is medium.

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

12. **Functional/Structural Groups (list in order of descending dominance by above-ground annual-production or live foliar cover using symbols: >>, >, = to indicate much greater than, greater than, and equal to):**

    Dominant: Warm-season shortgrasses >

    Sub-dominant: Warm-season midgrasses >

    Other: Cool-season midgrasses > Warm-season tallgrasses > Forbs > Shrubs/Vines

    Additional:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Grasses due to their growth habit will exhibit some mortality and decadence, though minimal.

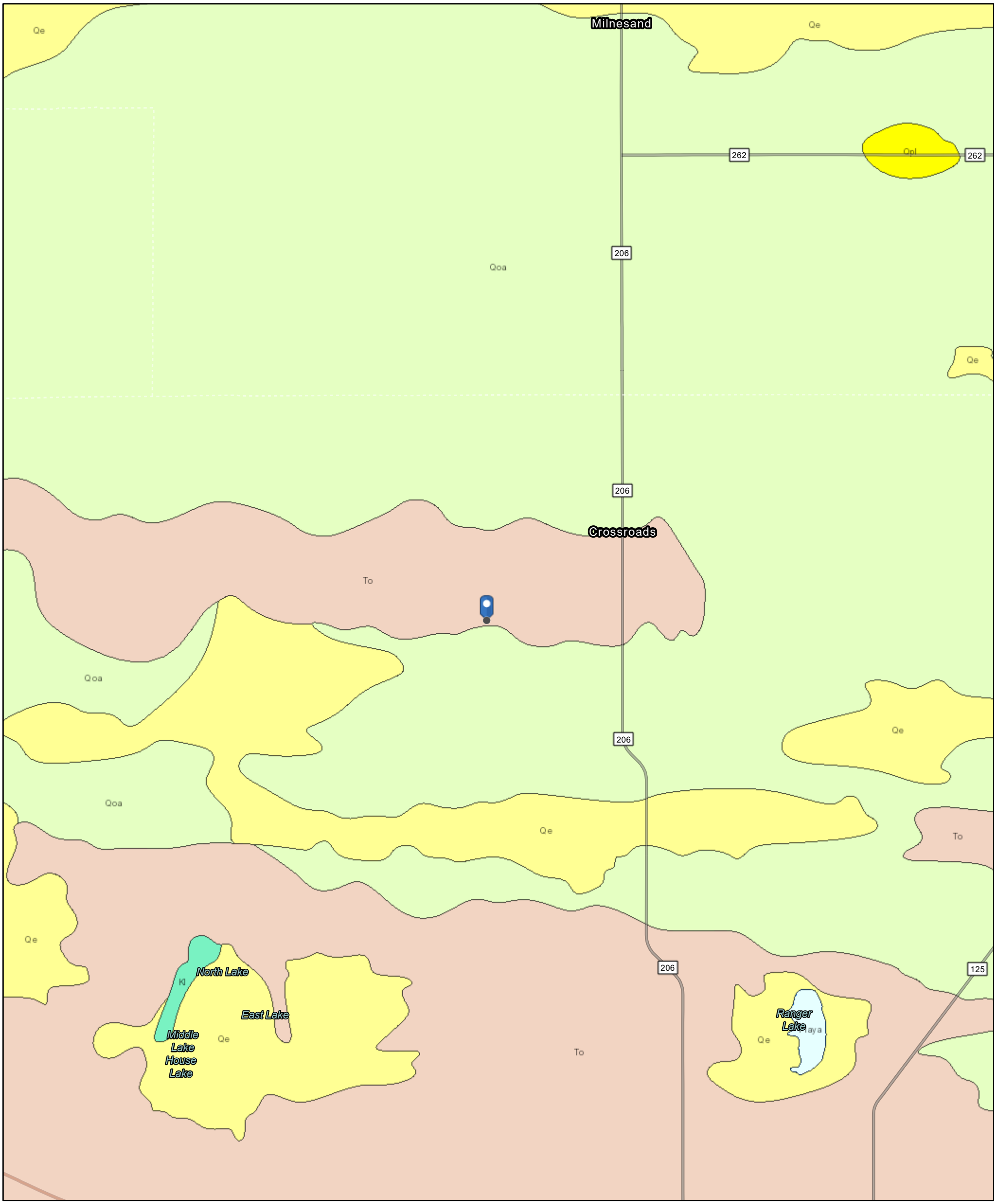
14. **Average percent litter cover (%) and depth (in):** Litter is dominantly herbaceous.

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** 1,400 to 1,900 pounds per acre.

16. **Potential invasive (including noxious) species (native and non-native). List species which BOTH characterize degraded states and have the potential to become a dominant or co-dominant species on the ecological site if their future establishment and growth is not actively controlled by management interventions. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants. Note that unlike other indicators, we are describing what is NOT expected in the reference state for the ecological site:** Yucca, Cholla, Catclaw, and Pricklypear can become invasive.

17. **Perennial plant reproductive capability:** All plant species should be capable of reproduction except during periods of prolonged drought conditions, heavy natural herbivory or intense wildfires.

Gill BGJ #1



9/14/2021, 10:56:29 AM

Lithologic Contacts
- Contact, Exposed
- Contact, Gradational
- Nomenclature change
- Map Boundary

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

Dikes
- <all other values>
- Dike
- Dike intruding fault
- Volcanic Vents

Surface Polys
- Si
- alteration
- alteration shear
- shear

GeologicLines
- Ash Layer
- Shoreline—Identity accurate
- Direction of movement of landslide

VCFaults
- Fault—Location accurate
- Fault—Location approximate
- Fault—Location concealed
- Normal Fault—Location accurate
- Normal Fault—Location approximate

1:144,448

0 1.25 2.5 5 mi

0 2.25 4.5 9 km

ATTACHMENT 6

Monica Peppin

From: Chase Settle <Chase_Settle@eogresources.com>
Sent: October 6, 2022 11:03 AM
To: Michael Moffitt; Monica Peppin
Subject: FW: [EXTERNAL] Gill BGJ 1 (1RP-2717 and 1RP-4046) Sampling Notification

---

From: Tina Huerta <Tina_Huerta@eogresources.com>
Sent: Thursday, October 6, 2022 11:02 AM
To: Artesia S&E Spill Remediation <Artesia_S&E_Spill_Remediation@eogresources.com>
Cc: Artesia Regulatory <Artesia_Regulatory@eogresources.com>
Subject: FW: [EXTERNAL] Gill BGJ 1 (1RP-2717 and 1RP-4046) Sampling Notification

FYI

From: Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>
Sent: Thursday, October 6, 2022 8:56 AM
To: Tina Huerta <Tina_Huerta@eogresources.com>
Subject: FW: [EXTERNAL] Gill BGJ 1 (1RP-2717 and 1RP-4046) Sampling Notification

Tina

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

Thanks,
Jennifer Nobui

From: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Sent: Thursday, October 6, 2022 8:08 AM
To: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>; Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Subject: Fw: [EXTERNAL] Gill BGJ 1 (1RP-2717 and 1RP-4046) Sampling Notification

---

From: Tina Huerta <Tina_Huerta@eogresources.com>
Sent: Thursday, October 6, 2022 8:07 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Artesia S&E Spill Remediation <Artesia_S&E_Spill_Remediation@eogresources.com>; Artesia Regulatory <Artesia_Regulatory@eogresources.com>
Subject: [EXTERNAL] Gill BGJ 1 (1RP-2717 and 1RP-4046) Sampling Notification

Good Morning,

EOG Resources, Inc. respectfully submits notification of sampling to be conducted at the below location.

Gill BGJ 1
L-29-9S-35E
Lea County, NM
1RP-2717 and 1RP-4046

Sampling will begin at 8:00 a.m. on Monday, October 10, 2022 and continue through Friday, October 14, 2022.

Thank you,

Tina Huerta
Regulatory Specialist
Direct: 575.748.4168
Cell: 575.703.3121
Email: tina_huerta@eogresources.com

eog resources
Artesia Division

Lakin Pullman

From: Michael Moffitt
Sent: October 29, 2022 2:31 PM
To: Lakin Pullman
Subject: Fwd: [EXTERNAL] Gill BGJ 1 (1RP-2717 and 1RP-4046) Sampling Notification

FYI

Get Outlook for Android

From: Chase Settle <Chase_Settle@eogresources.com>
Sent: Thursday, October 13, 2022 11:23:54 AM
To: Michael Moffitt <MMoffitt@vertex.ca>
Subject: FW: [EXTERNAL] Gill BGJ 1 (1RP-2717 and 1RP-4046) Sampling Notification

---

From: Tina Huerta <Tina_Huerta@eogresources.com>
Sent: Thursday, October 13, 2022 10:58 AM
To: Artesia S&E Spill Remediation <Artesia_S&E_Spill_Remediation@eogresources.com>
Cc: Artesia Regulatory <Artesia_Regulatory@eogresources.com>
Subject: FW: [EXTERNAL] Gill BGJ 1 (1RP-2717 and 1RP-4046) Sampling Notification

FYI

From: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Sent: Thursday, October 13, 2022 8:45 AM
To: Tina Huerta <Tina_Huerta@eogresources.com>
Cc: Artesia S&E Spill Remediation <Artesia_S&E_Spill_Remediation@eogresources.com>; Artesia Regulatory <Artesia_Regulatory@eogresources.com>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Subject: Re: [EXTERNAL] Gill BGJ 1 (1RP-2717 and 1RP-4046) Sampling Notification

Tina,

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

Thanks,
Jocelyn Harimon

From: Tina Huerta <Tina_Huerta@eogresources.com>
Sent: Thursday, October 13, 2022 8:25 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>

Cc: Artesia S&E Spill Remediation <Artesia_S&E_Spill_Remediation@eogresources.com>; Artesia Regulatory <Artesia_Regulatory@eogresources.com>
Subject: [EXTERNAL] Gill BGJ 1 (1RP-2717 and 1RP-4046) Sampling Notification

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

Good Morning,

EOG Resources, Inc. respectfully submits notification of sampling to be conducted at the below location.

Gill BGJ 1
L-29-9S-35E
Lea County, NM
1RP-2717 and 1RP-4046

Sampling will begin at 8:30 a.m. on Monday, October 17, 2022 and continue through Friday, October 21, 2022.

Thank you,

Tina Huerta
Regulatory Specialist
Direct: 575.748.4168
Cell: 575.703.3121
Email: tina_huerta@eogresources.com

eog resources
Artesia Division

Lakin Pullman

From: Chase Settle <Chase_Settle@eogresources.com>
Sent: October 20, 2022 7:31 PM
To: Michael Moffitt; Monica Peppin
Subject: Fwd: [EXTERNAL] Gill BGJ 1 (1RP-2717 and 1RP-4046) Sampling Notification

Get Outlook for iOS

From: Tina Huerta <Tina_Huerta@eogresources.com>
Sent: Thursday, October 20, 2022 4:29:28 PM
To: Artesia S&E Spill Remediation <Artesia_S&E_Spill_Remediation@eogresources.com>
Cc: Artesia Regulatory <Artesia_Regulatory@eogresources.com>
Subject: FW: [EXTERNAL] Gill BGJ 1 (1RP-2717 and 1RP-4046) Sampling Notification

FYI

From: Billings, Bradford, EMNRD <Bradford.Billings@emnrd.nm.gov>
Sent: Thursday, October 20, 2022 3:09 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Cc: Tina Huerta <Tina_Huerta@eogresources.com>
Subject: RE: [EXTERNAL] Gill BGJ 1 (1RP-2717 and 1RP-4046) Sampling Notification

Hello,

Thank you for the notification. Please include copy of this communication in allied report(S).

Bradford Billings
EMNRD/OCD

From: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Sent: Thursday, October 20, 2022 1:11 PM
To: Billings, Bradford, EMNRD <Bradford.Billings@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Subject: FW: [EXTERNAL] Gill BGJ 1 (1RP-2717 and 1RP-4046) Sampling Notification

Jocelyn Harimon ● Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@state.nm.us

http:// www.emnrd.nm.gov

From: Tina Huerta <Tina_Huerta@eogresources.com>
Sent: Thursday, October 20, 2022 10:15 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Artesia S&E Spill Remediation <Artesia_S&E_Spill_Remediation@eogresources.com>; Artesia Regulatory <Artesia_Regulatory@eogresources.com>
Subject: [EXTERNAL] Gill BGJ 1 (1RP-2717 and 1RP-4046) Sampling Notification

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

Good Morning,

EOG Resources, Inc. respectfully submits notification of sampling to be conducted at the below location.

Gill BGJ 1
L-29-9S-35E
Lea County, NM
1RP-2717 and 1RP-4046

Sampling will begin at 8:30 a.m. on Monday, October 24, 2022 and continue through Friday, October 28, 2022.

Thank you,

Tina Huerta
Regulatory Specialist
Direct: 575.748.4168
Cell: 575.703.3121
Email: tina_huerta@eogresources.com

eog resources
Artesia Division

Sally Carttar

From: Chase Settle <Chase_Settle@eogresources.com>
Sent: October 31, 2022 10:34 AM
To: Michael Moffitt
Cc: Sally Carttar
Subject: FW: Gill BGJ 1 (1RP-2717 and nJXK1620138458) Sampling Notification

---

From: Tina Huerta <Tina_Huerta@eogresources.com>
Sent: Monday, October 31, 2022 10:11 AM
To: ocd.enviro@emnrd.nm.gov
Cc: Artesia S&E Spill Remediation <Artesia_S&E_Spill_Remediation@eogresources.com>; Artesia Regulatory <Artesia_Regulatory@eogresources.com>
Subject: Gill BGJ 1 (1RP-2717 and nJXK1620138458) Sampling Notification

Good Morning,

EOG Resources, Inc. respectfully submits notification of sampling to be conducted at the below location.

Gill BGJ 1
L-29-9S-35E
Lea County, NM
1RP-2717 and nJXK1620138458

Sampling will begin at 11:00 a.m. on Wednesday, November 2, 2022 and continue through Thursday, November 3, 2022.

Thank you,

Tina Huerta
Regulatory Specialist
Direct: 575.748.4168
Cell: 575.703.3121
Email: tina_huerta@eogresources.com

eog resources
Artesia Division

ATTACHMENT 7

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

October 06, 2021

Chase Settle
EOG
105 South Fourth Street
Artesia, NM 88210
TEL:
FAX

RE: Gill BGJ 1 OrderNo.: 2109D89

Dear Chase Settle:

Hall Environmental Analysis Laboratory received 21 sample(s) on 9/24/2021 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2109D89**
Date Reported: **10/6/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-01 0'
Project: Gill BGJ 1
Collection Date: 9/23/2021 8:00:00 AM
Lab ID: 2109D89-001 **Matrix:** SOIL **Received Date:** 9/24/2021 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	1500	60		mg/Kg	20	9/30/2021 1:23:43 PM	62931
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	35	9.2		mg/Kg	1	9/30/2021 12:25:31 PM	62840
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/30/2021 12:25:31 PM	62840
Surr: DNOP	70.9	70-130		%Rec	1	9/30/2021 12:25:31 PM	62840
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/28/2021 4:56:25 PM	62834
Surr: BFB	103	70-130		%Rec	1	9/28/2021 4:56:25 PM	62834
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/28/2021 4:56:25 PM	62834
Toluene	ND	0.049		mg/Kg	1	9/28/2021 4:56:25 PM	62834
Ethylbenzene	ND	0.049		mg/Kg	1	9/28/2021 4:56:25 PM	62834
Xylenes, Total	ND	0.097		mg/Kg	1	9/28/2021 4:56:25 PM	62834
Surr: 4-Bromofluorobenzene	89.6	70-130		%Rec	1	9/28/2021 4:56:25 PM	62834

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

Qualifiers:

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

Analytical Report
Lab Order **2109D89**
Date Reported: **10/6/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-01 1'
Project: Gill BGJ 1
Collection Date: 9/23/2021 8:05:00 AM
Lab ID: 2109D89-002 **Matrix:** SOIL **Received Date:** 9/24/2021 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	750	60		mg/Kg	20	9/30/2021 2:00:56 PM	62931
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	19	10		mg/Kg	1	9/28/2021 3:17:20 PM	62840
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/28/2021 3:17:20 PM	62840
Surr: DNOP	90.9	70-130		%Rec	1	9/28/2021 3:17:20 PM	62840
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/28/2021 5:19:57 PM	62834
Surr: BFB	103	70-130		%Rec	1	9/28/2021 5:19:57 PM	62834
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	9/28/2021 5:19:57 PM	62834
Toluene	ND	0.049		mg/Kg	1	9/28/2021 5:19:57 PM	62834
Ethylbenzene	ND	0.049		mg/Kg	1	9/28/2021 5:19:57 PM	62834
Xylenes, Total	ND	0.098		mg/Kg	1	9/28/2021 5:19:57 PM	62834
Surr: 4-Bromofluorobenzene	88.1	70-130		%Rec	1	9/28/2021 5:19:57 PM	62834

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

Qualifiers:

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

Analytical Report
Lab Order **2109D89**
Date Reported: **10/6/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-01 2'
Project: Gill BGJ 1
Collection Date: 9/23/2021 8:10:00 AM
Lab ID: 2109D89-003 **Matrix:** SOIL **Received Date:** 9/24/2021 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	610	60		mg/Kg	20	9/30/2021 2:13:21 PM	62931
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	9/28/2021 2:52:36 PM	62840
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	9/28/2021 2:52:36 PM	62840
Surr: DNOP	92.8	70-130		%Rec	1	9/28/2021 2:52:36 PM	62840
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/28/2021 5:43:31 PM	62834
Surr: BFB	105	70-130		%Rec	1	9/28/2021 5:43:31 PM	62834
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/28/2021 5:43:31 PM	62834
Toluene	ND	0.048		mg/Kg	1	9/28/2021 5:43:31 PM	62834
Ethylbenzene	ND	0.048		mg/Kg	1	9/28/2021 5:43:31 PM	62834
Xylenes, Total	ND	0.096		mg/Kg	1	9/28/2021 5:43:31 PM	62834
Surr: 4-Bromofluorobenzene	91.4	70-130		%Rec	1	9/28/2021 5:43:31 PM	62834

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

Qualifiers:

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

Analytical Report
Lab Order **2109D89**
Date Reported: **10/6/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-02 0'
Project: Gill BGJ 1
Collection Date: 9/23/2021 8:20:00 AM
Lab ID: 2109D89-004 **Matrix:** SOIL **Received Date:** 9/24/2021 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	1400	61		mg/Kg	20	9/30/2021 2:25:46 PM	62931
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	120	18		mg/Kg	2	9/30/2021 3:48:28 PM	62840
Motor Oil Range Organics (MRO)	150	88		mg/Kg	2	9/30/2021 3:48:28 PM	62840
Surr: DNOP	77.5	70-130		%Rec	2	9/30/2021 3:48:28 PM	62840
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/28/2021 6:07:12 PM	62834
Surr: BFB	104	70-130		%Rec	1	9/28/2021 6:07:12 PM	62834
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/28/2021 6:07:12 PM	62834
Toluene	ND	0.049		mg/Kg	1	9/28/2021 6:07:12 PM	62834
Ethylbenzene	ND	0.049		mg/Kg	1	9/28/2021 6:07:12 PM	62834
Xylenes, Total	ND	0.097		mg/Kg	1	9/28/2021 6:07:12 PM	62834
Surr: 4-Bromofluorobenzene	90.4	70-130		%Rec	1	9/28/2021 6:07:12 PM	62834

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

Qualifiers:

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

Analytical Report
Lab Order **2109D89**
Date Reported: **10/6/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-02 1'
Project: Gill BGJ 1
Collection Date: 9/23/2021 8:25:00 AM
Lab ID: 2109D89-005 **Matrix:** SOIL **Received Date:** 9/24/2021 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**VP**
Chloride	780	60		mg/Kg	20	9/30/2021 2:38:11 PM	62931
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**SB**
Diesel Range Organics (DRO)	14	9.8		mg/Kg	1	9/28/2021 3:42:31 PM	62840
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/28/2021 3:42:31 PM	62840
Surr: DNOP	83.7	70-130		%Rec	1	9/28/2021 3:42:31 PM	62840
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/28/2021 6:30:48 PM	62834
Surr: BFB	105	70-130		%Rec	1	9/28/2021 6:30:48 PM	62834
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	9/28/2021 6:30:48 PM	62834
Toluene	ND	0.049		mg/Kg	1	9/28/2021 6:30:48 PM	62834
Ethylbenzene	ND	0.049		mg/Kg	1	9/28/2021 6:30:48 PM	62834
Xylenes, Total	ND	0.098		mg/Kg	1	9/28/2021 6:30:48 PM	62834
Surr: 4-Bromofluorobenzene	90.8	70-130		%Rec	1	9/28/2021 6:30:48 PM	62834

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

Qualifiers:

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

Analytical Report
Lab Order **2109D89**
Date Reported: **10/6/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-02 2'
Project: Gill BGJ 1
Collection Date: 9/23/2021 8:30:00 AM
Lab ID: 2109D89-006 **Matrix:** SOIL
Received Date: 9/24/2021 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	720	60		mg/Kg	20	9/30/2021 2:50:36 PM	62931
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	9/28/2021 4:07:35 PM	62840
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/28/2021 4:07:35 PM	62840
Surr: DNOP	99.7	70-130		%Rec	1	9/28/2021 4:07:35 PM	62840
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/28/2021 6:54:24 PM	62834
Surr: BFB	109	70-130		%Rec	1	9/28/2021 6:54:24 PM	62834
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/28/2021 6:54:24 PM	62834
Toluene	ND	0.048		mg/Kg	1	9/28/2021 6:54:24 PM	62834
Ethylbenzene	ND	0.048		mg/Kg	1	9/28/2021 6:54:24 PM	62834
Xylenes, Total	ND	0.096		mg/Kg	1	9/28/2021 6:54:24 PM	62834
Surr: 4-Bromofluorobenzene	94.4	70-130		%Rec	1	9/28/2021 6:54:24 PM	62834

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

Qualifiers:

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

Analytical Report
Lab Order **2109D89**
Date Reported: **10/6/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-03 0'
Project: Gill BGJ 1
Collection Date: 9/23/2021 8:40:00 AM
Lab ID: 2109D89-007 **Matrix:** SOIL **Received Date:** 9/24/2021 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	270	60		mg/Kg	20	9/30/2021 3:27:50 PM	62931
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	88	9.7		mg/Kg	1	10/1/2021 10:35:12 AM	62840
Motor Oil Range Organics (MRO)	93	48		mg/Kg	1	10/1/2021 10:35:12 AM	62840
Surr: DNOP	82.9	70-130		%Rec	1	10/1/2021 10:35:12 AM	62840
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/28/2021 7:17:52 PM	62834
Surr: BFB	109	70-130		%Rec	1	9/28/2021 7:17:52 PM	62834
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	9/28/2021 7:17:52 PM	62834
Toluene	ND	0.050		mg/Kg	1	9/28/2021 7:17:52 PM	62834
Ethylbenzene	ND	0.050		mg/Kg	1	9/28/2021 7:17:52 PM	62834
Xylenes, Total	ND	0.10		mg/Kg	1	9/28/2021 7:17:52 PM	62834
Surr: 4-Bromofluorobenzene	94.1	70-130		%Rec	1	9/28/2021 7:17:52 PM	62834

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

Qualifiers:

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

Analytical Report
Lab Order **2109D89**
Date Reported: **10/6/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-03 1'
Project: Gill BGJ 1
Collection Date: 9/23/2021 8:45:00 AM
Lab ID: 2109D89-008 **Matrix:** SOIL **Received Date:** 9/24/2021 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	470	60		mg/Kg	20	9/30/2021 3:40:15 PM	62931
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	46	9.8		mg/Kg	1	9/30/2021 1:13:22 PM	62840
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/30/2021 1:13:22 PM	62840
Surr: DNOP	82.2	70-130		%Rec	1	9/30/2021 1:13:22 PM	62840
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/28/2021 7:41:22 PM	62834
Surr: BFB	107	70-130		%Rec	1	9/28/2021 7:41:22 PM	62834
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	9/28/2021 7:41:22 PM	62834
Toluene	ND	0.050		mg/Kg	1	9/28/2021 7:41:22 PM	62834
Ethylbenzene	ND	0.050		mg/Kg	1	9/28/2021 7:41:22 PM	62834
Xylenes, Total	ND	0.099		mg/Kg	1	9/28/2021 7:41:22 PM	62834
Surr: 4-Bromofluorobenzene	92.1	70-130		%Rec	1	9/28/2021 7:41:22 PM	62834

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

Qualifiers:

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

Analytical Report
Lab Order **2109D89**
Date Reported: **10/6/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-04 0'
Project: Gill BGJ 1
Collection Date: 9/23/2021 8:55:00 AM
Lab ID: 2109D89-009 **Matrix:** SOIL **Received Date:** 9/24/2021 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	1400	60		mg/Kg	20	9/30/2021 3:52:40 PM	62931
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	86	19		mg/Kg	2	9/30/2021 4:12:13 PM	62840
Motor Oil Range Organics (MRO)	110	94		mg/Kg	2	9/30/2021 4:12:13 PM	62840
Surr: DNOP	92.4	70-130		%Rec	2	9/30/2021 4:12:13 PM	62840
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/28/2021 8:04:53 PM	62834
Surr: BFB	104	70-130		%Rec	1	9/28/2021 8:04:53 PM	62834
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/28/2021 8:04:53 PM	62834
Toluene	ND	0.049		mg/Kg	1	9/28/2021 8:04:53 PM	62834
Ethylbenzene	ND	0.049		mg/Kg	1	9/28/2021 8:04:53 PM	62834
Xylenes, Total	ND	0.097		mg/Kg	1	9/28/2021 8:04:53 PM	62834
Surr: 4-Bromofluorobenzene	90.3	70-130		%Rec	1	9/28/2021 8:04:53 PM	62834

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

Qualifiers:

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

Analytical Report
Lab Order **2109D89**
Date Reported: **10/6/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-04 1'
Project: Gill BGJ 1
Collection Date: 9/23/2021 9:00:00 AM
Lab ID: 2109D89-010 **Matrix:** SOIL
Received Date: 9/24/2021 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	580	60		mg/Kg	20	9/30/2021 4:05:05 PM	62931
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	61	10		mg/Kg	1	10/1/2021 10:58:38 AM	62840
Motor Oil Range Organics (MRO)	80	50		mg/Kg	1	10/1/2021 10:58:38 AM	62840
Surr: DNOP	86.7	70-130		%Rec	1	10/1/2021 10:58:38 AM	62840
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/28/2021 9:15:25 PM	62834
Surr: BFB	106	70-130		%Rec	1	9/28/2021 9:15:25 PM	62834
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/28/2021 9:15:25 PM	62834
Toluene	ND	0.048		mg/Kg	1	9/28/2021 9:15:25 PM	62834
Ethylbenzene	ND	0.048		mg/Kg	1	9/28/2021 9:15:25 PM	62834
Xylenes, Total	ND	0.096		mg/Kg	1	9/28/2021 9:15:25 PM	62834
Surr: 4-Bromofluorobenzene	91.6	70-130		%Rec	1	9/28/2021 9:15:25 PM	62834

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

Qualifiers:

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

Analytical Report
Lab Order **2109D89**
Date Reported: **10/6/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-04 2'
Project: Gill BGJ 1
Collection Date: 9/23/2021 9:05:00 AM
Lab ID: 2109D89-011 **Matrix:** SOIL **Received Date:** 9/24/2021 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	1100	60		mg/Kg	20	9/30/2021 4:17:30 PM	62931
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	29	9.6		mg/Kg	1	9/30/2021 12:49:24 PM	62840
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/30/2021 12:49:24 PM	62840
Surr: DNOP	94.2	70-130		%Rec	1	9/30/2021 12:49:24 PM	62840
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/28/2021 9:39:03 PM	62834
Surr: BFB	110	70-130		%Rec	1	9/28/2021 9:39:03 PM	62834
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	9/28/2021 9:39:03 PM	62834
Toluene	ND	0.049		mg/Kg	1	9/28/2021 9:39:03 PM	62834
Ethylbenzene	ND	0.049		mg/Kg	1	9/28/2021 9:39:03 PM	62834
Xylenes, Total	ND	0.099		mg/Kg	1	9/28/2021 9:39:03 PM	62834
Surr: 4-Bromofluorobenzene	92.9	70-130		%Rec	1	9/28/2021 9:39:03 PM	62834

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

Qualifiers:

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

Analytical Report
Lab Order **2109D89**
Date Reported: **10/6/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-05 0'
Project: Gill BGJ 1
Collection Date: 9/23/2021 9:15:00 AM
Lab ID: 2109D89-012 **Matrix:** SOIL
Received Date: 9/24/2021 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	9/30/2021 4:29:55 PM	62931
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/28/2021 5:41:39 PM	62841
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/28/2021 5:41:39 PM	62841
Surr: DNOP	75.5	70-130		%Rec	1	9/28/2021 5:41:39 PM	62841
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/28/2021 10:02:36 PM	62835
Surr: BFB	108	70-130		%Rec	1	9/28/2021 10:02:36 PM	62835
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/28/2021 10:02:36 PM	62835
Toluene	ND	0.049		mg/Kg	1	9/28/2021 10:02:36 PM	62835
Ethylbenzene	ND	0.049		mg/Kg	1	9/28/2021 10:02:36 PM	62835
Xylenes, Total	ND	0.098		mg/Kg	1	9/28/2021 10:02:36 PM	62835
Surr: 4-Bromofluorobenzene	93.7	70-130		%Rec	1	9/28/2021 10:02:36 PM	62835

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

Qualifiers:

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

Analytical Report
Lab Order **2109D89**
Date Reported: **10/6/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-05 1'
Project: Gill BGJ 1
Collection Date: 9/23/2021 9:20:00 AM
Lab ID: 2109D89-013 **Matrix:** SOIL **Received Date:** 9/24/2021 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	61		mg/Kg	20	9/30/2021 4:42:19 PM	62931
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/28/2021 7:19:01 PM	62841
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/28/2021 7:19:01 PM	62841
Surr: DNOP	63.7	70-130	S	%Rec	1	9/28/2021 7:19:01 PM	62841
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/28/2021 11:12:58 PM	62835
Surr: BFB	109	70-130		%Rec	1	9/28/2021 11:12:58 PM	62835
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	9/28/2021 11:12:58 PM	62835
Toluene	ND	0.050		mg/Kg	1	9/28/2021 11:12:58 PM	62835
Ethylbenzene	ND	0.050		mg/Kg	1	9/28/2021 11:12:58 PM	62835
Xylenes, Total	ND	0.099		mg/Kg	1	9/28/2021 11:12:58 PM	62835
Surr: 4-Bromofluorobenzene	95.1	70-130		%Rec	1	9/28/2021 11:12:58 PM	62835

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

Qualifiers:

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

Analytical Report
Lab Order **2109D89**
Date Reported: **10/6/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-06 0'
Project: Gill BGJ 1
Collection Date: 9/23/2021 9:30:00 AM
Lab ID: 2109D89-014 **Matrix:** SOIL **Received Date:** 9/24/2021 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	9/30/2021 5:44:24 PM	62935
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	9/28/2021 7:43:19 PM	62841
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/28/2021 7:43:19 PM	62841
Surr: DNOP	82.1	70-130		%Rec	1	9/28/2021 7:43:19 PM	62841
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/29/2021 2:16:03 PM	62835
Surr: BFB	106	70-130		%Rec	1	9/29/2021 2:16:03 PM	62835
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	9/29/2021 2:16:03 PM	62835
Toluene	ND	0.049		mg/Kg	1	9/29/2021 2:16:03 PM	62835
Ethylbenzene	ND	0.049		mg/Kg	1	9/29/2021 2:16:03 PM	62835
Xylenes, Total	ND	0.098		mg/Kg	1	9/29/2021 2:16:03 PM	62835
Surr: 4-Bromofluorobenzene	92.4	70-130		%Rec	1	9/29/2021 2:16:03 PM	62835

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

Qualifiers:

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

Analytical Report
Lab Order **2109D89**
Date Reported: **10/6/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-06 1'
Project: Gill BGJ 1
Collection Date: 9/23/2021 9:35:00 AM
Lab ID: 2109D89-015 **Matrix:** SOIL
Received Date: 9/24/2021 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	9/30/2021 6:21:38 PM	62935
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	9/28/2021 8:07:43 PM	62841
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/28/2021 8:07:43 PM	62841
Surr: DNOP	75.2	70-130		%Rec	1	9/28/2021 8:07:43 PM	62841
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/29/2021 2:39:35 PM	62835
Surr: BFB	106	70-130		%Rec	1	9/29/2021 2:39:35 PM	62835
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/29/2021 2:39:35 PM	62835
Toluene	ND	0.048		mg/Kg	1	9/29/2021 2:39:35 PM	62835
Ethylbenzene	ND	0.048		mg/Kg	1	9/29/2021 2:39:35 PM	62835
Xylenes, Total	ND	0.097		mg/Kg	1	9/29/2021 2:39:35 PM	62835
Surr: 4-Bromofluorobenzene	91.4	70-130		%Rec	1	9/29/2021 2:39:35 PM	62835

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

Qualifiers:

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

Analytical Report
Lab Order **2109D89**
Date Reported: **10/6/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-06 1.5'
Project: Gill BGJ 1
Collection Date: 9/23/2021 9:40:00 AM
Lab ID: 2109D89-016 **Matrix:** SOIL **Received Date:** 9/24/2021 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	9/30/2021 6:58:53 PM	62935
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	56	9.7		mg/Kg	1	9/30/2021 1:37:18 PM	62841
Motor Oil Range Organics (MRO)	98	49		mg/Kg	1	9/30/2021 1:37:18 PM	62841
Surr: DNOP	87.4	70-130		%Rec	1	9/30/2021 1:37:18 PM	62841
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/29/2021 3:02:59 PM	62835
Surr: BFB	105	70-130		%Rec	1	9/29/2021 3:02:59 PM	62835
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/29/2021 3:02:59 PM	62835
Toluene	ND	0.049		mg/Kg	1	9/29/2021 3:02:59 PM	62835
Ethylbenzene	ND	0.049		mg/Kg	1	9/29/2021 3:02:59 PM	62835
Xylenes, Total	ND	0.097		mg/Kg	1	9/29/2021 3:02:59 PM	62835
Surr: 4-Bromofluorobenzene	91.6	70-130		%Rec	1	9/29/2021 3:02:59 PM	62835

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

Qualifiers:

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

Analytical Report
Lab Order **2109D89**
Date Reported: **10/6/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-07 0'
Project: Gill BGJ 1
Collection Date: 9/23/2021 11:30:00 AM
Lab ID: 2109D89-017 **Matrix:** SOIL **Received Date:** 9/24/2021 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	9/30/2021 7:11:18 PM	62935
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	65	9.4		mg/Kg	1	9/30/2021 2:01:20 PM	62841
Motor Oil Range Organics (MRO)	75	47		mg/Kg	1	9/30/2021 2:01:20 PM	62841
Surr: DNOP	86.3	70-130		%Rec	1	9/30/2021 2:01:20 PM	62841
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/29/2021 4:37:01 PM	62835
Surr: BFB	105	70-130		%Rec	1	9/29/2021 4:37:01 PM	62835
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/29/2021 4:37:01 PM	62835
Toluene	ND	0.048		mg/Kg	1	9/29/2021 4:37:01 PM	62835
Ethylbenzene	ND	0.048		mg/Kg	1	9/29/2021 4:37:01 PM	62835
Xylenes, Total	ND	0.097		mg/Kg	1	9/29/2021 4:37:01 PM	62835
Surr: 4-Bromofluorobenzene	90.8	70-130		%Rec	1	9/29/2021 4:37:01 PM	62835

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

Qualifiers:

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

Analytical Report
Lab Order **2109D89**
Date Reported: **10/6/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-07 1'
Project: Gill BGJ 1
Collection Date: 9/23/2021 11:35:00 AM
Lab ID: 2109D89-018 **Matrix:** SOIL **Received Date:** 9/24/2021 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	9/30/2021 7:23:43 PM	62935
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	86	9.3		mg/Kg	1	9/30/2021 2:25:16 PM	62841
Motor Oil Range Organics (MRO)	110	47		mg/Kg	1	9/30/2021 2:25:16 PM	62841
Surr: DNOP	93.2	70-130		%Rec	1	9/30/2021 2:25:16 PM	62841
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/29/2021 5:00:32 PM	62835
Surr: BFB	107	70-130		%Rec	1	9/29/2021 5:00:32 PM	62835
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/29/2021 5:00:32 PM	62835
Toluene	ND	0.049		mg/Kg	1	9/29/2021 5:00:32 PM	62835
Ethylbenzene	ND	0.049		mg/Kg	1	9/29/2021 5:00:32 PM	62835
Xylenes, Total	ND	0.097		mg/Kg	1	9/29/2021 5:00:32 PM	62835
Surr: 4-Bromofluorobenzene	93.1	70-130		%Rec	1	9/29/2021 5:00:32 PM	62835

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

Qualifiers:

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

Analytical Report
Lab Order **2109D89**
Date Reported: **10/6/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-07 2'
Project: Gill BGJ 1
Collection Date: 9/23/2021 11:40:00 AM
Lab ID: 2109D89-019 **Matrix:** SOIL **Received Date:** 9/24/2021 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	9/30/2021 7:36:07 PM	62935
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	7.8		mg/Kg	1	9/28/2021 8:31:56 PM	62841
Motor Oil Range Organics (MRO)	ND	39		mg/Kg	1	9/28/2021 8:31:56 PM	62841
Surr: DNOP	80.5	70-130		%Rec	1	9/28/2021 8:31:56 PM	62841
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/29/2021 5:24:07 PM	62835
Surr: BFB	110	70-130		%Rec	1	9/29/2021 5:24:07 PM	62835
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	9/29/2021 5:24:07 PM	62835
Toluene	ND	0.049		mg/Kg	1	9/29/2021 5:24:07 PM	62835
Ethylbenzene	ND	0.049		mg/Kg	1	9/29/2021 5:24:07 PM	62835
Xylenes, Total	ND	0.098		mg/Kg	1	9/29/2021 5:24:07 PM	62835
Surr: 4-Bromofluorobenzene	94.8	70-130		%Rec	1	9/29/2021 5:24:07 PM	62835

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

Qualifiers:

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

Analytical Report
Lab Order **2109D89**
Date Reported: **10/6/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-08 0'
Project: Gill BGJ 1
Collection Date: 9/23/2021 12:00:00 PM
Lab ID: 2109D89-020 **Matrix:** SOIL **Received Date:** 9/24/2021 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	59		mg/Kg	20	9/30/2021 8:13:22 PM	62935
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/28/2021 8:56:22 PM	62841
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/28/2021 8:56:22 PM	62841
Surr: DNOP	64.0	70-130	S	%Rec	1	9/28/2021 8:56:22 PM	62841
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/29/2021 5:47:51 PM	62835
Surr: BFB	105	70-130		%Rec	1	9/29/2021 5:47:51 PM	62835
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/29/2021 5:47:51 PM	62835
Toluene	ND	0.048		mg/Kg	1	9/29/2021 5:47:51 PM	62835
Ethylbenzene	ND	0.048		mg/Kg	1	9/29/2021 5:47:51 PM	62835
Xylenes, Total	ND	0.097		mg/Kg	1	9/29/2021 5:47:51 PM	62835
Surr: 4-Bromofluorobenzene	91.8	70-130		%Rec	1	9/29/2021 5:47:51 PM	62835

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

Qualifiers:

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

Analytical Report
Lab Order **2109D89**
Date Reported: **10/6/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-08 1'
Project: Gill BGJ 1
Collection Date: 9/23/2021 12:05:00 PM
Lab ID: 2109D89-021 **Matrix:** SOIL **Received Date:** 9/24/2021 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	78	60		mg/Kg	20	9/30/2021 8:25:46 PM	62935
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/28/2021 9:20:30 PM	62841
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	9/28/2021 9:20:30 PM	62841
Surr: DNOP	72.0	70-130		%Rec	1	9/28/2021 9:20:30 PM	62841
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/29/2021 6:11:19 PM	62835
Surr: BFB	106	70-130		%Rec	1	9/29/2021 6:11:19 PM	62835
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/29/2021 6:11:19 PM	62835
Toluene	ND	0.048		mg/Kg	1	9/29/2021 6:11:19 PM	62835
Ethylbenzene	ND	0.048		mg/Kg	1	9/29/2021 6:11:19 PM	62835
Xylenes, Total	ND	0.096		mg/Kg	1	9/29/2021 6:11:19 PM	62835
Surr: 4-Bromofluorobenzene	92.4	70-130		%Rec	1	9/29/2021 6:11:19 PM	62835

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2109D89**

06-Oct-21

Client: EOG

Project: Gill BGJ 1

Sample ID: **MB-62931** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **62931** RunNo: **81698**

Prep Date: **9/30/2021** Analysis Date: **9/30/2021** SeqNo: **2888474** Units: **mg/Kg**

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

Sample ID: **LCS-62931** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **62931** RunNo: **81698**

Prep Date: **9/30/2021** Analysis Date: **9/30/2021** SeqNo: **2888475** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.9	90	110			

Sample ID: **MB-62935** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **62935** RunNo: **81698**

Prep Date: **9/30/2021** Analysis Date: **9/30/2021** SeqNo: **2888516** Units: **mg/Kg**

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

Sample ID: **LCS-62935** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **62935** RunNo: **81698**

Prep Date: **9/30/2021** Analysis Date: **9/30/2021** SeqNo: **2888517** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.2	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2109D89**

06-Oct-21

Client: EOG

Project: Gill BGJ 1

Sample ID: **MB-62840**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **62840**	RunNo: **81609**							
Prep Date: **9/27/2021**	Analysis Date: **9/28/2021**	SeqNo: **2886147**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.5		10.00		94.9	70	130			

Sample ID: **LCS-62840**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **62840**	RunNo: **81609**							
Prep Date: **9/27/2021**	Analysis Date: **9/28/2021**	SeqNo: **2886148**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	87.2	68.9	135			
Surr: DNOP	4.6		5.000		92.4	70	130			

Sample ID: **LCS-62841**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **62841**	RunNo: **81656**							
Prep Date: **9/27/2021**	Analysis Date: **9/28/2021**	SeqNo: **2888240**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	98.3	68.9	135			
Surr: DNOP	4.2		5.000		84.6	70	130			

Sample ID: **MB-62841**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **62841**	RunNo: **81656**							
Prep Date: **9/27/2021**	Analysis Date: **9/28/2021**	SeqNo: **2888241**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.0		10.00		89.8	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2109D89**

06-Oct-21

Client: EOG

Project: Gill BGJ 1

Sample ID: **mb-62834**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **62834**	RunNo: **81634**
Prep Date: **9/25/2021**	Analysis Date: **9/28/2021**	SeqNo: **2885069** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		104	70	130			

Sample ID: **lcs-62834**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **62834**	RunNo: **81634**
Prep Date: **9/25/2021**	Analysis Date: **9/28/2021**	SeqNo: **2885070** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	5.0	25.00	0	117	78.6	131			
Surr: BFB	1100		1000		114	70	130			

Sample ID: **mb-62835**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **62835**	RunNo: **81634**
Prep Date: **9/26/2021**	Analysis Date: **9/29/2021**	SeqNo: **2885093** 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	1100		1000		110	70	130			

Sample ID: **lcs-62835**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **62835**	RunNo: **81634**
Prep Date: **9/26/2021**	Analysis Date: **9/29/2021**	SeqNo: **2885094** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	111	78.6	131			
Surr: BFB	1200		1000		120	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2109D89**

06-Oct-21

Client: EOG

Project: Gill BGJ 1

Sample ID: **mb-62834**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **62834**	RunNo: **81634**
Prep Date: **9/25/2021**	Analysis Date: **9/28/2021**	SeqNo: **2885119** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.90		1.000		89.8	70	130			

Sample ID: **LCS-62834**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **62834**	RunNo: **81634**
Prep Date: **9/25/2021**	Analysis Date: **9/28/2021**	SeqNo: **2885120** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	95.1	80	120			
Toluene	0.99	0.050	1.000	0	98.7	80	120			
Ethylbenzene	0.98	0.050	1.000	0	98.5	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.5	80	120			
Surr: 4-Bromofluorobenzene	0.92		1.000		91.6	70	130			

Sample ID: **mb-62835**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **62835**	RunNo: **81634**
Prep Date: **9/26/2021**	Analysis Date: **9/29/2021**	SeqNo: **2885143** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.96		1.000		96.0	70	130			

Sample ID: **LCS-62835**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **62835**	RunNo: **81634**
Prep Date: **9/26/2021**	Analysis Date: **9/29/2021**	SeqNo: **2885144** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	1.000	0	98.0	80	120			
Toluene	0.99	0.050	1.000	0	98.9	80	120			
Ethylbenzene	0.96	0.050	1.000	0	96.4	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.1	80	120			
Surr: 4-Bromofluorobenzene	0.92		1.000		91.9	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: EOG | Work Order Number: 2109D89 | RcptNo: 1

Received By: Cheyenne Cason 9/24/2021 7:25:00 AM

Completed By: Isaiah Ortiz 9/24/2021 8:13:32 AM

Reviewed By: MPG 9/24/21

Chain of Custody

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

Log In

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

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

Adjusted?

Checked by: TME 9.24.21

Special Handling (if applicable)

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

Person Notified: Date:

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

Regarding:

Client Instructions:

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.9	Good	Not Present			

Chain-of-Custody Record

Client: EOG Resources

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 Day
☑ Standard ☐ Rush

Project Name: Gill BGJ #1

Project #: 21E-03278

Project Manager: Dennis Williams

Sampler: MJP

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 0.8+0.1=0.9 (°C)

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2109089	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
9/23	8:00	Soil	BH21-01 0'	4oz	ice	001	✓	✓					✓			
	8:05		BH21-01 1'			002										
	8:10		BH21-01 2'			003										
	8:20		BH21-02 0'			004										
	8:25		BH21-02 1'			005										
	8:30		BH21-02 2'			006										
	8:40		BH21-03 0'			007										
	8:45		BH21-03 1'			008										
	8:55		BH21-03 2'			009										
	9:00		BH21-04 1'			010										
	9:05		BH21-04 2'			011										
	9:15		BH21-05 0			012										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
9/23/21	1730				9/23/21	1730
9/23/21	1900		CMC courier		9/24/21	0725

Remarks: cc: M. Peppin D. Williams

Direct Bill EOG

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

Chain-of-Custody Record

Client: EOG Resources
Chase Settle
Mailing Address:
Phone #:
email or Fax#:
QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time: 5 Day
☑ Standard ☐ Rush
Project Name: Gill BGJ #1
Project #: 21E-03278
Project Manager: Dennis Williams
Sampler: MJP
On Ice: ☒ Yes ☐ No
# of Coolers: 1
Cooler Temp(including CF): 0.8+0.1=0.9 (°C)

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2109D89	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
9/23	9:20	Soil	BH21-05 1'	4oz	ice	013										
	9:30		BH21-06 0'			014										
	9:35		BH21-06 1'			015										
	9:40		BH21-06 1.5'			016										
	11:30		BH21-07 0			017										
	11:35		BH21-07 1			018										
	11:40		BH21-07 2			019										
	12:00		BH21-08 0			020										
	12:05		BH21-08 1			021	✓	✓					✓			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
9/23/23	1730				9/23/23	1730
9/23/23	1900			Courier	9/24/23	0725

Remarks: cc: M.Peppin D.Williams
Direct Bill EOG

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

October 29, 2021

Dennis Williams
EOG
105 South Fourth Street
Artesia, NM 88210
TEL:
FAX:

RE: Gill BGJ 1 OrderNo.: 2110611

Dear Dennis Williams:

Hall Environmental Analysis Laboratory received 16 sample(s) on 10/13/2021 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2110611**
Date Reported: **10/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-01 2.5'
Project: Gill BGJ 1
Collection Date: 10/11/2021 11:00:00 AM
Lab ID: 2110611-001 **Matrix:** SOIL
Received Date: 10/13/2021 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	74	59		mg/Kg	20	10/19/2021 8:18:00 AM	63384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	8.5		mg/Kg	1	10/15/2021 3:00:19 PM	63288
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	10/15/2021 3:00:19 PM	63288
Surr: DNOP	123	70-130		%Rec	1	10/15/2021 3:00:19 PM	63288
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/16/2021 11:56:12 AM	63278
Surr: BFB	108	70-130		%Rec	1	10/16/2021 11:56:12 AM	63278
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	10/16/2021 11:56:12 AM	63278
Toluene	ND	0.050		mg/Kg	1	10/16/2021 11:56:12 AM	63278
Ethylbenzene	ND	0.050		mg/Kg	1	10/16/2021 11:56:12 AM	63278
Xylenes, Total	ND	0.099		mg/Kg	1	10/16/2021 11:56:12 AM	63278
Surr: 4-Bromofluorobenzene	93.0	70-130		%Rec	1	10/16/2021 11:56:12 AM	63278

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

Qualifiers:

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

Analytical Report
Lab Order **2110611**
Date Reported: **10/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-02 3'
Project: Gill BGJ 1
Collection Date: 10/11/2021 11:15:00 AM
Lab ID: 2110611-002 **Matrix:** SOIL **Received Date:** 10/13/2021 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	330	60		mg/Kg	20	10/19/2021 8:55:13 AM	63384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	10/15/2021 3:11:15 PM	63288
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	10/15/2021 3:11:15 PM	63288
Surr: DNOP	73.1	70-130		%Rec	1	10/15/2021 3:11:15 PM	63288
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/16/2021 12:19:47 PM	63278
Surr: BFB	110	70-130		%Rec	1	10/16/2021 12:19:47 PM	63278
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	10/16/2021 12:19:47 PM	63278
Toluene	ND	0.047		mg/Kg	1	10/16/2021 12:19:47 PM	63278
Ethylbenzene	ND	0.047		mg/Kg	1	10/16/2021 12:19:47 PM	63278
Xylenes, Total	ND	0.094		mg/Kg	1	10/16/2021 12:19:47 PM	63278
Surr: 4-Bromofluorobenzene	94.9	70-130		%Rec	1	10/16/2021 12:19:47 PM	63278

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

Qualifiers:

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

Analytical Report
Lab Order **2110611**
Date Reported: **10/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-04 4'
Project: Gill BGJ 1
Collection Date: 10/11/2021 12:30:00 PM
Lab ID: 2110611-004 **Matrix:** SOIL **Received Date:** 10/13/2021 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	890	60		mg/Kg	20	10/19/2021 9:07:38 AM	63384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	620	9.0		mg/Kg	1	10/15/2021 3:22:12 PM	63288
Motor Oil Range Organics (MRO)	58	45		mg/Kg	1	10/15/2021 3:22:12 PM	63288
Surr: DNOP	94.8	70-130		%Rec	1	10/15/2021 3:22:12 PM	63288
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	1700	93		mg/Kg	20	10/18/2021 10:28:43 AM	63278
Surr: BFB	291	70-130	S	%Rec	20	10/18/2021 10:28:43 AM	63278
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	10/16/2021 1:30:05 PM	63278
Toluene	1.6	0.046		mg/Kg	1	10/16/2021 1:30:05 PM	63278
Ethylbenzene	4.6	0.93		mg/Kg	20	10/18/2021 10:28:43 AM	63278
Xylenes, Total	40	1.9		mg/Kg	20	10/18/2021 10:28:43 AM	63278
Surr: 4-Bromofluorobenzene	457	70-130	S	%Rec	1	10/16/2021 1:30:05 PM	63278

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

Qualifiers:

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

Analytical Report
Lab Order **2110611**
Date Reported: **10/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-04 6.5'
Project: Gill BGJ 1
Collection Date: 10/11/2021 12:45:00 PM
Lab ID: 2110611-005 **Matrix:** SOIL **Received Date:** 10/13/2021 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	330	60		mg/Kg	20	10/19/2021 9:44:52 AM	63384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/15/2021 3:43:46 PM	63288
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/15/2021 3:43:46 PM	63288
Surr: DNOP	112	70-130		%Rec	1	10/15/2021 3:43:46 PM	63288
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/18/2021 10:52:20 AM	63278
Surr: BFB	116	70-130		%Rec	1	10/18/2021 10:52:20 AM	63278
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	10/16/2021 1:53:26 PM	63278
Toluene	ND	0.047		mg/Kg	1	10/16/2021 1:53:26 PM	63278
Ethylbenzene	ND	0.047		mg/Kg	1	10/16/2021 1:53:26 PM	63278
Xylenes, Total	ND	0.095		mg/Kg	1	10/16/2021 1:53:26 PM	63278
Surr: 4-Bromofluorobenzene	93.5	70-130		%Rec	1	10/16/2021 1:53:26 PM	63278

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

Qualifiers:

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

Analytical Report
Lab Order **2110611**
Date Reported: **10/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-09 0'
Project: Gill BGJ 1
Collection Date: 10/11/2021 1:30:00 PM
Lab ID: 2110611-006 **Matrix:** SOIL **Received Date:** 10/13/2021 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	66	60		mg/Kg	20	10/19/2021 9:57:16 AM	63384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	100	9.3		mg/Kg	1	10/18/2021 1:17:53 PM	63288
Motor Oil Range Organics (MRO)	85	46		mg/Kg	1	10/18/2021 1:17:53 PM	63288
Surr: DNOP	92.1	70-130		%Rec	1	10/18/2021 1:17:53 PM	63288
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/16/2021 2:16:43 PM	63278
Surr: BFB	120	70-130		%Rec	1	10/16/2021 2:16:43 PM	63278
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	10/16/2021 2:16:43 PM	63278
Toluene	ND	0.049		mg/Kg	1	10/16/2021 2:16:43 PM	63278
Ethylbenzene	ND	0.049		mg/Kg	1	10/16/2021 2:16:43 PM	63278
Xylenes, Total	ND	0.099		mg/Kg	1	10/16/2021 2:16:43 PM	63278
Surr: 4-Bromofluorobenzene	94.3	70-130		%Rec	1	10/16/2021 2:16:43 PM	63278

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

Qualifiers:

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

Analytical Report
Lab Order **2110611**
Date Reported: **10/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-09 1'
Project: Gill BGJ 1
Collection Date: 10/11/2021 1:35:00 PM
Lab ID: 2110611-007 **Matrix:** SOIL **Received Date:** 10/13/2021 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	87	60		mg/Kg	20	10/19/2021 10:09:40 AM	63384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	10/15/2021 4:05:35 PM	63288
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	10/15/2021 4:05:35 PM	63288
Surr: DNOP	113	70-130		%Rec	1	10/15/2021 4:05:35 PM	63288
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/16/2021 2:39:55 PM	63278
Surr: BFB	104	70-130		%Rec	1	10/16/2021 2:39:55 PM	63278
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	10/16/2021 2:39:55 PM	63278
Toluene	ND	0.048		mg/Kg	1	10/16/2021 2:39:55 PM	63278
Ethylbenzene	ND	0.048		mg/Kg	1	10/16/2021 2:39:55 PM	63278
Xylenes, Total	ND	0.097		mg/Kg	1	10/16/2021 2:39:55 PM	63278
Surr: 4-Bromofluorobenzene	87.1	70-130		%Rec	1	10/16/2021 2:39:55 PM	63278

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

Qualifiers:

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

Analytical Report
Lab Order **2110611**
Date Reported: **10/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-11 0'
Project: Gill BGJ 1
Collection Date: 10/11/2021 2:30:00 PM
Lab ID: 2110611-009 **Matrix:** SOIL **Received Date:** 10/13/2021 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	61		mg/Kg	20	10/19/2021 10:22:04 AM	63384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	33	9.4		mg/Kg	1	10/19/2021 4:29:15 PM	63288
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/19/2021 4:29:15 PM	63288
Surr: DNOP	131	70-130	S	%Rec	1	10/19/2021 4:29:15 PM	63288
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/16/2021 3:03:10 PM	63278
Surr: BFB	107	70-130		%Rec	1	10/16/2021 3:03:10 PM	63278
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	10/16/2021 3:03:10 PM	63278
Toluene	ND	0.048		mg/Kg	1	10/16/2021 3:03:10 PM	63278
Ethylbenzene	ND	0.048		mg/Kg	1	10/16/2021 3:03:10 PM	63278
Xylenes, Total	ND	0.096		mg/Kg	1	10/16/2021 3:03:10 PM	63278
Surr: 4-Bromofluorobenzene	89.6	70-130		%Rec	1	10/16/2021 3:03:10 PM	63278

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

Qualifiers:

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

Analytical Report
Lab Order **2110611**
Date Reported: **10/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-11 1'
Project: Gill BGJ 1
Collection Date: 10/11/2021 2:35:00 PM
Lab ID: 2110611-010 **Matrix:** SOIL **Received Date:** 10/13/2021 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	68	60		mg/Kg	20	10/19/2021 10:34:28 AM	63384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	10/15/2021 4:27:20 PM	63288
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/15/2021 4:27:20 PM	63288
Surr: DNOP	133	70-130	S	%Rec	1	10/15/2021 4:27:20 PM	63288
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/16/2021 3:26:25 PM	63278
Surr: BFB	107	70-130		%Rec	1	10/16/2021 3:26:25 PM	63278
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	10/16/2021 3:26:25 PM	63278
Toluene	ND	0.048		mg/Kg	1	10/16/2021 3:26:25 PM	63278
Ethylbenzene	ND	0.048		mg/Kg	1	10/16/2021 3:26:25 PM	63278
Xylenes, Total	ND	0.097		mg/Kg	1	10/16/2021 3:26:25 PM	63278
Surr: 4-Bromofluorobenzene	91.1	70-130		%Rec	1	10/16/2021 3:26:25 PM	63278

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

Qualifiers:

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

Analytical Report
Lab Order **2110611**
Date Reported: **10/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-12 0'
Project: Gill BGJ 1
Collection Date: 10/12/2021 9:30:00 AM
Lab ID: 2110611-011 **Matrix:** SOIL **Received Date:** 10/13/2021 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	82	59		mg/Kg	20	10/19/2021 10:46:53 AM	63384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	10/15/2021 4:38:14 PM	63288
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/15/2021 4:38:14 PM	63288
Surr: DNOP	114	70-130		%Rec	1	10/15/2021 4:38:14 PM	63288
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/16/2021 3:50:05 PM	63278
Surr: BFB	106	70-130		%Rec	1	10/16/2021 3:50:05 PM	63278
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	10/16/2021 3:50:05 PM	63278
Toluene	ND	0.047		mg/Kg	1	10/16/2021 3:50:05 PM	63278
Ethylbenzene	ND	0.047		mg/Kg	1	10/16/2021 3:50:05 PM	63278
Xylenes, Total	ND	0.094		mg/Kg	1	10/16/2021 3:50:05 PM	63278
Surr: 4-Bromofluorobenzene	89.5	70-130		%Rec	1	10/16/2021 3:50:05 PM	63278

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

Qualifiers:

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

Analytical Report
Lab Order **2110611**
Date Reported: **10/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-12 2'
Project: Gill BGJ 1
Collection Date: 10/12/2021 9:40:00 AM
Lab ID: 2110611-012 **Matrix:** SOIL **Received Date:** 10/13/2021 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	140	60		mg/Kg	20	10/19/2021 10:59:17 AM	63384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	10/15/2021 4:49:00 PM	63288
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	10/15/2021 4:49:00 PM	63288
Surr: DNOP	170	70-130	S	%Rec	1	10/15/2021 4:49:00 PM	63288
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/16/2021 4:13:38 PM	63278
Surr: BFB	106	70-130		%Rec	1	10/16/2021 4:13:38 PM	63278
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	10/16/2021 4:13:38 PM	63278
Toluene	ND	0.048		mg/Kg	1	10/16/2021 4:13:38 PM	63278
Ethylbenzene	ND	0.048		mg/Kg	1	10/16/2021 4:13:38 PM	63278
Xylenes, Total	ND	0.096		mg/Kg	1	10/16/2021 4:13:38 PM	63278
Surr: 4-Bromofluorobenzene	91.2	70-130		%Rec	1	10/16/2021 4:13:38 PM	63278

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

Qualifiers:

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

Analytical Report
Lab Order **2110611**
Date Reported: **10/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-14 0'
Project: Gill BGJ 1
Collection Date: 10/12/2021 10:00:00 AM
Lab ID: 2110611-013 **Matrix:** SOIL **Received Date:** 10/13/2021 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	73	60		mg/Kg	20	10/19/2021 11:11:41 AM	63384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	10/15/2021 4:59:50 PM	63288
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	10/15/2021 4:59:50 PM	63288
Surr: DNOP	75.9	70-130		%Rec	1	10/15/2021 4:59:50 PM	63288
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/16/2021 4:36:57 PM	63278
Surr: BFB	103	70-130		%Rec	1	10/16/2021 4:36:57 PM	63278
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	10/16/2021 4:36:57 PM	63278
Toluene	ND	0.050		mg/Kg	1	10/16/2021 4:36:57 PM	63278
Ethylbenzene	ND	0.050		mg/Kg	1	10/16/2021 4:36:57 PM	63278
Xylenes, Total	ND	0.099		mg/Kg	1	10/16/2021 4:36:57 PM	63278
Surr: 4-Bromofluorobenzene	87.1	70-130		%Rec	1	10/16/2021 4:36:57 PM	63278

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

Qualifiers:

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

Analytical Report
Lab Order **2110611**
Date Reported: **10/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-14 2'
Project: Gill BGJ 1
Collection Date: 10/12/2021 10:15:00 AM
Lab ID: 2110611-014 **Matrix:** SOIL **Received Date:** 10/13/2021 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	150	60		mg/Kg	20	10/19/2021 11:24:05 AM	63384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	10/15/2021 5:10:37 PM	63288
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	10/15/2021 5:10:37 PM	63288
Surr: DNOP	135	70-130	S	%Rec	1	10/15/2021 5:10:37 PM	63288
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/16/2021 5:00:14 PM	63278
Surr: BFB	107	70-130		%Rec	1	10/16/2021 5:00:14 PM	63278
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	10/16/2021 5:00:14 PM	63278
Toluene	ND	0.048		mg/Kg	1	10/16/2021 5:00:14 PM	63278
Ethylbenzene	ND	0.048		mg/Kg	1	10/16/2021 5:00:14 PM	63278
Xylenes, Total	ND	0.096		mg/Kg	1	10/16/2021 5:00:14 PM	63278
Surr: 4-Bromofluorobenzene	90.7	70-130		%Rec	1	10/16/2021 5:00:14 PM	63278

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

Qualifiers:

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

Analytical Report
Lab Order **2110611**
Date Reported: **10/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-15 0'
Project: Gill BGJ 1
Collection Date: 10/12/2021 11:30:00 AM
Lab ID: 2110611-015 **Matrix:** SOIL **Received Date:** 10/13/2021 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	250	60		mg/Kg	20	10/19/2021 11:36:30 AM	63384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/15/2021 5:21:23 PM	63288
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/15/2021 5:21:23 PM	63288
Surr: DNOP	82.1	70-130		%Rec	1	10/15/2021 5:21:23 PM	63288
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/16/2021 5:46:43 PM	63278
Surr: BFB	108	70-130		%Rec	1	10/16/2021 5:46:43 PM	63278
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	10/16/2021 5:46:43 PM	63278
Toluene	ND	0.049		mg/Kg	1	10/16/2021 5:46:43 PM	63278
Ethylbenzene	ND	0.049		mg/Kg	1	10/16/2021 5:46:43 PM	63278
Xylenes, Total	ND	0.097		mg/Kg	1	10/16/2021 5:46:43 PM	63278
Surr: 4-Bromofluorobenzene	93.2	70-130		%Rec	1	10/16/2021 5:46:43 PM	63278

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

Qualifiers:

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

Analytical Report
Lab Order **2110611**
Date Reported: **10/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-15 2'
Project: Gill BGJ 1
Collection Date: 10/12/2021 11:40:00 AM
Lab ID: 2110611-016 **Matrix:** SOIL **Received Date:** 10/13/2021 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	460	59		mg/Kg	20	10/19/2021 12:13:42 PM	63384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	27	9.8		mg/Kg	1	10/15/2021 7:41:03 PM	63319
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/15/2021 7:41:03 PM	63319
Surr: DNOP	109	70-130		%Rec	1	10/15/2021 7:41:03 PM	63319
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/18/2021 9:48:12 PM	63285
Surr: BFB	109	70-130		%Rec	1	10/18/2021 9:48:12 PM	63285
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	10/18/2021 9:48:12 PM	63285
Toluene	ND	0.049		mg/Kg	1	10/18/2021 9:48:12 PM	63285
Ethylbenzene	ND	0.049		mg/Kg	1	10/18/2021 9:48:12 PM	63285
Xylenes, Total	ND	0.098		mg/Kg	1	10/18/2021 9:48:12 PM	63285
Surr: 4-Bromofluorobenzene	91.1	70-130		%Rec	1	10/18/2021 9:48:12 PM	63285

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

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2110611**
29-Oct-21

Client: EOG
Project: Gill BGJ 1

Sample ID: **MB-63384**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **63384**	RunNo: **82148**							
Prep Date: **10/19/2021**	Analysis Date: **10/19/2021**	SeqNo: **2911697**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-63384**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **63384**	RunNo: **82148**							
Prep Date: **10/19/2021**	Analysis Date: **10/19/2021**	SeqNo: **2911698**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.8	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2110611**

29-Oct-21

Client: EOG

Project: Gill BGJ 1

Sample ID: **LCS-63288** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **63288** RunNo: **82083**
Prep Date: **10/14/2021** Analysis Date: **10/15/2021** SeqNo: **2907358** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	62	10	50.00	0	124	68.9	135			
Surr: DNOP	6.3		5.000		126	70	130			

Sample ID: **MB-63288** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **63288** RunNo: **82083**
Prep Date: **10/14/2021** Analysis Date: **10/15/2021** SeqNo: **2907359** 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	10		10.00		101	70	130			

Sample ID: **LCS-63319** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **63319** RunNo: **82083**
Prep Date: **10/14/2021** Analysis Date: **10/15/2021** SeqNo: **2909090** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	99.8	68.9	135			
Surr: DNOP	5.8		5.000		115	70	130			

Sample ID: **MB-63319** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **63319** RunNo: **82083**
Prep Date: **10/14/2021** Analysis Date: **10/15/2021** SeqNo: **2909091** 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		119	70	130			

Sample ID: **MB-63472** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **63472** RunNo: **82268**
Prep Date: **10/21/2021** Analysis Date: **10/22/2021** SeqNo: **2916562** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.3		10.00		93.5	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2110611**

29-Oct-21

Client: EOG

Project: Gill BGJ 1

Sample ID: **LCS-63472** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **63472** RunNo: **82268**
Prep Date: **10/21/2021** Analysis Date: **10/22/2021** SeqNo: **2916563** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.6		5.000		92.4	70	130			

Sample ID: **MB-63472** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **63472** RunNo: **82270**
Prep Date: **10/21/2021** Analysis Date: **10/22/2021** SeqNo: **2916723** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.2		10.00		91.9	70	130			

Sample ID: **LCS-63439** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **63439** RunNo: **82269**
Prep Date: **10/20/2021** Analysis Date: **10/22/2021** SeqNo: **2918149** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.4		5.000		108	70	130			

Sample ID: **MB-63472** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **63472** RunNo: **82269**
Prep Date: **10/21/2021** Analysis Date: **10/22/2021** SeqNo: **2918150** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.3		10.00		93.1	70	130			

Sample ID: **MB-63472** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **63472** RunNo: **82321**
Prep Date: **10/21/2021** Analysis Date: **10/25/2021** SeqNo: **2918845** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.8		10.00		88.1	70	130			

Sample ID: **MB-63618** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **63618** RunNo: **82385**
Prep Date: **10/27/2021** Analysis Date: **10/27/2021** SeqNo: **2922649** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.4		10.00		94.2	70	130			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2110611**
29-Oct-21

Client: EOG
Project: Gill BGJ 1

Sample ID: **LCS-63618** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **63618** RunNo: **82385**
Prep Date: **10/27/2021** Analysis Date: **10/27/2021** SeqNo: **2922650** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.7		5.000		93.2	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2110611**

29-Oct-21

Client: EOG

Project: Gill BGJ 1

Sample ID: **mb-63278** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **PBS** Batch ID: **63278** RunNo: **82076**

Prep Date: **10/13/2021** Analysis Date: **10/15/2021** SeqNo: **2908287** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		104	70	130			

Sample ID: **lcs-63278** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **LCSS** Batch ID: **63278** RunNo: **82076**

Prep Date: **10/13/2021** Analysis Date: **10/15/2021** SeqNo: **2908288** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	104	78.6	131			
Surr: BFB	1100		1000		113	70	130			

Sample ID: **mb-63285** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **PBS** Batch ID: **63285** RunNo: **82119**

Prep Date: **10/13/2021** Analysis Date: **10/19/2021** SeqNo: **2909641** 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	1100		1000		107	70	130			

Sample ID: **lcs-63285** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **LCSS** Batch ID: **63285** RunNo: **82119**

Prep Date: **10/13/2021** Analysis Date: **10/18/2021** SeqNo: **2909642** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	5.0	25.00	0	115	78.6	131			
Surr: BFB	1200		1000		125	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2110611**

29-Oct-21

Client: EOG

Project: Gill BGJ 1

Sample ID: **mb-63278**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **63278**	RunNo: **82076**
Prep Date: **10/13/2021**	Analysis Date: **10/15/2021**	SeqNo: **2908369** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.87		1.000		87.3	70	130			

Sample ID: **LCS-63278**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **63278**	RunNo: **82076**
Prep Date: **10/13/2021**	Analysis Date: **10/15/2021**	SeqNo: **2908370** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.84	0.025	1.000	0	84.3	80	120			
Toluene	0.87	0.050	1.000	0	86.9	80	120			
Ethylbenzene	0.86	0.050	1.000	0	85.9	80	120			
Xylenes, Total	2.5	0.10	3.000	0	84.5	80	120			
Surr: 4-Bromofluorobenzene	0.88		1.000		87.9	70	130			

Sample ID: **mb-63285**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **63285**	RunNo: **82119**
Prep Date: **10/13/2021**	Analysis Date: **10/19/2021**	SeqNo: **2909690** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.90		1.000		89.8	70	130			

Sample ID: **LCS-63285**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **63285**	RunNo: **82119**
Prep Date: **10/13/2021**	Analysis Date: **10/18/2021**	SeqNo: **2909691** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	95.9	80	120			
Toluene	0.98	0.050	1.000	0	98.2	80	120			
Ethylbenzene	0.98	0.050	1.000	0	97.7	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.3	80	120			
Surr: 4-Bromofluorobenzene	0.90		1.000		90.2	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: EOG | Work Order Number: 2110611 | RcptNo: 1

Received By: **Cheyenne Cason** 10/13/2021 7:20:00 AM

Completed By: **Sean Livingston** 10/13/2021 9:07:34 AM

Reviewed By: TME 10/13/21 9:43

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: KPG 10/13/21

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.8	Good				

Chain-of-Custody Record

Client: EOG / Vertex
C. Settle

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 Day
☑ Standard ☐ Rush

Project Name: Gill BGJ #1

Project #: 21E-03278

Project Manager: Dennis Williams

Sampler: MJP

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 2.9-0.1 = 2.8 (°C)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2110611	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
10/11	11:00	Soil	BH21-01 2.5'	4 oz	ice	001	✓	✓					✓			
	11:15		BH21-02 3'			002	✓	✓					✓			
	11:20		BH21-02 4'			003	PLEASE HOLD									
	12:30		BH21-04 4'			004	✓	✓					✓			
	12:45		BH21-04 6.5'			005	✓	✓					✓			
	1:30		BH21-09 0'			006	✓	✓					✓			
	1:35		BH21-09 1			007	✓	✓					✓			
	1:40		BH21-09 2'			008	PLEASE HOLD									
	2:30		BH21-11 0'			009	✓	✓					✓			
	2:35		BH21-11 1'			010	✓	✓					✓			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
10/12/21	1400				10/12/21	1400
10/12/21	1900			Courier	10/13/21	0726

Remarks: cc: M. Peppin

Direct bill EOG

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

Chain-of-Custody Record

Client: EOG/Vertex
C. Settle

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 Day
☑ Standard ☐ Rush

Project Name: Gill BGJ #1

Project #: 21E-03278

Project Manager: Dennis Williams

Sampler: MJP

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): ~~2.8~~ 2.9-0.1=2.8 (°C)

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
10/12	9:30	Soil	BH21-12 0	4oz	ice	011	✓	✓					✓			
	9:40		BH21-12 2			012	✓	✓					✓			
	10:00		BH21-14 0			013	✓	✓					✓			
	10:15		BH21-14 2			014	✓	✓					✓			
	11:30		BH21-15 0			015	✓	✓					✓			
	11:40		BH21-15 2			016	✓	✓					✓			

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
10/12/21	1400				10/12/21	1400
10/12/21	1900		CHC courier		10/13/21	0720

Remarks: CC: M. Pippin

Direct bill EOG

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

November 12, 2021

Dennis Williams
EOG
105 South Fourth Street
Artesia, NM 88210
TEL:
FAX

RE: Gill BGJ 1 OrderNo.: 2111430

Dear Dennis Williams:

Hall Environmental Analysis Laboratory received 3 sample(s) on 11/9/2021 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2111430**
Date Reported: **11/12/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-16 0-0.5
Project: Gill BGJ 1
Collection Date: 11/6/2021 12:00:00 PM
Lab ID: 2111430-001 **Matrix:** SOIL **Received Date:** 11/9/2021 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LRN**	
Chloride	ND	61		mg/Kg	20	11/11/2021 9:46:52 AM	63887
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	11/10/2021 12:06:53 PM	63848
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/10/2021 12:06:53 PM	63848
Surr: DNOP	80.5	70-130		%Rec	1	11/10/2021 12:06:53 PM	63848
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **mb**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/10/2021 6:53:00 PM	63831
Surr: BFB	100	70-130		%Rec	1	11/10/2021 6:53:00 PM	63831
EPA METHOD 8021B: VOLATILES						Analyst: **mb**	
Benzene	ND	0.024		mg/Kg	1	11/10/2021 6:53:00 PM	63831
Toluene	ND	0.048		mg/Kg	1	11/10/2021 6:53:00 PM	63831
Ethylbenzene	ND	0.048		mg/Kg	1	11/10/2021 6:53:00 PM	63831
Xylenes, Total	ND	0.095		mg/Kg	1	11/10/2021 6:53:00 PM	63831
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	11/10/2021 6:53:00 PM	63831

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 interference
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2111430**
Date Reported: **11/12/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-17 0-0.5
Project: Gill BGJ 1
Collection Date: 11/6/2021 12:15:00 PM
Lab ID: 2111430-002 **Matrix:** SOIL **Received Date:** 11/9/2021 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LRN**	
Chloride	ND	60		mg/Kg	20	11/11/2021 9:59:17 AM	63887
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	11/10/2021 12:30:57 PM	63848
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/10/2021 12:30:57 PM	63848
Surr: DNOP	64.8	70-130	S	%Rec	1	11/10/2021 12:30:57 PM	63848
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **mb**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/10/2021 7:13:00 PM	63831
Surr: BFB	104	70-130		%Rec	1	11/10/2021 7:13:00 PM	63831
EPA METHOD 8021B: VOLATILES						Analyst: **mb**	
Benzene	ND	0.024		mg/Kg	1	11/10/2021 7:13:00 PM	63831
Toluene	ND	0.048		mg/Kg	1	11/10/2021 7:13:00 PM	63831
Ethylbenzene	ND	0.048		mg/Kg	1	11/10/2021 7:13:00 PM	63831
Xylenes, Total	ND	0.096		mg/Kg	1	11/10/2021 7:13:00 PM	63831
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	11/10/2021 7:13:00 PM	63831

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

Qualifiers:

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

Analytical Report
Lab Order **2111430**
Date Reported: **11/12/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: BH21-18 0-0.5
Project: Gill BGJ 1
Collection Date: 11/6/2021 12:30:00 PM
Lab ID: 2111430-003 **Matrix:** SOIL **Received Date:** 11/9/2021 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LRN**	
Chloride	220	60		mg/Kg	20	11/11/2021 10:11:41 AM	63887
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	11/10/2021 12:55:26 PM	63848
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/10/2021 12:55:26 PM	63848
Surr: DNOP	51.2	70-130	S	%Rec	1	11/10/2021 12:55:26 PM	63848
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **mb**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/10/2021 7:32:00 PM	63831
Surr: BFB	102	70-130		%Rec	1	11/10/2021 7:32:00 PM	63831
EPA METHOD 8021B: VOLATILES						Analyst: **mb**	
Benzene	ND	0.024		mg/Kg	1	11/10/2021 7:32:00 PM	63831
Toluene	ND	0.047		mg/Kg	1	11/10/2021 7:32:00 PM	63831
Ethylbenzene	ND	0.047		mg/Kg	1	11/10/2021 7:32:00 PM	63831
Xylenes, Total	ND	0.095		mg/Kg	1	11/10/2021 7:32:00 PM	63831
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	11/10/2021 7:32:00 PM	63831

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2111430**

12-Nov-21

Client: EOG

Project: Gill BGJ 1

Sample ID: **MB-63887**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **63887**	RunNo: **82780**
Prep Date: **11/11/2021**	Analysis Date: **11/11/2021**	SeqNo: **2939352** Units: **mg/Kg**

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

Sample ID: **LCS-63887**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **63887**	RunNo: **82780**
Prep Date: **11/11/2021**	Analysis Date: **11/11/2021**	SeqNo: **2939353** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	90.5	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 interference
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2111430**

12-Nov-21

Client: EOG

Project: Gill BGJ 1

Sample ID: **LCS-63848**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **63848**	RunNo: **82730**
Prep Date: **11/9/2021**	Analysis Date: **11/10/2021**	SeqNo: **2938565** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	88.0	68.9	135			
Surr: DNOP	4.8		5.000		96.4	70	130			

Sample ID: **MB-63848**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **63848**	RunNo: **82730**
Prep Date: **11/9/2021**	Analysis Date: **11/10/2021**	SeqNo: **2938566** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		110	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2111430**

12-Nov-21

Client: EOG

Project: Gill BGJ 1

Sample ID: **mb-63831**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **63831**	RunNo: **82754**
Prep Date: **11/9/2021**	Analysis Date: **11/10/2021**	SeqNo: **2937702** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		100	70	130			

Sample ID: **lcs-63831**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **63831**	RunNo: **82754**
Prep Date: **11/9/2021**	Analysis Date: **11/10/2021**	SeqNo: **2937703** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	108	78.6	131			
Surr: BFB	1200		1000		116	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2111430**

12-Nov-21

Client: EOG

Project: Gill BGJ 1

Sample ID: **mb-63831**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **63831**	RunNo: **82754**
Prep Date: **11/9/2021**	Analysis Date: **11/10/2021**	SeqNo: **2937731** 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		104	70	130			

Sample ID: **lcs-63831**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **63831**	RunNo: **82754**
Prep Date: **11/9/2021**	Analysis Date: **11/10/2021**	SeqNo: **2937733** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	103	80	120			
Toluene	1.1	0.050	1.000	0	105	80	120			
Ethylbenzene	1.1	0.050	1.000	0	107	80	120			
Xylenes, Total	3.2	0.10	3.000	0	108	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		107	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: EOG | Work Order Number: 2111430 | RcptNo: 1

Received By: Isaiah Ortiz 11/9/2021 8:00:00 AM

Completed By: Tracy Casarrubias 11/9/2021 8:36:07 AM

Reviewed By: CNC 11/9/21

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: JR 11/9/21

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.3	Good	Not Present			

Chain-of-Custody Record

Client: EOG / Vertex
Chase Settle

Mailing Address:

Phone #:

email or Fax#:

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

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

Turn-Around Time: 5 Dayton
☑ Standard ☐ Rush

Project Name: Gill BGJ #1

Project #: 21E-03278

Project Manager: Dennis Williams

Sampler: MJP
On Ice: ■ Yes ☐ No
# of Coolers: 1
Cooler Temp(including CF): 3.4°-0.1°(CF) 3.3° (°C)

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2111430	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
11/6	12:00	soil	BH21-16 0-0.5	4 oz	ice	001	✓	✓					✓			
"	12:15	"	BH21-17 0-0.5	"	"	002	✓	✓					✓			
"	12:30	"	BH21-18 0-0.5	"	"	003	✓	✓					✓			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
11/8/21	1245				11/8/21	1245
11/8/21	1900				11.9.21	0800

Remarks: Direct Bill EOG

CC: MPeppin Final Report

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

October 27, 2022

Michael Moffitt

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

RE: GIll BGJ 1 OrderNo.: 2210929

Dear Michael Moffitt:

Hall Environmental Analysis Laboratory received 4 sample(s) on 10/19/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2210929**
Date Reported: **10/27/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: WES22-01 0-4'
Project: GIll BGJ 1
Collection Date: 10/17/2022 1:00:00 PM
Lab ID: 2210929-001 **Matrix:** SOIL
Received Date: 10/19/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	84	15		mg/Kg	1	10/21/2022 11:37:42 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/21/2022 11:37:42 AM
Surr: DNOP	88.1	21-129		%Rec	1	10/21/2022 11:37:42 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/20/2022 8:39:28 AM
Surr: BFB	89.0	37.7-212		%Rec	1	10/20/2022 8:39:28 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	10/20/2022 8:39:28 AM
Toluene	ND	0.050		mg/Kg	1	10/20/2022 8:39:28 AM
Ethylbenzene	ND	0.050		mg/Kg	1	10/20/2022 8:39:28 AM
Xylenes, Total	ND	0.10		mg/Kg	1	10/20/2022 8:39:28 AM
Surr: 4-Bromofluorobenzene	95.5	70-130		%Rec	1	10/20/2022 8:39:28 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	210	61		mg/Kg	20	10/21/2022 3:08:37 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2210929**
Date Reported: **10/27/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: WES22-02 0-4'
Project: GIll BGJ 1
Collection Date: 10/17/2022 1:10:00 PM
Lab ID: 2210929-002 **Matrix:** SOIL
Received Date: 10/19/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/21/2022 10:54:09 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	10/21/2022 10:54:09 AM
Surr: DNOP	76.1	21-129		%Rec	1	10/21/2022 10:54:09 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/20/2022 9:02:50 AM
Surr: BFB	93.0	37.7-212		%Rec	1	10/20/2022 9:02:50 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	10/20/2022 9:02:50 AM
Toluene	ND	0.049		mg/Kg	1	10/20/2022 9:02:50 AM
Ethylbenzene	ND	0.049		mg/Kg	1	10/20/2022 9:02:50 AM
Xylenes, Total	ND	0.098		mg/Kg	1	10/20/2022 9:02:50 AM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	10/20/2022 9:02:50 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	84	60		mg/Kg	20	10/21/2022 3:20:59 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2210929**
Date Reported: **10/27/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: WES22-03 0-4'
Project: GIll BGJ 1
Collection Date: 10/17/2022 1:20:00 PM
Lab ID: 2210929-003 **Matrix:** SOIL
Received Date: 10/19/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	10/21/2022 11:04:40 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/21/2022 11:04:40 AM
Surr: DNOP	88.9	21-129		%Rec	1	10/21/2022 11:04:40 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/20/2022 9:26:18 AM
Surr: BFB	94.2	37.7-212		%Rec	1	10/20/2022 9:26:18 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	10/20/2022 9:26:18 AM
Toluene	ND	0.048		mg/Kg	1	10/20/2022 9:26:18 AM
Ethylbenzene	ND	0.048		mg/Kg	1	10/20/2022 9:26:18 AM
Xylenes, Total	ND	0.096		mg/Kg	1	10/20/2022 9:26:18 AM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	10/20/2022 9:26:18 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	ND	61		mg/Kg	20	10/21/2022 3:57:59 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2210929**
Date Reported: **10/27/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: WES22-04 0-4'
Project: GIll BGJ 1
Collection Date: 10/17/2022 1:40:00 PM
Lab ID: 2210929-004 **Matrix:** SOIL
Received Date: 10/19/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	57	14		mg/Kg	1	10/21/2022 11:15:15 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	10/21/2022 11:15:15 AM
Surr: DNOP	86.6	21-129		%Rec	1	10/21/2022 11:15:15 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/20/2022 9:49:57 AM
Surr: BFB	90.3	37.7-212		%Rec	1	10/20/2022 9:49:57 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	10/20/2022 9:49:57 AM
Toluene	ND	0.048		mg/Kg	1	10/20/2022 9:49:57 AM
Ethylbenzene	ND	0.048		mg/Kg	1	10/20/2022 9:49:57 AM
Xylenes, Total	ND	0.096		mg/Kg	1	10/20/2022 9:49:57 AM
Surr: 4-Bromofluorobenzene	97.2	70-130		%Rec	1	10/20/2022 9:49:57 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	120	60		mg/Kg	20	10/21/2022 9:27:52 AM

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2210929**

27-Oct-22

Client: Vertex Resources Services, Inc.

Project: GIll BGJ 1

Sample ID: **MB-70971** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **70971** RunNo: **91958**
Prep Date: **10/20/2022** Analysis Date: **10/20/2022** SeqNo: **3299575** Units: **mg/Kg**

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

Sample ID: **LCS-70971** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **70971** RunNo: **91958**
Prep Date: **10/20/2022** Analysis Date: **10/20/2022** SeqNo: **3299576** 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-70978** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **70978** RunNo: **92015**
Prep Date: **10/21/2022** Analysis Date: **10/21/2022** SeqNo: **3301674** Units: **mg/Kg**

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

Sample ID: **LCS-70978** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **70978** RunNo: **92015**
Prep Date: **10/21/2022** Analysis Date: **10/21/2022** SeqNo: **3301675** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.6	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2210929**

27-Oct-22

Client: Vertex Resources Services, Inc.

Project: GIll BGJ 1

Sample ID: **LCS-70979** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **70979** RunNo: **91980**

Prep Date: **10/21/2022** Analysis Date: **10/21/2022** SeqNo: **3300147** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	15	50.00	0	103	64.4	127			
Surr: DNOP	3.8		5.000		75.6	21	129			

Sample ID: **MB-70979** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **70979** RunNo: **91980**

Prep Date: **10/21/2022** Analysis Date: **10/21/2022** SeqNo: **3300148** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	6.9		10.00		69.0	21	129			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2210929**

27-Oct-22

Client: Vertex Resources Services, Inc.

Project: GIll BGJ 1

Sample ID: **mb-70915**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **70915**	RunNo: **91963**
Prep Date: **10/19/2022**	Analysis Date: **10/20/2022**	SeqNo: **3298961** 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	910		1000		91.1	37.7	212			

Sample ID: **lcs-70915**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **70915**	RunNo: **91963**
Prep Date: **10/19/2022**	Analysis Date: **10/20/2022**	SeqNo: **3298962** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	108	72.3	137			
Surr: BFB	2000		1000		196	37.7	212			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2210929**

27-Oct-22

Client: Vertex Resources Services, Inc.

Project: GIll BGJ 1

Sample ID: **mb-70915**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **70915**	RunNo: **91963**
Prep Date: **10/19/2022**	Analysis Date: **10/20/2022**	SeqNo: **3299008** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.98		1.000		97.9	70	130			

Sample ID: **LCS-70915**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **70915**	RunNo: **91963**
Prep Date: **10/19/2022**	Analysis Date: **10/20/2022**	SeqNo: **3299009** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	103	80	120			
Toluene	1.0	0.050	1.000	0	104	80	120			
Ethylbenzene	1.0	0.050	1.000	0	104	80	120			
Xylenes, Total	3.1	0.10	3.000	0	104	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Vertex Resources Services, Inc.

Work Order Number: 2210929

RcptNo: 1

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

Completed By: Tracy Casarrubias 10/19/2022 7:55:23 AM

Reviewed By: KPA 10.19.22

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: JR 10/19/22

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.6	Good	Yes			

Chain-of-Custody Record

Client: Vertex (EOG)

Mailing Address: on file

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☑ Rush 48 hour

Project Name: Gill BGJ #1

Project #: 22E-00123-07

Project Manager: Michael Moffitt

Sampler:

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 2.5+0.1=2.6 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2210929	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
10/17	13:00	soil	WES22-01 0-4'	1 4oz jar	ice	001	✓	✓					✓			
"	13:10	"	WES22-02 0-4'	"	"	002	"	"					"			
"	13:20	"	WES22-03 0-4'	"	"	003	"	"					"			
"	13:30	"	WES22-04 0-4'	"	"	004	"	"					"			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
10/17	18:09	Sally Carlton	ACummins		10/18/22	815
10/18/22	1900	ACummins		courier	10/19/22	7:40

Remarks:

direct bill EOG

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

October 28, 2022

Michael Moffitt

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

RE: Gill BGJ 1 OrderNo.: 2210B02

Dear Michael Moffitt:

Hall Environmental Analysis Laboratory received 2 sample(s) on 10/21/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2210B02**
Date Reported: **10/28/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** WES22-05 0-4'
Project: Gill BGJ 1 **Collection Date:** 10/19/2022 1:15:00 PM
Lab ID: 2210B02-001 **Matrix:** MEOH (SOIL) **Received Date:** 10/21/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	53	15		mg/Kg	1	10/21/2022 1:47:37 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/21/2022 1:47:37 PM
Surr: DNOP	91.3	21-129		%Rec	1	10/21/2022 1:47:37 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	10/22/2022 3:44:23 AM
Surr: BFB	88.4	37.7-212		%Rec	1	10/22/2022 3:44:23 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.019		mg/Kg	1	10/22/2022 3:44:23 AM
Toluene	ND	0.039		mg/Kg	1	10/22/2022 3:44:23 AM
Ethylbenzene	ND	0.039		mg/Kg	1	10/22/2022 3:44:23 AM
Xylenes, Total	ND	0.077		mg/Kg	1	10/22/2022 3:44:23 AM
Surr: 4-Bromofluorobenzene	92.6	70-130		%Rec	1	10/22/2022 3:44:23 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	320	60		mg/Kg	20	10/24/2022 5:20:23 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2210B02**
Date Reported: **10/28/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** WES22-07 0-4'
Project: Gill BGJ 1 **Collection Date:** 10/19/2022 1:20:00 PM
Lab ID: 2210B02-002 **Matrix:** MEOH (SOIL) **Received Date:** 10/21/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	10/21/2022 12:40:54 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/21/2022 12:40:54 PM
Surr: DNOP	86.0	21-129		%Rec	1	10/21/2022 12:40:54 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg	1	10/22/2022 4:07:58 AM
Surr: BFB	87.6	37.7-212		%Rec	1	10/22/2022 4:07:58 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.020		mg/Kg	1	10/22/2022 4:07:58 AM
Toluene	ND	0.040		mg/Kg	1	10/22/2022 4:07:58 AM
Ethylbenzene	ND	0.040		mg/Kg	1	10/22/2022 4:07:58 AM
Xylenes, Total	ND	0.081		mg/Kg	1	10/22/2022 4:07:58 AM
Surr: 4-Bromofluorobenzene	92.2	70-130		%Rec	1	10/22/2022 4:07:58 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	68	60		mg/Kg	20	10/24/2022 5:32:48 PM

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

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2210B02**
28-Oct-22

Client: Vertex Resources Services, Inc.
Project: Gill BGJ 1

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

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

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2210B02**
28-Oct-22

Client: Vertex Resources Services, Inc.
Project: Gill BGJ 1

Sample ID: **LCS-70979** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **70979** RunNo: **91980**
Prep Date: **10/21/2022** Analysis Date: **10/21/2022** SeqNo: **3300147** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	15	50.00	0	103	64.4	127			
Surr: DNOP	3.8		5.000		75.6	21	129			

Sample ID: **MB-70979** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **70979** RunNo: **91980**
Prep Date: **10/21/2022** Analysis Date: **10/21/2022** SeqNo: **3300148** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	6.9		10.00		69.0	21	129			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2210B02**
28-Oct-22

Client: Vertex Resources Services, Inc.
Project: Gill BGJ 1

Sample ID: **mb-70932** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **70932** RunNo: **92004**
Prep Date: **10/19/2022** Analysis Date: **10/22/2022** SeqNo: **3300881** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	900		1000		89.6	37.7	212			

Sample ID: **lcs-70932** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **70932** RunNo: **92004**
Prep Date: **10/19/2022** Analysis Date: **10/22/2022** SeqNo: **3300882** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	106	72.3	137			
Surr: BFB	2000		1000		196	37.7	212			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2210B02**

28-Oct-22

Client: Vertex Resources Services, Inc.

Project: Gill BGJ 1

Sample ID: **mb-70932**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **70932**	RunNo: **92004**
Prep Date: **10/19/2022**	Analysis Date: **10/22/2022**	SeqNo: **3300943** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.96		1.000		95.5	70	130			

Sample ID: **LCS-70932**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **70932**	RunNo: **92004**
Prep Date: **10/19/2022**	Analysis Date: **10/22/2022**	SeqNo: **3300944** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	101	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.0	0.10	3.000	0	102	80	120			
Surr: 4-Bromofluorobenzene	0.96		1.000		96.5	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Vertex Resources Services, Inc. Work Order Number: 2210B02 RcptNo: 1

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

Completed By: Tracy Casarrubias 10/21/2022 7:40:40 AM

Reviewed By: CMC 10/21/22

Chain of Custody

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

Log In

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

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

Adjusted?

Checked by: JM 10/21/22

Special Handling (if applicable)

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

Person Notified: Date:

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

Regarding:

Client Instructions:

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.4	Good	Yes			

Chain-of-Custody Record

Client: Vertex (EOG)

Mailing Address: on file

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☑ Rush 24 hour

Project Name: Gill BGJ #1

Project #: 22E-00123-07

Project Manager: Michael Moffitt

Sampler: SPC

On Ice: ☐ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 0.2+0.2=0.4 (°C)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2210B02	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
10/19	13:15	soil	WES22-05 0-4'	1 4oz jar	ice	001	✓	✓					✓			
"	13:20	"	WES22-07 0-4'	"	"	002	✓	✓					✓			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
10/19	17:01	Sally Carter	ACummings		10/20/22	1100
10/20/22	1900	ACummings				

Received by: Via: Date Time
Courier 10/20/22 7:20

Remarks:
direct bill EOG

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

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

October 28, 2022

Michael Moffitt

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

RE: Gill BGJ 1 OrderNo.: 2210C44

Dear Michael Moffitt:

Hall Environmental Analysis Laboratory received 6 sample(s) on 10/26/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2210C44**
Date Reported: **10/28/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BES22-02 4'
Project: Gill BGJ 1 **Collection Date:** 10/20/2022 9:15:00 AM
Lab ID: 2210C44-001 **Matrix:** MEOH (SOIL) **Received Date:** 10/26/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	10/26/2022 1:19:31 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/26/2022 1:19:31 PM
Surr: DNOP	97.6	21-129		%Rec	1	10/26/2022 1:19:31 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.4		mg/Kg	1	10/26/2022 9:08:55 AM
Surr: BFB	97.2	37.7-212		%Rec	1	10/26/2022 9:08:55 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.022		mg/Kg	1	10/26/2022 9:08:55 AM
Toluene	ND	0.044		mg/Kg	1	10/26/2022 9:08:55 AM
Ethylbenzene	ND	0.044		mg/Kg	1	10/26/2022 9:08:55 AM
Xylenes, Total	ND	0.089		mg/Kg	1	10/26/2022 9:08:55 AM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	10/26/2022 9:08:55 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	ND	60		mg/Kg	20	10/26/2022 6:07:40 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2210C44**
Date Reported: **10/28/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BES22-03 4'
Project: Gill BGJ 1 **Collection Date:** 10/20/2022 9:20:00 AM
Lab ID: 2210C44-002 **Matrix:** MEOH (SOIL) **Received Date:** 10/26/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/26/2022 2:32:05 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/26/2022 2:32:05 PM
Surr: DNOP	95.9	21-129		%Rec	1	10/26/2022 2:32:05 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	10/26/2022 9:32:32 AM
Surr: BFB	96.8	37.7-212		%Rec	1	10/26/2022 9:32:32 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.021		mg/Kg	1	10/26/2022 9:32:32 AM
Toluene	ND	0.042		mg/Kg	1	10/26/2022 9:32:32 AM
Ethylbenzene	ND	0.042		mg/Kg	1	10/26/2022 9:32:32 AM
Xylenes, Total	ND	0.084		mg/Kg	1	10/26/2022 9:32:32 AM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	10/26/2022 9:32:32 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	ND	60		mg/Kg	20	10/26/2022 7:09:45 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2210C44**
Date Reported: **10/28/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BES22-04 4'
Project: Gill BGJ 1 **Collection Date:** 10/20/2022 9:25:00 AM
Lab ID: 2210C44-003 **Matrix:** MEOH (SOIL) **Received Date:** 10/26/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/26/2022 2:56:22 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/26/2022 2:56:22 PM
Surr: DNOP	101	21-129		%Rec	1	10/26/2022 2:56:22 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	10/26/2022 9:55:52 AM
Surr: BFB	98.9	37.7-212		%Rec	1	10/26/2022 9:55:52 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.017		mg/Kg	1	10/26/2022 9:55:52 AM
Toluene	ND	0.035		mg/Kg	1	10/26/2022 9:55:52 AM
Ethylbenzene	ND	0.035		mg/Kg	1	10/26/2022 9:55:52 AM
Xylenes, Total	ND	0.070		mg/Kg	1	10/26/2022 9:55:52 AM
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	10/26/2022 9:55:52 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	100	60		mg/Kg	20	10/26/2022 7:22:10 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2210C44**
Date Reported: **10/28/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BES22-06 4'
Project: Gill BGJ 1 **Collection Date:** 10/20/2022 9:35:00 AM
Lab ID: 2210C44-004 **Matrix:** MEOH (SOIL) **Received Date:** 10/26/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	130	14		mg/Kg	1	10/26/2022 5:21:42 PM
Motor Oil Range Organics (MRO)	63	47		mg/Kg	1	10/26/2022 5:21:42 PM
Surr: DNOP	104	21-129		%Rec	1	10/26/2022 5:21:42 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.4		mg/Kg	1	10/26/2022 10:19:27 AM
Surr: BFB	97.5	37.7-212		%Rec	1	10/26/2022 10:19:27 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.022		mg/Kg	1	10/26/2022 10:19:27 AM
Toluene	ND	0.044		mg/Kg	1	10/26/2022 10:19:27 AM
Ethylbenzene	ND	0.044		mg/Kg	1	10/26/2022 10:19:27 AM
Xylenes, Total	ND	0.088		mg/Kg	1	10/26/2022 10:19:27 AM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	10/26/2022 10:19:27 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	ND	60		mg/Kg	20	10/26/2022 7:34:35 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2210C44**
Date Reported: **10/28/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BES22-07 4'
Project: Gill BGJ 1 **Collection Date:** 10/20/2022 9:40:00 AM
Lab ID: 2210C44-005 **Matrix:** MEOH (SOIL) **Received Date:** 10/26/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	61	15		mg/Kg	1	10/26/2022 3:20:27 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/26/2022 3:20:27 PM
Surr: DNOP	103	21-129		%Rec	1	10/26/2022 3:20:27 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	10/26/2022 10:43:00 AM
Surr: BFB	95.7	37.7-212		%Rec	1	10/26/2022 10:43:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.021		mg/Kg	1	10/26/2022 10:43:00 AM
Toluene	ND	0.042		mg/Kg	1	10/26/2022 10:43:00 AM
Ethylbenzene	ND	0.042		mg/Kg	1	10/26/2022 10:43:00 AM
Xylenes, Total	ND	0.084		mg/Kg	1	10/26/2022 10:43:00 AM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	10/26/2022 10:43:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	ND	60		mg/Kg	20	10/26/2022 7:46:59 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2210C44**
Date Reported: **10/28/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BES22-12 4'
Project: Gill BGJ 1 **Collection Date:** 10/20/2022 12:25:00 PM
Lab ID: 2210C44-006 **Matrix:** MEOH (SOIL) **Received Date:** 10/26/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/26/2022 4:08:52 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/26/2022 4:08:52 PM
Surr: DNOP	102	21-129		%Rec	1	10/26/2022 4:08:52 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.4		mg/Kg	1	10/26/2022 11:06:28 AM
Surr: BFB	97.8	37.7-212		%Rec	1	10/26/2022 11:06:28 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.022		mg/Kg	1	10/26/2022 11:06:28 AM
Toluene	ND	0.044		mg/Kg	1	10/26/2022 11:06:28 AM
Ethylbenzene	ND	0.044		mg/Kg	1	10/26/2022 11:06:28 AM
Xylenes, Total	ND	0.088		mg/Kg	1	10/26/2022 11:06:28 AM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	10/26/2022 11:06:28 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	360	60		mg/Kg	20	10/26/2022 7:59:23 PM

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2210C44**

28-Oct-22

Client: Vertex Resources Services, Inc.

Project: Gill BGJ 1

Sample ID: **MB-71081**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **71081**	RunNo: **92082**
Prep Date: **10/26/2022**	Analysis Date: **10/26/2022**	SeqNo: **3306598** Units: **mg/Kg**

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

Sample ID: **LCS-71081**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **71081**	RunNo: **92082**
Prep Date: **10/26/2022**	Analysis Date: **10/26/2022**	SeqNo: **3306599** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.1	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 standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2210C44**

28-Oct-22

Client: Vertex Resources Services, Inc.

Project: Gill BGJ 1

Sample ID: **2210C44-001AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **BES22-02 4'** Batch ID: **71073** RunNo: **92104**

Prep Date: **10/26/2022** Analysis Date: **10/26/2022** SeqNo: **3306216** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	15	49.80	0	105	36.1	154			
Surr: DNOP	4.8		4.980		96.4	21	129			

Sample ID: **2210C44-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **BES22-02 4'** Batch ID: **71073** RunNo: **92104**

Prep Date: **10/26/2022** Analysis Date: **10/26/2022** SeqNo: **3306217** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	59	14	46.95	0	125	36.1	154	12.0	33.9	
Surr: DNOP	4.5		4.695		94.9	21	129	0	0	

Sample ID: **LCS-71073** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **71073** RunNo: **92104**

Prep Date: **10/26/2022** Analysis Date: **10/26/2022** SeqNo: **3306238** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	15	50.00	0	85.3	64.4	127			
Surr: DNOP	4.4		5.000		87.1	21	129			

Sample ID: **MB-71073** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **71073** RunNo: **92104**

Prep Date: **10/26/2022** Analysis Date: **10/26/2022** SeqNo: **3306239** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.4		10.00		94.0	21	129			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2210C44**

28-Oct-22

Client: Vertex Resources Services, Inc.

Project: Gill BGJ 1

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **A92099**	RunNo: **92099**
Prep Date:	Analysis Date: **10/26/2022**	SeqNo: **3305883** 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	960		1000		96.3	37.7	212			

Sample ID: **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **A92099**	RunNo: **92099**
Prep Date:	Analysis Date: **10/26/2022**	SeqNo: **3305884** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	107	72.3	137			
Surr: BFB	2000		1000		204	37.7	212			

Sample ID: **2210c44-001ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BES22-02 4'**	Batch ID: **A92099**	RunNo: **92099**
Prep Date:	Analysis Date: **10/26/2022**	SeqNo: **3305905** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.4	22.20	0	104	70	130			
Surr: BFB	1700		888.1		195	37.7	212			

Sample ID: **2210c44-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BES22-02 4'**	Batch ID: **A92099**	RunNo: **92099**
Prep Date:	Analysis Date: **10/26/2022**	SeqNo: **3305906** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.4	22.20	0	101	70	130	2.89	20	
Surr: BFB	1700		888.1		192	37.7	212	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2210C44**

28-Oct-22

Client: Vertex Resources Services, Inc.

Project: Gill BGJ 1

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **D92099**	RunNo: **92099**
Prep Date:	Analysis Date: **10/26/2022**	SeqNo: **3305932** 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	70	130			

Sample ID: **100ng btex lcs**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **D92099**	RunNo: **92099**
Prep Date:	Analysis Date: **10/26/2022**	SeqNo: **3305933** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	105	80	120			
Toluene	1.0	0.050	1.000	0	105	80	120			
Ethylbenzene	1.0	0.050	1.000	0	104	80	120			
Xylenes, Total	3.1	0.10	3.000	0	104	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		102	70	130			

Sample ID: **2210c44-002ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BES22-03 4'**	Batch ID: **D92099**	RunNo: **92099**
Prep Date:	Analysis Date: **10/26/2022**	SeqNo: **3305954** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.021	0.8375	0	98.9	68.8	120			
Toluene	0.82	0.042	0.8375	0	98.4	73.6	124			
Ethylbenzene	0.82	0.042	0.8375	0	98.2	72.7	129			
Xylenes, Total	2.5	0.084	2.513	0	97.8	75.7	126			
Surr: 4-Bromofluorobenzene	0.84		0.8375		101	70	130			

Sample ID: **2210c44-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BES22-03 4'**	Batch ID: **D92099**	RunNo: **92099**
Prep Date:	Analysis Date: **10/26/2022**	SeqNo: **3305955** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.021	0.8375	0	108	68.8	120	8.79	20	
Toluene	0.90	0.042	0.8375	0	107	73.6	124	8.65	20	
Ethylbenzene	0.90	0.042	0.8375	0	107	72.7	129	8.68	20	
Xylenes, Total	2.7	0.084	2.513	0	107	75.7	126	8.77	20	
Surr: 4-Bromofluorobenzene	0.82		0.8375		98.2	70	130	0	0	

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Vertex Resources Services, Inc.

Work Order Number: 2210C44

RcptNo: 1

Received By: Juan Rojas 10/26/2022 7:10:00 AM

Completed By: Juan Rojas 10/26/2022 7:34:19 AM

Reviewed By: JR 10.26.22

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: JR 10/26/22

Special Handling (if applicable)

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

Person Notified: _____ Date _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.3	Good				

Chain-of-Custody Record

Client: Vertex (EOG)

Mailing Address: on file

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☑ Rush 24 hr

Project Name: Gill BGJ #1

Project #: 22E-00123-07

Project Manager: Moffitt

Sampler: SPC

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 7.4-0.1=7.3 (°C)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2210C44	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
10/20	9:15	soil	BES22-02 4'	4 oz jar	ice	-001	✓	✓					✓			
	9:20		BES22-03 4'			-002										
	9:25		BES22-04 4'			-003										
	9:35		BES22-06 4'			-004										
	9:40		BES22-07 4'			-005										
	12:25		BES22-12 4'			-006										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
10/24	17:42	Sally Carrillo				
10/25/22	1900				10/25/22	930

Remarks: direct bill EOG

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

October 31, 2022

Michael Moffitt

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

RE: Gill BGJ 1 OrderNo.: 2210C45

Dear Michael Moffitt:

Hall Environmental Analysis Laboratory received 15 sample(s) on 10/26/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2210C45**
Date Reported: **10/31/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** WES22-06 0-4'
Project: Gill BGJ 1 **Collection Date:** 10/24/2022 9:05:00 AM
Lab ID: 2210C45-001 **Matrix:** MEOH (SOIL) **Received Date:** 10/26/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	10/26/2022 4:33:10 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/26/2022 4:33:10 PM
Surr: DNOP	92.8	21-129		%Rec	1	10/26/2022 4:33:10 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	10/26/2022 11:53:38 AM
Surr: BFB	91.7	37.7-212		%Rec	1	10/26/2022 11:53:38 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.021		mg/Kg	1	10/26/2022 11:53:38 AM
Toluene	ND	0.041		mg/Kg	1	10/26/2022 11:53:38 AM
Ethylbenzene	ND	0.041		mg/Kg	1	10/26/2022 11:53:38 AM
Xylenes, Total	ND	0.082		mg/Kg	1	10/26/2022 11:53:38 AM
Surr: 4-Bromofluorobenzene	96.2	70-130		%Rec	1	10/26/2022 11:53:38 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	89	60		mg/Kg	20	10/26/2022 8:11:48 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2210C45**
Date Reported: **10/31/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BES22-01 6'
Project: Gill BGJ 1 **Collection Date:** 10/24/2022 9:30:00 AM
Lab ID: 2210C45-002 **Matrix:** MEOH (SOIL) **Received Date:** 10/26/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	210	15		mg/Kg	1	10/26/2022 6:10:23 PM
Motor Oil Range Organics (MRO)	91	50		mg/Kg	1	10/26/2022 6:10:23 PM
Surr: DNOP	101	21-129		%Rec	1	10/26/2022 6:10:23 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	23		mg/Kg	5	10/26/2022 12:17:16 PM
Surr: BFB	92.3	37.7-212		%Rec	5	10/26/2022 12:17:16 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.12		mg/Kg	5	10/26/2022 12:17:16 PM
Toluene	ND	0.23		mg/Kg	5	10/26/2022 12:17:16 PM
Ethylbenzene	ND	0.23		mg/Kg	5	10/26/2022 12:17:16 PM
Xylenes, Total	ND	0.46		mg/Kg	5	10/26/2022 12:17:16 PM
Surr: 4-Bromofluorobenzene	96.7	70-130		%Rec	5	10/26/2022 12:17:16 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	250	60		mg/Kg	20	10/26/2022 8:49:02 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2210C45**
Date Reported: **10/31/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BES22-05 4'
Project: Gill BGJ 1 **Collection Date:** 10/24/2022 9:35:00 AM
Lab ID: 2210C45-003 **Matrix:** MEOH (SOIL) **Received Date:** 10/26/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	530	15		mg/Kg	1	10/26/2022 6:59:25 PM
Motor Oil Range Organics (MRO)	110	49		mg/Kg	1	10/26/2022 6:59:25 PM
Surr: DNOP	106	21-129		%Rec	1	10/26/2022 6:59:25 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	21		mg/Kg	5	10/26/2022 12:40:56 PM
Surr: BFB	98.2	37.7-212		%Rec	5	10/26/2022 12:40:56 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.11		mg/Kg	5	10/26/2022 12:40:56 PM
Toluene	ND	0.21		mg/Kg	5	10/26/2022 12:40:56 PM
Ethylbenzene	ND	0.21		mg/Kg	5	10/26/2022 12:40:56 PM
Xylenes, Total	ND	0.42		mg/Kg	5	10/26/2022 12:40:56 PM
Surr: 4-Bromofluorobenzene	97.9	70-130		%Rec	5	10/26/2022 12:40:56 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	200	60		mg/Kg	20	10/26/2022 9:01:27 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2210C45**
Date Reported: **10/31/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BES22-08 6'
Project: Gill BGJ 1 **Collection Date:** 10/24/2022 9:40:00 AM
Lab ID: 2210C45-004 **Matrix:** MEOH (SOIL) **Received Date:** 10/26/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	70	15		mg/Kg	1	10/26/2022 7:48:01 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/26/2022 7:48:01 PM
Surr: DNOP	99.9	21-129		%Rec	1	10/26/2022 7:48:01 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.4		mg/Kg	1	10/26/2022 1:04:39 PM
Surr: BFB	93.0	37.7-212		%Rec	1	10/26/2022 1:04:39 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.022		mg/Kg	1	10/26/2022 1:04:39 PM
Toluene	ND	0.044		mg/Kg	1	10/26/2022 1:04:39 PM
Ethylbenzene	ND	0.044		mg/Kg	1	10/26/2022 1:04:39 PM
Xylenes, Total	ND	0.089		mg/Kg	1	10/26/2022 1:04:39 PM
Surr: 4-Bromofluorobenzene	94.1	70-130		%Rec	1	10/26/2022 1:04:39 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	ND	60		mg/Kg	20	10/26/2022 9:38:41 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2210C45**
Date Reported: **10/31/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BES22-09 6'
Project: Gill BGJ 1 **Collection Date:** 10/24/2022 9:45:00 AM
Lab ID: 2210C45-005 **Matrix:** MEOH (SOIL) **Received Date:** 10/26/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	340	15		mg/Kg	1	10/26/2022 8:36:43 PM
Motor Oil Range Organics (MRO)	140	49		mg/Kg	1	10/26/2022 8:36:43 PM
Surr: DNOP	103	21-129		%Rec	1	10/26/2022 8:36:43 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg	1	10/26/2022 3:49:43 PM
Surr: BFB	91.5	37.7-212		%Rec	1	10/26/2022 3:49:43 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.020		mg/Kg	1	10/26/2022 3:49:43 PM
Toluene	ND	0.040		mg/Kg	1	10/26/2022 3:49:43 PM
Ethylbenzene	ND	0.040		mg/Kg	1	10/26/2022 3:49:43 PM
Xylenes, Total	ND	0.080		mg/Kg	1	10/26/2022 3:49:43 PM
Surr: 4-Bromofluorobenzene	95.9	70-130		%Rec	1	10/26/2022 3:49:43 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	510	60		mg/Kg	20	10/26/2022 9:51:06 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2210C45**
Date Reported: **10/31/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BES22-10 6'
Project: Gill BGJ 1 **Collection Date:** 10/24/2022 9:50:00 AM
Lab ID: 2210C45-006 **Matrix:** MEOH (SOIL) **Received Date:** 10/26/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	59	14		mg/Kg	1	10/26/2022 4:57:21 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/26/2022 4:57:21 PM
Surr: DNOP	96.8	21-129		%Rec	1	10/26/2022 4:57:21 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg	1	10/26/2022 4:13:24 PM
Surr: BFB	93.3	37.7-212		%Rec	1	10/26/2022 4:13:24 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.020		mg/Kg	1	10/26/2022 4:13:24 PM
Toluene	ND	0.040		mg/Kg	1	10/26/2022 4:13:24 PM
Ethylbenzene	ND	0.040		mg/Kg	1	10/26/2022 4:13:24 PM
Xylenes, Total	ND	0.079		mg/Kg	1	10/26/2022 4:13:24 PM
Surr: 4-Bromofluorobenzene	97.8	70-130		%Rec	1	10/26/2022 4:13:24 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	510	60		mg/Kg	20	10/26/2022 10:03:31 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2210C45**
Date Reported: **10/31/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BES22-11 6'
Project: Gill BGJ 1 **Collection Date:** 10/24/2022 9:55:00 AM
Lab ID: 2210C45-007 **Matrix:** MEOH (SOIL) **Received Date:** 10/26/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	68	15		mg/Kg	1	10/26/2022 9:25:20 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/26/2022 9:25:20 PM
Surr: DNOP	98.5	21-129		%Rec	1	10/26/2022 9:25:20 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	10/26/2022 4:36:59 PM
Surr: BFB	94.5	37.7-212		%Rec	1	10/26/2022 4:36:59 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.021		mg/Kg	1	10/26/2022 4:36:59 PM
Toluene	ND	0.042		mg/Kg	1	10/26/2022 4:36:59 PM
Ethylbenzene	ND	0.042		mg/Kg	1	10/26/2022 4:36:59 PM
Xylenes, Total	ND	0.083		mg/Kg	1	10/26/2022 4:36:59 PM
Surr: 4-Bromofluorobenzene	98.4	70-130		%Rec	1	10/26/2022 4:36:59 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	180	60		mg/Kg	20	10/26/2022 10:15:56 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2210C45**
Date Reported: **10/31/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BES22-13 4'
Project: Gill BGJ 1 **Collection Date:** 10/24/2022 10:00:00 AM
Lab ID: 2210C45-008 **Matrix:** MEOH (SOIL) **Received Date:** 10/26/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	1600	29		mg/Kg	2	10/27/2022 10:28:25 AM
Motor Oil Range Organics (MRO)	240	97		mg/Kg	2	10/27/2022 10:28:25 AM
Surr: DNOP	121	21-129		%Rec	2	10/27/2022 10:28:25 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	34	21		mg/Kg	5	10/26/2022 5:00:35 PM
Surr: BFB	162	37.7-212		%Rec	5	10/26/2022 5:00:35 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.11		mg/Kg	5	10/26/2022 5:00:35 PM
Toluene	ND	0.21		mg/Kg	5	10/26/2022 5:00:35 PM
Ethylbenzene	ND	0.21		mg/Kg	5	10/26/2022 5:00:35 PM
Xylenes, Total	ND	0.42		mg/Kg	5	10/26/2022 5:00:35 PM
Surr: 4-Bromofluorobenzene	99.7	70-130		%Rec	5	10/26/2022 5:00:35 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	360	60		mg/Kg	20	10/26/2022 10:28:22 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2210C45**
Date Reported: **10/31/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BES22-14 4'
Project: Gill BGJ 1 **Collection Date:** 10/24/2022 10:05:00 AM
Lab ID: 2210C45-009 **Matrix:** MEOH (SOIL) **Received Date:** 10/26/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	700	15		mg/Kg	1	10/26/2022 11:26:40 PM
Motor Oil Range Organics (MRO)	100	48		mg/Kg	1	10/26/2022 11:26:40 PM
Surr: DNOP	107	21-129		%Rec	1	10/26/2022 11:26:40 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	28	22		mg/Kg	5	10/26/2022 5:24:17 PM
Surr: BFB	149	37.7-212		%Rec	5	10/26/2022 5:24:17 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.11		mg/Kg	5	10/26/2022 5:24:17 PM
Toluene	ND	0.22		mg/Kg	5	10/26/2022 5:24:17 PM
Ethylbenzene	ND	0.22		mg/Kg	5	10/26/2022 5:24:17 PM
Xylenes, Total	ND	0.44		mg/Kg	5	10/26/2022 5:24:17 PM
Surr: 4-Bromofluorobenzene	98.8	70-130		%Rec	5	10/26/2022 5:24:17 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	390	60		mg/Kg	20	10/26/2022 10:40:46 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2210C45**
Date Reported: **10/31/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BES22-15 4'
Project: Gill BGJ 1 **Collection Date:** 10/24/2022 10:10:00 AM
Lab ID: 2210C45-010 **Matrix:** MEOH (SOIL) **Received Date:** 10/26/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	630	14		mg/Kg	1	10/27/2022 12:15:05 AM
Motor Oil Range Organics (MRO)	150	48		mg/Kg	1	10/27/2022 12:15:05 AM
Surr: DNOP	108	21-129		%Rec	1	10/27/2022 12:15:05 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	3.8		mg/Kg	1	10/26/2022 5:47:57 PM
Surr: BFB	124	37.7-212		%Rec	1	10/26/2022 5:47:57 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.019		mg/Kg	1	10/26/2022 5:47:57 PM
Toluene	ND	0.038		mg/Kg	1	10/26/2022 5:47:57 PM
Ethylbenzene	ND	0.038		mg/Kg	1	10/26/2022 5:47:57 PM
Xylenes, Total	ND	0.076		mg/Kg	1	10/26/2022 5:47:57 PM
Surr: 4-Bromofluorobenzene	98.0	70-130		%Rec	1	10/26/2022 5:47:57 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	380	61		mg/Kg	20	10/26/2022 10:53:10 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	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2210C45**
Date Reported: **10/31/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BES22-16 4'
Project: Gill BGJ 1 **Collection Date:** 10/24/2022 10:15:00 AM
Lab ID: 2210C45-011 **Matrix:** MEOH (SOIL) **Received Date:** 10/26/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	200	15		mg/Kg	1	10/27/2022 1:03:27 AM
Motor Oil Range Organics (MRO)	84	48		mg/Kg	1	10/27/2022 1:03:27 AM
Surr: DNOP	101	21-129		%Rec	1	10/27/2022 1:03:27 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	10/26/2022 6:11:35 PM
Surr: BFB	92.4	37.7-212		%Rec	1	10/26/2022 6:11:35 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.017		mg/Kg	1	10/26/2022 6:11:35 PM
Toluene	ND	0.034		mg/Kg	1	10/26/2022 6:11:35 PM
Ethylbenzene	ND	0.034		mg/Kg	1	10/26/2022 6:11:35 PM
Xylenes, Total	ND	0.068		mg/Kg	1	10/26/2022 6:11:35 PM
Surr: 4-Bromofluorobenzene	94.1	70-130		%Rec	1	10/26/2022 6:11:35 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	170	60		mg/Kg	20	10/26/2022 11:05:34 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2210C45**
Date Reported: **10/31/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BES22-17 4'
Project: Gill BGJ 1 **Collection Date:** 10/24/2022 10:20:00 AM
Lab ID: 2210C45-012 **Matrix:** MEOH (SOIL) **Received Date:** 10/26/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	87	14		mg/Kg	1	10/27/2022 1:51:47 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/27/2022 1:51:47 AM
Surr: DNOP	101	21-129		%Rec	1	10/27/2022 1:51:47 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	10/26/2022 6:35:16 PM
Surr: BFB	95.2	37.7-212		%Rec	1	10/26/2022 6:35:16 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.021		mg/Kg	1	10/26/2022 6:35:16 PM
Toluene	ND	0.041		mg/Kg	1	10/26/2022 6:35:16 PM
Ethylbenzene	ND	0.041		mg/Kg	1	10/26/2022 6:35:16 PM
Xylenes, Total	ND	0.083		mg/Kg	1	10/26/2022 6:35:16 PM
Surr: 4-Bromofluorobenzene	99.6	70-130		%Rec	1	10/26/2022 6:35:16 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	490	60		mg/Kg	20	10/26/2022 11:17:59 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2210C45**
Date Reported: **10/31/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BES22-18 4'
Project: Gill BGJ 1 **Collection Date:** 10/24/2022 10:25:00 AM
Lab ID: 2210C45-013 **Matrix:** MEOH (SOIL) **Received Date:** 10/26/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	120	14		mg/Kg	1	10/27/2022 2:40:06 AM
Motor Oil Range Organics (MRO)	51	46		mg/Kg	1	10/27/2022 2:40:06 AM
Surr: DNOP	102	21-129		%Rec	1	10/27/2022 2:40:06 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	10/26/2022 6:58:58 PM
Surr: BFB	88.7	37.7-212		%Rec	1	10/26/2022 6:58:58 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.020		mg/Kg	1	10/26/2022 6:58:58 PM
Toluene	ND	0.039		mg/Kg	1	10/26/2022 6:58:58 PM
Ethylbenzene	ND	0.039		mg/Kg	1	10/26/2022 6:58:58 PM
Xylenes, Total	ND	0.078		mg/Kg	1	10/26/2022 6:58:58 PM
Surr: 4-Bromofluorobenzene	93.1	70-130		%Rec	1	10/26/2022 6:58:58 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	470	60		mg/Kg	20	10/26/2022 11:30:24 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2210C45**
Date Reported: **10/31/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BES22-19 6'
Project: Gill BGJ 1 **Collection Date:** 10/24/2022 10:30:00 AM
Lab ID: 2210C45-014 **Matrix:** MEOH (SOIL) **Received Date:** 10/26/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	150	14		mg/Kg	1	10/27/2022 3:28:19 AM
Motor Oil Range Organics (MRO)	68	48		mg/Kg	1	10/27/2022 3:28:19 AM
Surr: DNOP	104	21-129		%Rec	1	10/27/2022 3:28:19 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.3		mg/Kg	1	10/26/2022 7:22:35 PM
Surr: BFB	90.2	37.7-212		%Rec	1	10/26/2022 7:22:35 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.021		mg/Kg	1	10/26/2022 7:22:35 PM
Toluene	ND	0.043		mg/Kg	1	10/26/2022 7:22:35 PM
Ethylbenzene	ND	0.043		mg/Kg	1	10/26/2022 7:22:35 PM
Xylenes, Total	ND	0.086		mg/Kg	1	10/26/2022 7:22:35 PM
Surr: 4-Bromofluorobenzene	92.9	70-130		%Rec	1	10/26/2022 7:22:35 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	76	60		mg/Kg	20	10/27/2022 12:07:38 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2210C45**
Date Reported: **10/31/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BES22-20 6'
Project: Gill BGJ 1 **Collection Date:** 10/24/2022 10:35:00 AM
Lab ID: 2210C45-015 **Matrix:** MEOH (SOIL) **Received Date:** 10/26/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	19	14		mg/Kg	1	10/27/2022 11:10:36 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/27/2022 11:10:36 AM
Surr: DNOP	94.6	21-129		%Rec	1	10/27/2022 11:10:36 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/26/2022 10:30:56 PM
Surr: BFB	96.0	37.7-212		%Rec	1	10/26/2022 10:30:56 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	10/26/2022 10:30:56 PM
Toluene	ND	0.048		mg/Kg	1	10/26/2022 10:30:56 PM
Ethylbenzene	ND	0.048		mg/Kg	1	10/26/2022 10:30:56 PM
Xylenes, Total	ND	0.097		mg/Kg	1	10/26/2022 10:30:56 PM
Surr: 4-Bromofluorobenzene	94.7	70-130		%Rec	1	10/26/2022 10:30:56 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	340	60		mg/Kg	20	10/27/2022 12:44:53 AM

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2210C45**

31-Oct-22

Client: Vertex Resources Services, Inc.

Project: Gill BGJ 1

Sample ID: **MB-71081**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **71081**	RunNo: **92082**							
Prep Date: **10/26/2022**	Analysis Date: **10/26/2022**	SeqNo: **3306598**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-71081**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **71081**	RunNo: **92082**							
Prep Date: **10/26/2022**	Analysis Date: **10/26/2022**	SeqNo: **3306599**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.1	90	110			

Sample ID: **MB-71096**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **71096**	RunNo: **92082**							
Prep Date: **10/26/2022**	Analysis Date: **10/27/2022**	SeqNo: **3306630**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-71096**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **71096**	RunNo: **92082**							
Prep Date: **10/26/2022**	Analysis Date: **10/27/2022**	SeqNo: **3306631**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.4	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2210C45**

31-Oct-22

Client: Vertex Resources Services, Inc.

Project: Gill BGJ 1

Sample ID: **LCS-71073** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **71073** RunNo: **92104**

Prep Date: **10/26/2022** Analysis Date: **10/26/2022** SeqNo: **3306238** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	15	50.00	0	85.3	64.4	127			
Surr: DNOP	4.4		5.000		87.1	21	129			

Sample ID: **MB-71073** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **71073** RunNo: **92104**

Prep Date: **10/26/2022** Analysis Date: **10/26/2022** SeqNo: **3306239** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.4		10.00		94.0	21	129			

Sample ID: **LCS-71099** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **71099** RunNo: **92135**

Prep Date: **10/26/2022** Analysis Date: **10/27/2022** SeqNo: **3307451** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	15	50.00	0	90.6	64.4	127			
Surr: DNOP	4.9		5.000		98.8	21	129			

Sample ID: **MB-71099** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **71099** RunNo: **92135**

Prep Date: **10/26/2022** Analysis Date: **10/27/2022** SeqNo: **3307453** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.4		10.00		93.5	21	129			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2210C45**

31-Oct-22

Client: Vertex Resources Services, Inc.

Project: Gill BGJ 1

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **A92099**	RunNo: **92099**							
Prep Date:	Analysis Date: **10/26/2022**	SeqNo: **3305883**	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	960		1000		96.3	37.7	212			

Sample ID: **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **A92099**	RunNo: **92099**							
Prep Date:	Analysis Date: **10/26/2022**	SeqNo: **3305884**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	107	72.3	137			
Surr: BFB	2000		1000		204	37.7	212			

Sample ID: **mb-II**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **B92099**	RunNo: **92099**							
Prep Date:	Analysis Date: **10/26/2022**	SeqNo: **3305907**	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	910		1000		90.7	37.7	212			

Sample ID: **2.5ug gro lcs-II**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **B92099**	RunNo: **92099**							
Prep Date:	Analysis Date: **10/26/2022**	SeqNo: **3305908**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.8	72.3	137			
Surr: BFB	1900		1000		192	37.7	212			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2210C45**

31-Oct-22

Client: Vertex Resources Services, Inc.

Project: Gill BGJ 1

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **D92099**	RunNo: **92099**
Prep Date:	Analysis Date: **10/26/2022**	SeqNo: **3305932** 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	70	130			

Sample ID: **100ng btex lcs**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **D92099**	RunNo: **92099**
Prep Date:	Analysis Date: **10/26/2022**	SeqNo: **3305933** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	105	80	120			
Toluene	1.0	0.050	1.000	0	105	80	120			
Ethylbenzene	1.0	0.050	1.000	0	104	80	120			
Xylenes, Total	3.1	0.10	3.000	0	104	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		102	70	130			

Sample ID: **mb-II**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **E92099**	RunNo: **92099**
Prep Date:	Analysis Date: **10/26/2022**	SeqNo: **3305956** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.95		1.000		95.3	70	130			

Sample ID: **100ng btex lcs-II**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **E92099**	RunNo: **92099**
Prep Date:	Analysis Date: **10/26/2022**	SeqNo: **3305957** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	103	80	120			
Toluene	1.0	0.050	1.000	0	103	80	120			
Ethylbenzene	1.0	0.050	1.000	0	102	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	0.99		1.000		99.2	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2210C45**

31-Oct-22

Client: Vertex Resources Services, Inc.

Project: Gill BGJ 1

Sample ID: **2210c45-015ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BES22-20 6'**	Batch ID: **E92099**	RunNo: **92099**
Prep Date:	Analysis Date: **10/26/2022**	SeqNo: **3305959** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.024	0.9690	0	94.6	68.8	120			
Toluene	0.91	0.048	0.9690	0	94.3	73.6	124			
Ethylbenzene	0.91	0.048	0.9690	0.01260	92.8	72.7	129			
Xylenes, Total	2.7	0.097	2.907	0.01793	92.5	75.7	126			
Surr: 4-Bromofluorobenzene	0.89		0.9690		92.3	70	130			

Sample ID: **2210c45-015amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BES22-20 6'**	Batch ID: **E92099**	RunNo: **92099**
Prep Date:	Analysis Date: **10/26/2022**	SeqNo: **3305960** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.024	0.9690	0	91.9	68.8	120	2.88	20	
Toluene	0.90	0.048	0.9690	0	92.6	73.6	124	1.85	20	
Ethylbenzene	0.91	0.048	0.9690	0.01260	92.5	72.7	129	0.351	20	
Xylenes, Total	2.7	0.097	2.907	0.01793	92.5	75.7	126	0.0967	20	
Surr: 4-Bromofluorobenzene	0.92		0.9690		95.2	70	130	0	0	

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Vertex Resources Services, Inc.

Work Order Number: 2210C45

RcptNo: 1

Received By: Juan Rojas 10/26/2022 7:10:00 AM

Completed By: Juan Rojas 10/26/2022 7:37:27 AM

Reviewed By: 10.26.22

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: JR 10/26/22

Special Handling (if applicable)

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

Person Notified: _____ Date _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.3	Good				

Chain-of-Custody Record

Client: Vertex (EOG)

Mailing Address: on file

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☑ Rush 24 hr

Project Name: Gill BGJ #1

Project #: 22E-00123-07

Project Manager: Moffitt

Sampler: SPC

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 2.4-0.1=2.3 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2210C45	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
10/24	9:05	Soil	WES22-06 0-4'	4oz jar	ice	-001	✓	✓					✓			
	9:30		BES22-01 6'			-002										
	9:35		BES22-05 4'			-003										
	9:40		BES22-08 6'			-004										
	9:45		BES22-09 6'			-005										
	9:50		BES22-10 6'			-006										
	9:55		BES22-11 6'			-007										
	10:00		BES22-13 4'			-008										
	10:05		BES22-14 4'			-009										
	10:10		BES22-15 4'			-010										
	10:15		BES22-16 4'			-011										
	10:20		BES22-17 4'			-012										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
10/24	17:49	Sally Carter	[illegible]		10/25/22	930
10/25/22	1900	[illegible]	[illegible]		10/26/22	7:10

Remarks: direct bill EOG

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

Chain-of-Custody Record

Client: Vertex (EOG)

Mailing Address: on file

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☑ Rush 24 hr

Project Name: Gill BGJ #1

Project #: 22E-00123-07

Project Manager: Moffitt

Sampler: SPC

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 2.4-0.1=2.3 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2210645	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
10/24	10:25	Soil	BES22-18 4'	4oz jar	ice	-013	✓	✓					✓			
1	10:30	1	BES22-19 6'	1	1	-014	1	1					1			
1	10:35	1	BES22-20 6'	1	1	-015	1	1					1			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
10/24	17:52	Sally Carter			10/25/22	930
10/25/22	1900			courier	10/26/22	7:50

Remarks: direct bill EOG

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

November 02, 2022

Michael Moffitt

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

RE: Gill BGJ 1 OrderNo.: 2210D54

Dear Michael Moffitt:

Hall Environmental Analysis Laboratory received 14 sample(s) on 10/27/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2210D54**
Date Reported: **11/2/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** WES22-01 4-6'
Project: Gill BGJ 1 **Collection Date:** 10/25/2022 9:45:00 AM
Lab ID: 2210D54-001 **Matrix:** MEOH (SOIL) **Received Date:** 10/27/2022 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	76	15		mg/Kg	1	10/28/2022 11:14:34 AM
Motor Oil Range Organics (MRO)	52	49		mg/Kg	1	10/28/2022 11:14:34 AM
Surr: DNOP	104	21-129		%Rec	1	10/28/2022 11:14:34 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.3		mg/Kg	1	10/27/2022 9:20:42 AM
Surr: BFB	92.8	37.7-212		%Rec	1	10/27/2022 9:20:42 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.022		mg/Kg	1	10/27/2022 9:20:42 AM
Toluene	ND	0.043		mg/Kg	1	10/27/2022 9:20:42 AM
Ethylbenzene	ND	0.043		mg/Kg	1	10/27/2022 9:20:42 AM
Xylenes, Total	ND	0.086		mg/Kg	1	10/27/2022 9:20:42 AM
Surr: 4-Bromofluorobenzene	97.4	70-130		%Rec	1	10/27/2022 9:20:42 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	380	60		mg/Kg	20	10/27/2022 4:28:08 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2210D54**
Date Reported: **11/2/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** WES22-02 4-6'
Project: Gill BGJ 1 **Collection Date:** 10/25/2022 9:50:00 AM
Lab ID: 2210D54-002 **Matrix:** MEOH (SOIL) **Received Date:** 10/27/2022 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	59	15		mg/Kg	1	10/28/2022 12:01:17 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/28/2022 12:01:17 PM
Surr: DNOP	106	21-129		%Rec	1	10/28/2022 12:01:17 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	10/27/2022 9:44:16 AM
Surr: BFB	95.3	37.7-212		%Rec	1	10/27/2022 9:44:16 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	10/27/2022 9:44:16 AM
Toluene	ND	0.046		mg/Kg	1	10/27/2022 9:44:16 AM
Ethylbenzene	ND	0.046		mg/Kg	1	10/27/2022 9:44:16 AM
Xylenes, Total	ND	0.092		mg/Kg	1	10/27/2022 9:44:16 AM
Surr: 4-Bromofluorobenzene	99.5	70-130		%Rec	1	10/27/2022 9:44:16 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	150	61		mg/Kg	20	10/27/2022 4:40:29 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2210D54**
Date Reported: **11/2/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** WES22-08 4-6'
Project: Gill BGJ 1 **Collection Date:** 10/25/2022 9:55:00 AM
Lab ID: 2210D54-003 **Matrix:** MEOH (SOIL) **Received Date:** 10/27/2022 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	36	14		mg/Kg	1	10/28/2022 12:11:55 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/28/2022 12:11:55 PM
Surr: DNOP	104	21-129		%Rec	1	10/28/2022 12:11:55 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/27/2022 12:52:50 PM
Surr: BFB	92.6	37.7-212		%Rec	1	10/27/2022 12:52:50 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	10/27/2022 12:52:50 PM
Toluene	ND	0.048		mg/Kg	1	10/27/2022 12:52:50 PM
Ethylbenzene	ND	0.048		mg/Kg	1	10/27/2022 12:52:50 PM
Xylenes, Total	ND	0.096		mg/Kg	1	10/27/2022 12:52:50 PM
Surr: 4-Bromofluorobenzene	95.6	70-130		%Rec	1	10/27/2022 12:52:50 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	150	60		mg/Kg	20	10/27/2022 6:06:53 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2210D54**
Date Reported: **11/2/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** WES22-09 4-6'
Project: Gill BGJ 1 **Collection Date:** 10/25/2022 10:00:00 AM
Lab ID: 2210D54-004 **Matrix:** MEOH (SOIL) **Received Date:** 10/27/2022 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	51	15		mg/Kg	1	10/28/2022 12:22:34 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/28/2022 12:22:34 PM
Surr: DNOP	106	21-129		%Rec	1	10/28/2022 12:22:34 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.3		mg/Kg	1	10/27/2022 3:36:53 PM
Surr: BFB	92.4	37.7-212		%Rec	1	10/27/2022 3:36:53 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.022		mg/Kg	1	10/27/2022 3:36:53 PM
Toluene	ND	0.043		mg/Kg	1	10/27/2022 3:36:53 PM
Ethylbenzene	ND	0.043		mg/Kg	1	10/27/2022 3:36:53 PM
Xylenes, Total	ND	0.086		mg/Kg	1	10/27/2022 3:36:53 PM
Surr: 4-Bromofluorobenzene	97.7	70-130		%Rec	1	10/27/2022 3:36:53 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	68	60		mg/Kg	20	10/27/2022 6:19:13 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2210D54**
Date Reported: **11/2/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BES22-21 4'
Project: Gill BGJ 1 **Collection Date:** 10/25/2022 10:05:00 AM
Lab ID: 2210D54-005 **Matrix:** MEOH (SOIL) **Received Date:** 10/27/2022 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	37	15		mg/Kg	1	10/28/2022 12:33:14 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/28/2022 12:33:14 PM
Surr: DNOP	105	21-129		%Rec	1	10/28/2022 12:33:14 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	10/27/2022 4:00:14 PM
Surr: BFB	94.4	37.7-212		%Rec	1	10/27/2022 4:00:14 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.021		mg/Kg	1	10/27/2022 4:00:14 PM
Toluene	ND	0.042		mg/Kg	1	10/27/2022 4:00:14 PM
Ethylbenzene	ND	0.042		mg/Kg	1	10/27/2022 4:00:14 PM
Xylenes, Total	ND	0.083		mg/Kg	1	10/27/2022 4:00:14 PM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	10/27/2022 4:00:14 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	150	60		mg/Kg	20	10/27/2022 6:31:34 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2210D54**
Date Reported: **11/2/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BES22-22 4'
Project: Gill BGJ 1 **Collection Date:** 10/25/2022 10:10:00 AM
Lab ID: 2210D54-006 **Matrix:** MEOH (SOIL) **Received Date:** 10/27/2022 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	89	15		mg/Kg	1	10/28/2022 12:43:53 PM
Motor Oil Range Organics (MRO)	49	49		mg/Kg	1	10/28/2022 12:43:53 PM
Surr: DNOP	104	21-129		%Rec	1	10/28/2022 12:43:53 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/27/2022 4:23:43 PM
Surr: BFB	94.6	37.7-212		%Rec	1	10/27/2022 4:23:43 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	10/27/2022 4:23:43 PM
Toluene	ND	0.050		mg/Kg	1	10/27/2022 4:23:43 PM
Ethylbenzene	ND	0.050		mg/Kg	1	10/27/2022 4:23:43 PM
Xylenes, Total	ND	0.099		mg/Kg	1	10/27/2022 4:23:43 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	10/27/2022 4:23:43 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	390	60		mg/Kg	20	10/27/2022 6:43:54 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2210D54**
Date Reported: **11/2/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BES22-23 4'
Project: Gill BGJ 1 **Collection Date:** 10/25/2022 10:15:00 AM
Lab ID: 2210D54-007 **Matrix:** MEOH (SOIL) **Received Date:** 10/27/2022 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	130	14		mg/Kg	1	10/28/2022 12:54:31 PM
Motor Oil Range Organics (MRO)	96	46		mg/Kg	1	10/28/2022 12:54:31 PM
Surr: DNOP	110	21-129		%Rec	1	10/28/2022 12:54:31 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	10/27/2022 4:47:18 PM
Surr: BFB	90.9	37.7-212		%Rec	1	10/27/2022 4:47:18 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.020		mg/Kg	1	10/27/2022 4:47:18 PM
Toluene	ND	0.041		mg/Kg	1	10/27/2022 4:47:18 PM
Ethylbenzene	ND	0.041		mg/Kg	1	10/27/2022 4:47:18 PM
Xylenes, Total	ND	0.082		mg/Kg	1	10/27/2022 4:47:18 PM
Surr: 4-Bromofluorobenzene	93.5	70-130		%Rec	1	10/27/2022 4:47:18 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	280	60		mg/Kg	20	10/27/2022 6:56:15 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2210D54**
Date Reported: **11/2/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BES22-24 4'
Project: Gill BGJ 1 **Collection Date:** 10/25/2022 10:20:00 AM
Lab ID: 2210D54-008 **Matrix:** MEOH (SOIL) **Received Date:** 10/27/2022 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	49	14		mg/Kg	1	10/28/2022 1:16:27 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/28/2022 1:16:27 PM
Surr: DNOP	102	21-129		%Rec	1	10/28/2022 1:16:27 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.2		mg/Kg	1	10/27/2022 5:10:51 PM
Surr: BFB	93.6	37.7-212		%Rec	1	10/27/2022 5:10:51 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.026		mg/Kg	1	10/27/2022 5:10:51 PM
Toluene	ND	0.052		mg/Kg	1	10/27/2022 5:10:51 PM
Ethylbenzene	ND	0.052		mg/Kg	1	10/27/2022 5:10:51 PM
Xylenes, Total	ND	0.10		mg/Kg	1	10/27/2022 5:10:51 PM
Surr: 4-Bromofluorobenzene	98.3	70-130		%Rec	1	10/27/2022 5:10:51 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	200	60		mg/Kg	20	10/27/2022 7:08:36 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2210D54**
Date Reported: **11/2/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BES22-25 4'
Project: Gill BGJ 1 **Collection Date:** 10/25/2022 10:25:00 AM
Lab ID: 2210D54-009 **Matrix:** MEOH (SOIL) **Received Date:** 10/27/2022 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	730	28		mg/Kg	2	10/28/2022 12:26:20 PM
Motor Oil Range Organics (MRO)	120	94		mg/Kg	2	10/28/2022 12:26:20 PM
Surr: DNOP	90.0	21-129		%Rec	2	10/28/2022 12:26:20 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	10/27/2022 5:34:30 PM
Surr: BFB	97.5	37.7-212		%Rec	1	10/27/2022 5:34:30 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.019		mg/Kg	1	10/27/2022 5:34:30 PM
Toluene	ND	0.039		mg/Kg	1	10/27/2022 5:34:30 PM
Ethylbenzene	ND	0.039		mg/Kg	1	10/27/2022 5:34:30 PM
Xylenes, Total	ND	0.078		mg/Kg	1	10/27/2022 5:34:30 PM
Surr: 4-Bromofluorobenzene	96.4	70-130		%Rec	1	10/27/2022 5:34:30 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	240	60		mg/Kg	20	10/27/2022 7:45:38 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2210D54**
Date Reported: **11/2/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BES22-26 4'
Project: Gill BGJ 1 **Collection Date:** 10/25/2022 10:30:00 AM
Lab ID: 2210D54-010 **Matrix:** MEOH (SOIL) **Received Date:** 10/27/2022 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	380	14		mg/Kg	1	10/28/2022 12:55:52 PM
Motor Oil Range Organics (MRO)	130	48		mg/Kg	1	10/28/2022 12:55:52 PM
Surr: DNOP	90.7	21-129		%Rec	1	10/28/2022 12:55:52 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/27/2022 5:58:03 PM
Surr: BFB	93.9	37.7-212		%Rec	1	10/27/2022 5:58:03 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	10/27/2022 5:58:03 PM
Toluene	ND	0.049		mg/Kg	1	10/27/2022 5:58:03 PM
Ethylbenzene	ND	0.049		mg/Kg	1	10/27/2022 5:58:03 PM
Xylenes, Total	ND	0.098		mg/Kg	1	10/27/2022 5:58:03 PM
Surr: 4-Bromofluorobenzene	99.7	70-130		%Rec	1	10/27/2022 5:58:03 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	230	60		mg/Kg	20	10/27/2022 7:57:58 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2210D54**
Date Reported: **11/2/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BES22-27 4'
Project: Gill BGJ 1 **Collection Date:** 10/25/2022 10:35:00 AM
Lab ID: 2210D54-011 **Matrix:** MEOH (SOIL) **Received Date:** 10/27/2022 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	140	14		mg/Kg	1	10/28/2022 11:02:41 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/28/2022 11:02:41 AM
Surr: DNOP	95.5	21-129		%Rec	1	10/28/2022 11:02:41 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/27/2022 6:21:39 PM
Surr: BFB	95.7	37.7-212		%Rec	1	10/27/2022 6:21:39 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	10/27/2022 6:21:39 PM
Toluene	ND	0.047		mg/Kg	1	10/27/2022 6:21:39 PM
Ethylbenzene	ND	0.047		mg/Kg	1	10/27/2022 6:21:39 PM
Xylenes, Total	ND	0.093		mg/Kg	1	10/27/2022 6:21:39 PM
Surr: 4-Bromofluorobenzene	97.5	70-130		%Rec	1	10/27/2022 6:21:39 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	330	60		mg/Kg	20	10/27/2022 8:10:20 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2210D54**
Date Reported: **11/2/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BES22-28 4'
Project: Gill BGJ 1 **Collection Date:** 10/25/2022 10:40:00 AM
Lab ID: 2210D54-012 **Matrix:** MEOH (SOIL) **Received Date:** 10/27/2022 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	57	14		mg/Kg	1	10/28/2022 11:16:49 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/28/2022 11:16:49 AM
Surr: DNOP	103	21-129		%Rec	1	10/28/2022 11:16:49 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.3		mg/Kg	1	10/27/2022 6:45:13 PM
Surr: BFB	90.3	37.7-212		%Rec	1	10/27/2022 6:45:13 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.021		mg/Kg	1	10/27/2022 6:45:13 PM
Toluene	ND	0.043		mg/Kg	1	10/27/2022 6:45:13 PM
Ethylbenzene	ND	0.043		mg/Kg	1	10/27/2022 6:45:13 PM
Xylenes, Total	ND	0.085		mg/Kg	1	10/27/2022 6:45:13 PM
Surr: 4-Bromofluorobenzene	96.5	70-130		%Rec	1	10/27/2022 6:45:13 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	770	60		mg/Kg	20	10/27/2022 8:22:41 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2210D54**
Date Reported: **11/2/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BES22-29 4'
Project: Gill BGJ 1 **Collection Date:** 10/25/2022 10:45:00 AM
Lab ID: 2210D54-013 **Matrix:** MEOH (SOIL) **Received Date:** 10/27/2022 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	49	14		mg/Kg	1	10/28/2022 11:30:55 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	10/28/2022 11:30:55 AM
Surr: DNOP	102	21-129		%Rec	1	10/28/2022 11:30:55 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.4		mg/Kg	1	10/27/2022 7:08:45 PM
Surr: BFB	90.2	37.7-212		%Rec	1	10/27/2022 7:08:45 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.022		mg/Kg	1	10/27/2022 7:08:45 PM
Toluene	ND	0.044		mg/Kg	1	10/27/2022 7:08:45 PM
Ethylbenzene	ND	0.044		mg/Kg	1	10/27/2022 7:08:45 PM
Xylenes, Total	ND	0.088		mg/Kg	1	10/27/2022 7:08:45 PM
Surr: 4-Bromofluorobenzene	96.0	70-130		%Rec	1	10/27/2022 7:08:45 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	300	60		mg/Kg	20	10/27/2022 8:35:02 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2210D54**
Date Reported: **11/2/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BES22-30 4'
Project: Gill BGJ 1 **Collection Date:** 10/25/2022 10:50:00 AM
Lab ID: 2210D54-014 **Matrix:** MEOH (SOIL) **Received Date:** 10/27/2022 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	10/28/2022 11:45:01 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/28/2022 11:45:01 AM
Surr: DNOP	99.4	21-129		%Rec	1	10/28/2022 11:45:01 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.2		mg/Kg	1	10/27/2022 10:17:09 PM
Surr: BFB	95.7	37.7-212		%Rec	1	10/27/2022 10:17:09 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.026		mg/Kg	1	10/28/2022 9:24:14 AM
Toluene	ND	0.052		mg/Kg	1	10/28/2022 9:24:14 AM
Ethylbenzene	ND	0.052		mg/Kg	1	10/28/2022 9:24:14 AM
Xylenes, Total	ND	0.10		mg/Kg	1	10/28/2022 9:24:14 AM
Surr: 4-Bromofluorobenzene	93.2	70-130		%Rec	1	10/28/2022 9:24:14 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	120	60		mg/Kg	20	10/27/2022 8:47:24 PM

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2210D54**

02-Nov-22

Client: Vertex Resources Services, Inc.

Project: Gill BGJ 1

Sample ID: **MB-71132**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **71132**	RunNo: **92160**
Prep Date: **10/27/2022**	Analysis Date: **10/27/2022**	SeqNo: **3308744** Units: **mg/Kg**

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

Sample ID: **LCS-71132**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **71132**	RunNo: **92160**
Prep Date: **10/27/2022**	Analysis Date: **10/27/2022**	SeqNo: **3308745** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.5	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2210D54**

02-Nov-22

Client: Vertex Resources Services, Inc.

Project: Gill BGJ 1

Sample ID: **LCS-71115** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **71115** RunNo: **92135**

Prep Date: **10/27/2022** Analysis Date: **10/27/2022** SeqNo: **3307452** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	15	50.00	0	98.8	64.4	127			
Surr: DNOP	5.3		5.000		106	21	129			

Sample ID: **MB-71115** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **71115** RunNo: **92135**

Prep Date: **10/27/2022** Analysis Date: **10/27/2022** SeqNo: **3307454** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		101	21	129			

Sample ID: **2210D54-001AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **WES22-01 4-6'** Batch ID: **71115** RunNo: **92172**

Prep Date: **10/27/2022** Analysis Date: **10/28/2022** SeqNo: **3312607** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	110	15	49.85	75.58	76.0	36.1	154			
Surr: DNOP	5.4		4.985		109	21	129			

Sample ID: **2210D54-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **WES22-01 4-6'** Batch ID: **71115** RunNo: **92172**

Prep Date: **10/27/2022** Analysis Date: **10/28/2022** SeqNo: **3312608** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	120	15	49.90	75.58	83.4	36.1	154	3.20	33.9	
Surr: DNOP	5.6		4.990		111	21	129	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2210D54**

02-Nov-22

Client: Vertex Resources Services, Inc.

Project: Gill BGJ 1

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **A92145**	RunNo: **92145**
Prep Date:	Analysis Date: **10/27/2022**	SeqNo: **3307686** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		100	37.7	212			

Sample ID: **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **A92145**	RunNo: **92145**
Prep Date:	Analysis Date: **10/27/2022**	SeqNo: **3307694** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	110	72.3	137			
Surr: BFB	2100		1000		210	37.7	212			

Sample ID: **2210d54-001ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **WES22-01 4-6'**	Batch ID: **A92145**	RunNo: **92145**
Prep Date:	Analysis Date: **10/27/2022**	SeqNo: **3307756** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.3	21.51	0	99.2	70	130			
Surr: BFB	1600		860.6		187	37.7	212			

Sample ID: **2210d54-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **WES22-01 4-6'**	Batch ID: **A92145**	RunNo: **92145**
Prep Date:	Analysis Date: **10/27/2022**	SeqNo: **3307757** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.3	21.51	0	98.2	70	130	1.01	20	
Surr: BFB	1600		860.6		190	37.7	212	0	0	

Sample ID: **mb-II**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **B92145**	RunNo: **92145**
Prep Date:	Analysis Date: **10/27/2022**	SeqNo: **3307758** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	950		1000		95.0	37.7	212			

Sample ID: **2.5ug gro lcs-II**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **B92145**	RunNo: **92145**
Prep Date:	Analysis Date: **10/27/2022**	SeqNo: **3307759** 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 standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2210D54**

02-Nov-22

Client: Vertex Resources Services, Inc.

Project: Gill BGJ 1

Sample ID: **2.5ug gro lcs-II**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **B92145**	RunNo: **92145**
Prep Date:	Analysis Date: **10/27/2022**	SeqNo: **3307759** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	96.4	72.3	137			
Surr: BFB	1900		1000		194	37.7	212			

Sample ID: **2210d54-014ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BES22-30 4'**	Batch ID: **B92145**	RunNo: **92145**
Prep Date:	Analysis Date: **10/27/2022**	SeqNo: **3307761** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.2	25.80	0	98.9	70	130			
Surr: BFB	2000		1032		193	37.7	212			

Sample ID: **2210d54-014amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BES22-30 4'**	Batch ID: **B92145**	RunNo: **92145**
Prep Date:	Analysis Date: **10/27/2022**	SeqNo: **3307762** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.2	25.80	0	97.0	70	130	1.88	20	
Surr: BFB	2000		1032		194	37.7	212	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2210D54**

02-Nov-22

Client: Vertex Resources Services, Inc.

Project: Gill BGJ 1

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **D92145**	RunNo: **92145**
Prep Date:	Analysis Date: **10/27/2022**	SeqNo: **3307777** 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		104	70	130			

Sample ID: **100ng btex lcs**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **D92145**	RunNo: **92145**
Prep Date:	Analysis Date: **10/27/2022**	SeqNo: **3307778** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	103	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.0	0.050	1.000	0	103	80	120			
Xylenes, Total	3.0	0.10	3.000	0	102	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	70	130			

Sample ID: **2210d54-002ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **WES22-02 4-6'**	Batch ID: **D92145**	RunNo: **92145**
Prep Date:	Analysis Date: **10/27/2022**	SeqNo: **3307801** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.023	0.9183	0	102	68.8	120			
Toluene	0.94	0.046	0.9183	0	102	73.6	124			
Ethylbenzene	0.93	0.046	0.9183	0	102	72.7	129			
Xylenes, Total	2.8	0.092	2.755	0	101	75.7	126			
Surr: 4-Bromofluorobenzene	0.91		0.9183		99.3	70	130			

Sample ID: **2210d54-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **WES22-02 4-6'**	Batch ID: **D92145**	RunNo: **92145**
Prep Date:	Analysis Date: **10/27/2022**	SeqNo: **3307802** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.023	0.9183	0	98.2	68.8	120	4.01	20	
Toluene	0.91	0.046	0.9183	0	98.8	73.6	124	3.59	20	
Ethylbenzene	0.92	0.046	0.9183	0	100	72.7	129	1.08	20	
Xylenes, Total	2.8	0.092	2.755	0	100	75.7	126	0.718	20	
Surr: 4-Bromofluorobenzene	0.93		0.9183		101	70	130	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2210D54**

02-Nov-22

Client: Vertex Resources Services, Inc.

Project: Gill BGJ 1

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **B92156**	RunNo: **92156**
Prep Date:	Analysis Date: **10/28/2022**	SeqNo: **3309697** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.94		1.000		93.8	70	130			

Sample ID: **100ng btex lcs**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **B92156**	RunNo: **92156**
Prep Date:	Analysis Date: **10/28/2022**	SeqNo: **3309698** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	101	80	120			
Toluene	1.0	0.050	1.000	0	101	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.0	0.10	3.000	0	100	80	120			
Surr: 4-Bromofluorobenzene	0.97		1.000		96.7	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Vertex Resources Services, Inc.

Work Order Number: 2210D54

RcptNo: 1

Received By: Juan Rojas 10/27/2022 7:25:00 AM

Completed By: Tracy Casarrubias 10/27/2022 7:40:37 AM

Reviewed By: KM 10-27-22

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: JM 10/27/22

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.5	Good	Yes			

Chain-of-Custody Record

Client: Vertex (EOG)

Mailing Address: on file

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☑ Rush 24 hr

Project Name: Gill BGJ #1

Project #: 22E-00123

Project Manager: Michael Moffitt

Sampler: SPC

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 0.3+0.2=0.5 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2210D54	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
10/25	9:45	soil	WES22-01 4-6'	4oz jar	ice	001	✓	✓					✓			
	9:50		WES22-02 4-6'			002										
	9:55		WES22-08 4-6'			003										
	10:00		WES22-09 4-6'			004										
	10:05		BES22-21 4'			005										
	10:10		BES22-22 4'			006										
	10:15		BES22-23 4'			007										
	10:20		BES22-24 4'			008										
	10:25		BES22-25 4'			009										
	10:30		BES22-26 4'			010										
	10:35		BES22-27 4'			011										
	10:40		BES22-28 4'			012										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
10/25	17:58	Sally Carrillo			10/26/22	900
10/26	1910			courier	10/27/22	7:25

Remarks: direct bill EOG

1/2

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

Chain-of-Custody Record

Client: Vertex (EOG)

Mailing Address: on file

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☑ Rush 24 hr

Project Name: Gill BGJ #1

Project #: 22E-00123-07

Project Manager: Moffitt

Sampler: SPC

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 0.3+0.2=0.5 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2210054	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
10/25	10:45	Soil	BES22-29 4'	4oz jar	ice	013	✓	✓					✓			
"	10:50	"	BES22-30 4'	"	"	014	✓	✓					✓			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
10/25	17:58	Sally Carter	ACummings		10/26/22	900
10/26/22	900	ACummings		courier	10/27/22	7:25

Remarks: 2/2

direct bill EOG

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

November 07, 2022

Mike Moffitt

EOG
105 South Fourth Street
Artesia, NM 88210
TEL:
FAX:

RE: Gill BGJ 1 OrderNo.: 2211147

Dear Mike Moffitt:

Hall Environmental Analysis Laboratory received 1 sample(s) on 11/3/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2211147**
Date Reported: **11/7/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG **Client Sample ID:** BES22-13 5'
Project: Gill BGJ 1 **Collection Date:** 11/2/2022 2:45:00 PM
Lab ID: 2211147-001 **Matrix:** MEOH (SOIL) **Received Date:** 11/3/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	230	60		mg/Kg	20	11/3/2022 11:16:47 AM	71274
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**	
Diesel Range Organics (DRO)	340	15		mg/Kg	1	11/3/2022 10:25:27 AM	71261
Motor Oil Range Organics (MRO)	540	49		mg/Kg	1	11/3/2022 10:25:27 AM	71261
Surr: DNOP	127	21-129		%Rec	1	11/3/2022 10:25:27 AM	71261
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	18		mg/Kg	5	11/3/2022 11:01:32 AM	B92307
Surr: BFB	86.5	37.7-212		%Rec	5	11/3/2022 11:01:32 AM	B92307
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.089		mg/Kg	5	11/3/2022 11:01:32 AM	D92307
Toluene	ND	0.18		mg/Kg	5	11/3/2022 11:01:32 AM	D92307
Ethylbenzene	ND	0.18		mg/Kg	5	11/3/2022 11:01:32 AM	D92307
Xylenes, Total	ND	0.36		mg/Kg	5	11/3/2022 11:01:32 AM	D92307
Surr: 4-Bromofluorobenzene	88.9	70-130		%Rec	5	11/3/2022 11:01:32 AM	D92307

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2211147**

07-Nov-22

Client: EOG

Project: Gill BGJ 1

Sample ID: **MB-71274**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **71274**	RunNo: **92304**
Prep Date: **11/3/2022**	Analysis Date: **11/3/2022**	SeqNo: **3316872** Units: **mg/Kg**

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

Sample ID: **LCS-71274**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **71274**	RunNo: **92304**
Prep Date: **11/3/2022**	Analysis Date: **11/3/2022**	SeqNo: **3316873** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.5	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2211147**

07-Nov-22

Client: EOG

Project: Gill BGJ 1

Sample ID: **LCS-71261**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **71261**	RunNo: **92301**
Prep Date: **11/3/2022**	Analysis Date: **11/3/2022**	SeqNo: **3315842** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	15	50.00	0	91.3	64.4	127			
Surr: DNOP	5.1		5.000		102	21	129			

Sample ID: **MB-71261**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **71261**	RunNo: **92301**
Prep Date: **11/3/2022**	Analysis Date: **11/3/2022**	SeqNo: **3315843** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		99.8	21	129			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2211147**

07-Nov-22

Client: EOG

Project: Gill BGJ 1

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **B92307**	RunNo: **92307**
Prep Date:	Analysis Date: **11/3/2022**	SeqNo: **3316441** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	900		1000		89.8	37.7	212			

Sample ID: **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **B92307**	RunNo: **92307**
Prep Date:	Analysis Date: **11/3/2022**	SeqNo: **3316442** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	99.7	72.3	137			
Surr: BFB	1900		1000		186	37.7	212			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2211147**

07-Nov-22

Client: EOG

Project: Gill BGJ 1

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **D92307**	RunNo: **92307**
Prep Date:	Analysis Date: **11/3/2022**	SeqNo: **3316487** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.92		1.000		92.0	70	130			

Sample ID: **100ng btex lcs**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **D92307**	RunNo: **92307**
Prep Date:	Analysis Date: **11/3/2022**	SeqNo: **3316488** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	93.6	80	120			
Toluene	0.96	0.050	1.000	0	96.5	80	120			
Ethylbenzene	0.96	0.050	1.000	0	95.7	80	120			
Xylenes, Total	2.9	0.10	3.000	0	96.3	80	120			
Surr: 4-Bromofluorobenzene	0.90		1.000		90.2	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: EOG | Work Order Number: 2211147 | RcptNo: 1

Received By: Juan Rojas 11/3/2022 7:30:00 AM

Completed By: Tracy Casarrubias 11/3/2022 7:57:35 AM

Reviewed By: JM 11-3-22

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: JM 11/3/22

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.5	Good	Yes			

Chain-of-Custody Record

Client: EOG (Vertex)

Mailing Address: on file

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☑ Rush Same-day

Project Name: Gill BGJ #1

Project #: 22E-00123-07

Project Manager: Moffitt

Sampler: SPC

On Ice: ☐ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 1.4+0.1=1.5 (°C)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2211147	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
11/2/22	14:45	Soil	BES22-13 5'	4oz jar	ice	001	✓	✓					✓			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
11/2/22	16:48	Sally Carattini				
11/2/22	1900			courier	11/3/22	7:30

Remarks: direct bill EOG
CC scarttar@vertex.ca

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.

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QUESTIONS

Action 291723

QUESTIONS

Operator: EOG RESOURCES INC P.O. Box 2267 Midland, TX 79702	OGRID: 7377
	Action Number: 291723
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nGRL1116854671**
Incident Name	**NGRL1116854671 GILL BGJ #001 @ 30-025-37103**
Incident Type	**Produced Water Release**
Incident Status	**Remediation Closure Report Received**
Incident Well	**[30-025-37103] GILL BGJ #001**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	GILL BGJ #001
Date Release Discovered	03/29/2011
Surface Owner	Private

Incident Details	
Please answer all the questions in this group.	
Incident Type	Produced Water Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	*Not answered.*
Produced Water Released (bbls) Details	Cause: Corrosion | Flow Line - Production | Produced Water | Released: 25 BBL | Recovered: 20 BBL | Lost: 5 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	*Not answered.*
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	*Not answered.*

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QUESTIONS (continued)

Operator: EOG RESOURCES INC P.O. Box 2267 Midland, TX 79702	OGRID: 7377
	Action Number: 291723
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**No, according to supplied volumes this does not appear to be a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**Yes**
Reasons why this would be considered a submission for a notification of a major release	**From paragraph A. "Major release" determine using:** **(1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.**
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

Initial Response	
The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury.	
The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	*Not answered.*
Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.	

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

I hereby agree and sign off to the above statement	Name: Tina Huerta Title: Regulatory Reporting Supervisor Email: tina_huerta@eogresources.com Date: 12/06/2023

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QUESTIONS (continued)

Operator: EOG RESOURCES INC P.O. Box 2267 Midland, TX 79702	OGRID: 7377
	Action Number: 291723
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	Attached Document
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Greater than 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between ½ and 1 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between ½ and 1 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between ½ and 1 (mi.)
Any other fresh water well or spring	Between ½ and 1 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Greater than 5 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	1500
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	2378
GRO+DRO (EPA SW-846 Method 8015M)	2320
BTEX (EPA SW-846 Method 8021B or 8260B)	46.2
Benzene (EPA SW-846 Method 8021B or 8260B)	0
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
On what estimated date will the remediation commence	10/13/2022
On what date will (or did) the final sampling or liner inspection occur	10/17/2022
On what date will (or was) the remediation complete(d)	11/02/2022
What is the estimated surface area (in square feet) that will be reclaimed	7121
What is the estimated volume (in cubic yards) that will be reclaimed	1055
What is the estimated surface area (in square feet) that will be remediated	4907
What is the estimated volume (in cubic yards) that will be remediated	727
These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.	
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

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	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for **off-site** disposal	GANDY MARLEY LANDFARM/LANDFILL [fEEM0112338393]
OR which OCD approved well (API) will be used for **off-site** disposal	*Not answered.*
OR is the **off-site** disposal site, to be used, out-of-state	*Not answered.*
OR is the **off-site** disposal site, to be used, an NMED facility	*Not answered.*
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	*Not answered.*
(In Situ) Soil Vapor Extraction	*Not answered.*
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	*Not answered.*
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	*Not answered.*
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	*Not answered.*
Ground Water Abatement pursuant to 19.15.30 NMAC	*Not answered.*
OTHER (Non-listed remedial process)	*Not answered.*
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: Tina Huerta Title: Regulatory Reporting Supervisor Email: tina_huerta@eogresources.com Date: 12/06/2023
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

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	Action Number: 291723
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Deferral Requests Only *Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.*	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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QUESTIONS (continued)

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	Action Number: 291723
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**291000**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**11/02/2022**
What was the (estimated) number of samples that were to be gathered	**1**
What was the sampling surface area in square feet	**4907**

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	**Yes**
Was this release entirely contained within a lined containment area	**No**
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	4907
What was the total volume (cubic yards) remediated	727
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	7121
What was the total volume (in cubic yards) reclaimed	1055
Summarize any additional remediation activities not included by answers (above)	Please see attached report.

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 (in .pdf format) 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.

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

I hereby agree and sign off to the above statement	Name: Tina Huerta Title: Regulatory Reporting Supervisor Email: tina_huerta@eogresources.com Date: 12/06/2023

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QUESTIONS (continued)

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	Action Number: 291723
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Reclamation Report	
Only answer the questions in this group if all reclamation steps have been completed.	
Requesting a reclamation approval with this submission	No

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CONDITIONS

Action 291723

CONDITIONS

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	Action Number: 291723
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	Remediation Closure approved. All areas not reasonably needed for production or subsequent drilling operations will need to be reclaimed and revegetated as soon as practical. Areas reasonably needed for production or subsequent drilling operations will need to be reclaimed and revegetated as soon as they are no longer reasonably needed. A report for reclamation and revegetation will need to be submitted and approved prior to this incident receiving the final status of "Restoration Complete"	12/15/2023