

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

State of New Mexico
Energy Minerals and Natural
Resources Department

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

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

Incident ID	nAPP2116941928
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party EOG Resources, Inc.	OGRID 7377
Contact Name Chase Settle	Contact Telephone 575-748-1471
Contact email Chase_Settle@eogresources.com	Incident # (assigned by OCD)
Contact mailing address 104 S. 4th Street, Artesia, NM 88210	

Location of Release Source

Latitude 32.64837 Longitude -104.54375
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Roden GD Federal #3	Site Type Battery
Date Release Discovered 06/15/2021	API# (if applicable) 30-015-26096

Unit Letter	Section	Township	Range	County
F	24	19S	24E	Eddy

Surface Owner: State Federal Tribal Private (Name: _____)

Nature and Volume of Release

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

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) Unknown	Volume Recovered (bbls) 0
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release Historical impacts were discovered during the P&A of the battery. The steel oil tank and fiberglass tank both had corrosion damage that allowed the release of crude oil. Release volume and date are unknown.

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

Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.
If all the actions described above have <u>not</u> been undertaken, explain why:
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.
Printed Name: <u>Chase Settle</u> Title: <u>Rep Safety & Environmental Sr</u> Signature: <u></u> Date: <u>06/18/2021</u> email: <u>Chase_Settle@eogresources.com</u> Telephone: <u>575-748-1471</u>
<u>OCD Only</u> Received by: _____ Date: _____

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Site Assessment/Characterization

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

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

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

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

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

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

State of New Mexico
Oil Conservation Division

Page 4

Incident ID	nAPP2116941928
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I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Chase Settle Title: Rep Safety & Environmental Sr
 Signature: Chase Settle Date: 12/16/2021
 email: Chase_Settle@eogresources.com Telephone: 575-748-1471

OCD Only

Received by: Jennifer Nobui Date: 01/31/2022

Delineation Workplan approved. Locate soil boring for vertical delineation as close as possible to TP-5. Collect soil samples at 5-foot intervals from 20-50 ft bgs for 8015 and 8021.

2135 S. Loop 250 W,
Midland, Texas 79703
United States
www.ghd.com

Our ref: 11230055

December 15, 2021

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

Re: **Site Characterization and Delineation Work Plan
Roden GD Federal #3 Release Site
EOG Resources Inc.
Incident ID: nAPP2116941928
F-24-19S-24E, Eddy County, New Mexico**

To Whom It May Concern:

1. Introduction

GHD Services, Inc. (GHD), on behalf of EOG Resources (EOG), submits this Site Characterization and Delineation Work Plan to the New Mexico Oil Conservation Division (NMOCD) District 2 Office. This Report provides documentation of delineation, sampling, and analyses in the affected area at the EOG Roden GD Federal #3 Release Site (Site). The Site is located in Unit Letter F Section 24 of Township 19 South and Range 24 East in Eddy County, New Mexico. The GPS coordinates for the release site are 32.64837 N latitude and 104.54375 W longitude. The release occurred on land managed by the Bureau of Land Management (BLM). Figure 1 depicts the Site location. The EOG production facility and other site details are depicted on Figure 2, Site Assessment: Soil Analytical Results Map.

2. Background Information

A C-141, Release Notification, for this release was submitted to the NMOCD on June 18, 2021. The C-141 stated that no known volume or date could be assigned to this historical release. The potential release area was discovered during EOG well plugging and site abandonment activities associated with this location. Soils within the former tank battery containment appeared to be discolored and after discussions between field personnel and environmental staff, EOG made the decision to go ahead and file a C-141 for this suspect release location.

The release falls under the jurisdiction of the NMOCD District 2 Office in Artesia, New Mexico. The NMOCD assigned the release with Incident Number NAPP2116941928. The Release Notification and Site Assessment/Characterization portions of Form C-141 are attached to the front of this report.

3. Groundwater and Site Characterization

GHD characterized the Site according to Table 1, Closure Criteria for Soils Impacted by a Release, from New Mexico Administrative Code (NMAC) Title 19, Chapter 15, Part 29, Section 12 (NMAC 19.15.29.12).

According to the Site characterization evaluation and 19.15.29.12.C(4)(a)(i) the Site is located within an area of medium karst potential. No groundwater data could be located within one-half mile of the Site. No receptors (water wells, playas, wetlands, waterways, lakebeds or ordinance boundaries) were located within each specific boundaries or distance from the Site. The Site characterization documentation (Karst Potential, FEMA, Points of Diversion and Wetlands maps) are provided in Attachment A. The soil and closure criteria are listed below:

General Site Characterization and Groundwater:

Site Characterization	Average Groundwater Depth (ft.)
No Receptors Found	Unknown Within A Half Mile

Table 3.1 Closure Criteria for Soils Impacted by a Release (NMAC 19.15.29.12)

Constituent	Limits
Chloride	600 mg/kg
TPH (GRO+DRO+MRO)	100 mg/kg
TPH (GRO+DRO)	Not Applicable
Benzene	10 mg/kg
BTEX	50 mg/kg

Since no groundwater data could be located within one half mile from the site. GHD and White Drilling Company, Inc (White) will return to the site December 22, 2021, through January 13, 2022, with a drilling rig to install a groundwater determination soil boring, at the following GPS Coordinates, 32.64807 N latitude and 104.54439 W longitude located within 0.5 miles from the site. The groundwater determination soil boring will be drilled to 105 feet below ground surface (bgs) and will be left open for 72 hours to determine the presence or absence of groundwater by utilization of a water level meter. The groundwater determination soil boring is depicted on Figure 2, Site Assessment: Soil Analytical Results Map. If groundwater is detected at fifty-one (51) feet or greater the closure criteria for this site will change accordingly with NMAC 19.15.29.12 Table 1.

4. Initial Soil Delineation Assessment Summary and Findings

On July 19, 2021, GHD Services Inc. (GHD) and EOG's contractor Culberson Construction Energy Services (CCI) installed seven (7) test pits, TP1 through TP7, within the suspected impacted area. Soil samples were collected at depths ranging from surface to twenty (20) feet bgs. All soil samples were analyzed for BTEX by EPA Method 8021B, TPH by Method 8015B Modified, and chloride by EPA Method 300 by Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico.

One (1) of the seven (7) test pits had samples exceeding applicable NMAC Table 3.1 Closure Criteria for groundwater less than fifty (50) feet: TP5-15 and TP5-20. Figure 2, Site Assessment: Soil Analytical Results Map, depicts the locations of the initial delineation samples and analytical concentrations. Analytical results are provided in Table 1, on Figure 2, and in the Laboratory Analytical Reports provided in Attachment B.

5. nAPP2116941928 Proposed Work Plan

Test pit TP5 exhibited BTEX and Total TPH above Table 1 closure criteria to a depth of twenty (20) feet bgs. Between the dates of December 22, 2021, through January 13, 2022, GHD and White will install a boring around the area of TP5 to delineate the BTEX and Total TPH impacts. During boring installation samples will be obtained every five (5) to ten (10) feet starting at twenty-five (25) feet bgs until field screening and observations indicate the boring is delineated. Select soil samples will be taken to a certified laboratory and analyzed for BTEX by EPA Method 8021B, TPH by Method 8015B Modified, and chloride by EPA Method 300.

Additionally, GHD and White will install a groundwater determination soil boring, at the following GPS Coordinates, 32.64807 N latitude and 104.54439 W longitude located within 0.5 miles from the site. The groundwater determination soil boring will be drilled to 105 feet bgs and left open for 72 hours to determine the presence or absence of groundwater by utilization of a water level meter.

Once analytical results are obtained from the laboratory they will be evaluated and a new work plan for remediation will be prepared and submitted to the NMOCD for evaluation within 60 days.

If you have any questions or comments concerning this Site Characterization and Delineation Work Plan, please do not hesitate to contact our Midland office at (432) 686-0086.

Sincerely,

GHD


Becky Haskell
Senior Project Manager

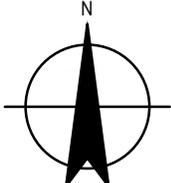
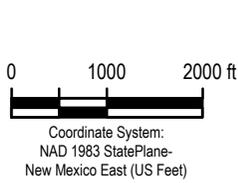
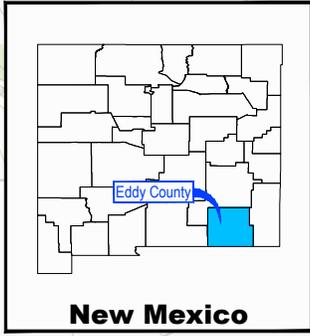
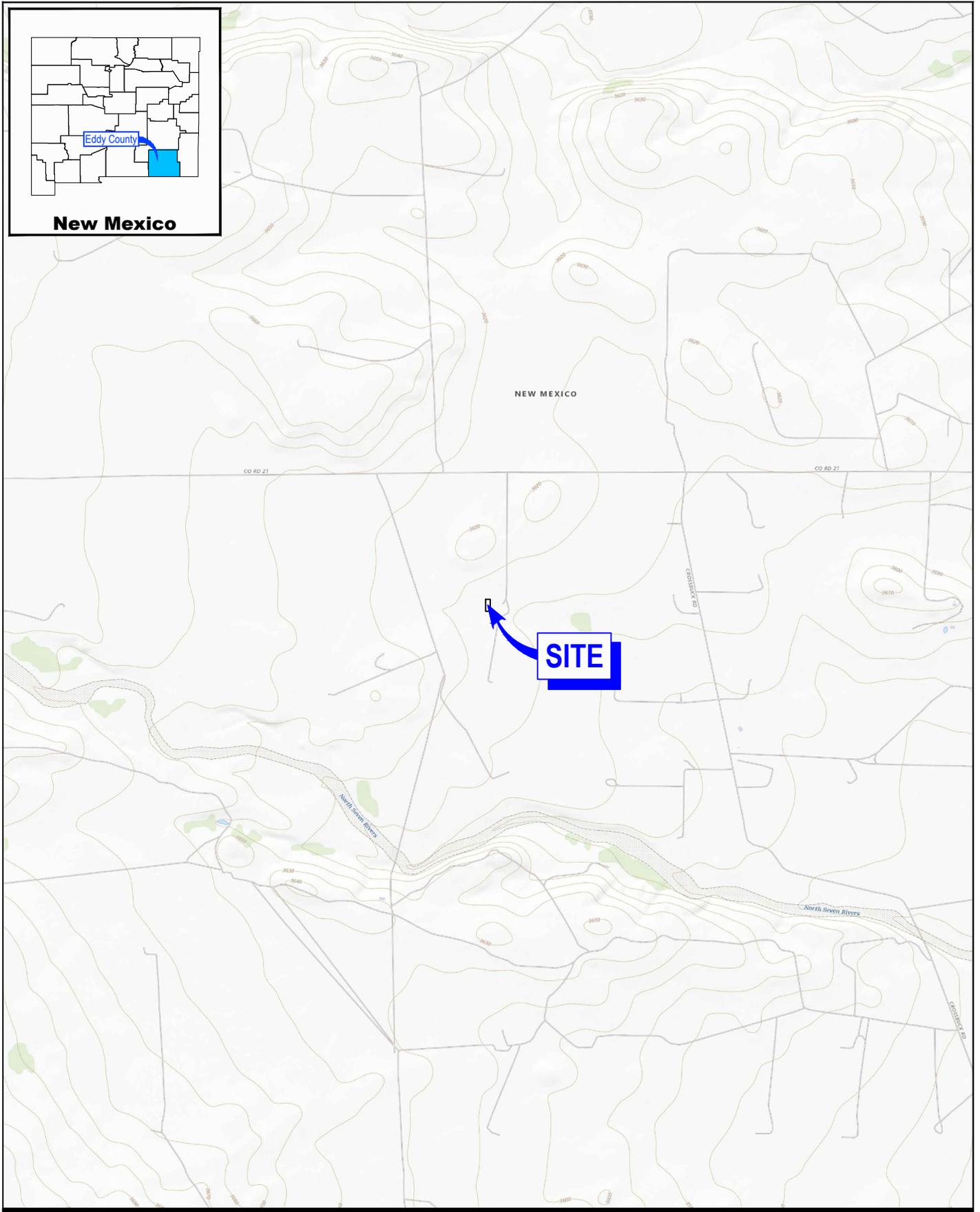

Zach H. Comino
Field Geologist

BH/ZC/1

Encl. Figure 1 – Site Location Map
Figure 2 – Site Assessment: Soil Analytical Results Map
Table 1 – Summary of Soil Analytical Data
Attachment A – Site Characterization Documentation
Attachment B – Laboratory Analytical Reports and Chain-of-Custody Documentation

cc: Chase Settle

Figures

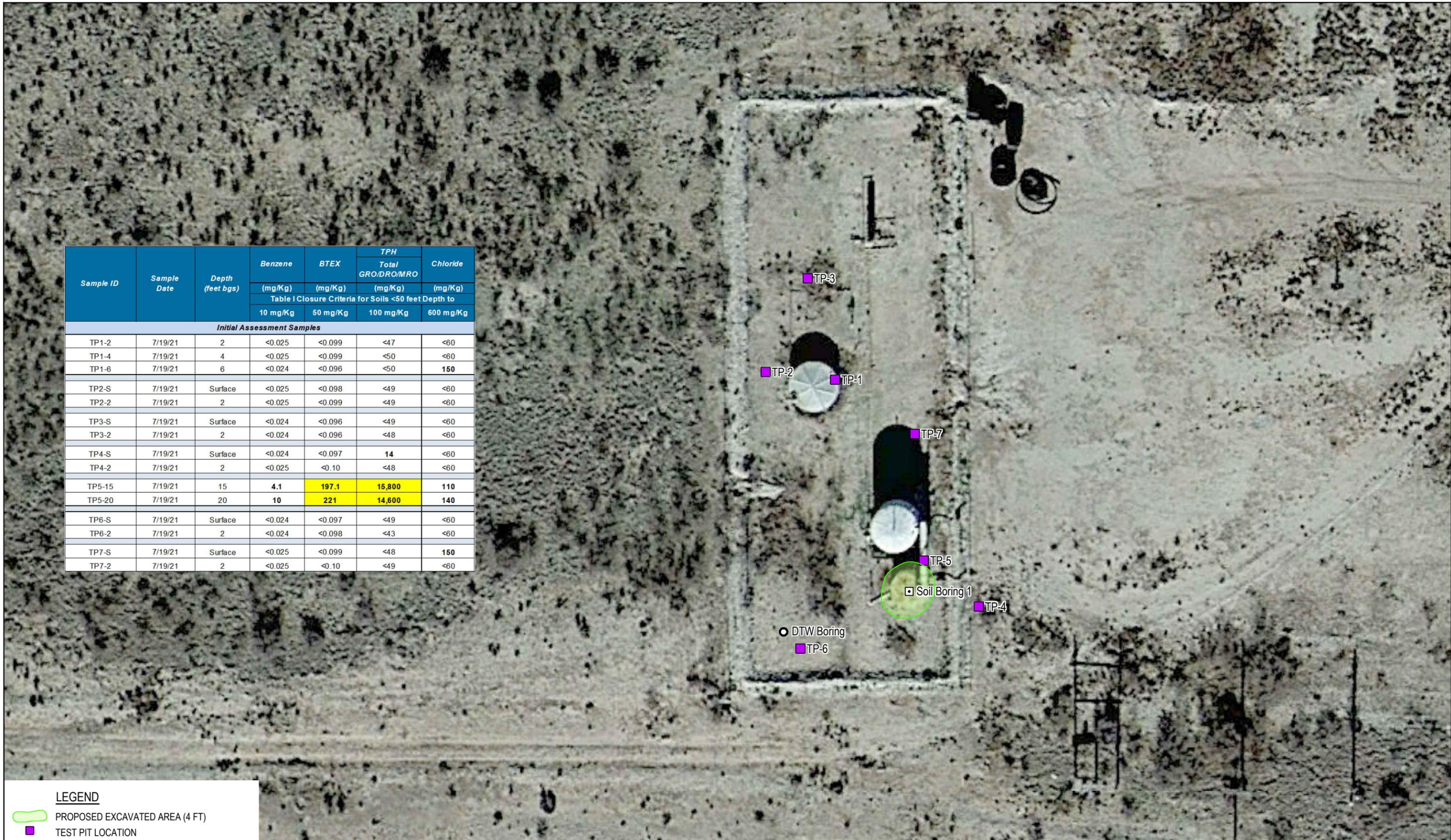


EOG RESOURCES
EDDY COUNTY, NEW MEXICO
RODEN GD FEDERAL #3

Project No. **11230055-02**
Date **December 2021**

SITE LOCATION MAP

FIGURE 1



Sample ID	Sample Date	Depth (feet bgs)	Benzene	BTEX	TPH	Chloride			
			(mg/Kg)	(mg/Kg)	Total GRO/DRO/MRO (mg/Kg)	(mg/Kg)			
			Table 1 Closure Criteria for Soils <50 feet Depth to						
						10 mg/Kg	50 mg/Kg	100 mg/Kg	600 mg/Kg
Initial Assessment Samples									
TP1-2	7/19/21	2	<0.025	<0.099	<47	<60			
TP1-4	7/19/21	4	<0.025	<0.099	<50	<60			
TP1-6	7/19/21	6	<0.024	<0.096	<50	150			
TP2-S	7/19/21	Surface	<0.025	<0.098	<49	<60			
TP2-2	7/19/21	2	<0.025	<0.099	<49	<60			
TP3-S	7/19/21	Surface	<0.024	<0.096	<49	<60			
TP3-2	7/19/21	2	<0.024	<0.096	<48	<60			
TP4-S	7/19/21	Surface	<0.024	<0.097	14	<60			
TP4-2	7/19/21	2	<0.025	<0.10	<48	<60			
TP5-15	7/19/21	15	4.1	197.1	15,800	110			
TP5-20	7/19/21	20	10	221	14,600	140			
TP6-S	7/19/21	Surface	<0.024	<0.097	<49	<60			
TP6-2	7/19/21	2	<0.024	<0.098	<43	<60			
TP7-S	7/19/21	Surface	<0.025	<0.099	<48	150			
TP7-2	7/19/21	2	<0.025	<0.10	<49	<60			

LEGEND

- PROPOSED EXCAVATED AREA (4 FT)
- TEST PIT LOCATION
- SOIL BORING (SB)
- DEPTH TO GROUNDWATER DETERMINATION SB
- DEPTH DEPTH OF SAMPLE (FT)
- BTEX BENZENE, TOLUENE, ETHYLBENZENE & XYLENES CONCENTRATION (MG/KG)
- TPH TOTAL PETROLEUM HYDROCARBONS CONCENTRATION (MG/KG)

NOTES:

- RESULTS IN MILLIGRAMS PER KILOGRAM (MG/KG).
- SEE TABLE 1 FOR FULL ANALYTICAL RESULTS/DETAILS.
- YELLOW SHADED CELLS INDICATE EXCEEDANCE.

0 15 30 ft

Coordinate System:
NAD 1983 (2011) StatePlane-
New Mexico East (US Feet)

EOG RESOURCES
EDDY COUNTY, NEW MEXICO
RODEN GD FEDERAL #3

**SITE ASSESSMENT:
SOIL ANALYTICAL RESULTS MAP**

Project No. 11230055-02
Date December 2021

FIGURE 2

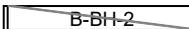
Tables

Table 1
Summary of Soil Analytical Data
Roden GD Federal 3
EOG Resources
Eddy County, New Mexico

Sample ID	Sample Date	Depth (feet bgs)	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	TPH				Chloride
			(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	GRO (C6-C10)	DRO (C10-C28)	MRO (C28-C35)	Total GRO/DRO/MRO	(mg/Kg)
			Table 1 Closure Criteria for Soils <50 feet Depth to Groundwater 19.15.29 NMAC									
			10 mg/Kg	---	---	---	50 mg/Kg	---	---	---	100 mg/Kg	600 mg/Kg
Initial Assessment Samples												
TP1-2	7/19/21	2	<0.025	<0.049	<0.049	<0.099	<0.099	<4.9	<9.4	<47	<47	<60
TP1-4	7/19/21	4	<0.025	<0.049	<0.049	<0.099	<0.099	<4.9	< 10	<50	<50	<60
TP1-6	7/19/21	6	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<9.9	<50	<50	150
TP2-S	7/19/21	Surface	<0.025	<0.049	<0.049	<0.098	<0.098	<4.9	<9.8	<49	<49	<60
TP2-2	7/19/21	2	<0.025	<0.050	<0.050	<0.099	<0.099	<5.0	<9.8	<49	<49	<60
TP3-S	7/19/21	Surface	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<9.7	<49	<49	<60
TP3-2	7/19/21	2	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<9.7	<48	<48	<60
TP4-S	7/19/21	Surface	<0.024	<0.049	<0.049	<0.097	<0.097	<4.9	14	<49	14	<60
TP4-2	7/19/21	2	<0.025	<0.050	<0.050	<0.10	<0.10	<5.0	<9.5	<48	<48	<60
TP5-15	7/19/21	15	4.1	20	73	100	197.1	2,000	9,900	3,900	15,800	110
TP5-20	7/19/21	20	10	19	82	110	221	2,300	8,800	3,500	14,600	140
TP6-S	7/19/21	Surface	<0.024	<0.049	<0.049	<0.097	<0.097	<4.9	<9.8	<49	<49	<60
TP6-2	7/19/21	2	<0.024	<0.049	<0.049	<0.098	<0.098	<4.9	<8.7	<43	<43	<60
TP7-S	7/19/21	Surface	<0.025	<0.050	<0.050	<0.099	<0.099	<5.0	<9.7	<48	<48	150
TP7-2	7/19/21	2	<0.025	<0.050	<0.050	<0.10	<0.10	<5.0	<9.7	<49	<49	<60

Notes:

1. Values reported in mg/kg
2. < = Value Less than Reporting Limit (RL)
3. Bold Indicates Analyte Detected
4. BTEX analyses by EPA Method SW 8021B.
5. TPH analyses by EPA Method SW 8015 Mod.
6. GRO/DRO/MRO = Gasoline/Diesel/Motor Oil
7. Yellow shaded cells indicate analytical samples that exceeded the NMOC 19.15.29.12 Table 1 Closure Criteria for the site.
8. J - the target analytes was positively identified below the quantitation limit and above the detection limit.

 Sample Point Excavated

Attachment A

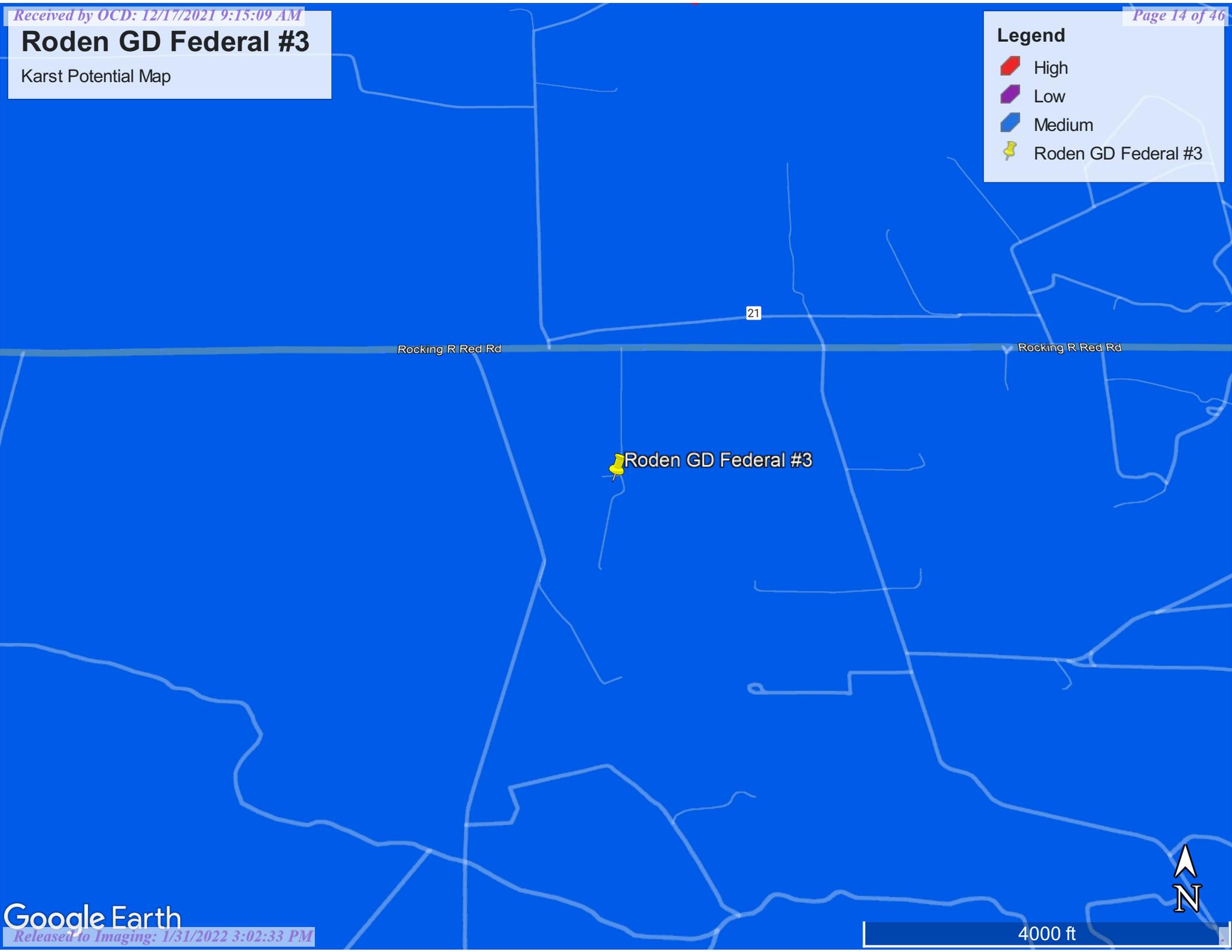
Site Characterization Documentation

Roden GD Federal #3

Karst Potential Map

Legend

-  High
-  Low
-  Medium
-  Roden GD Federal #3



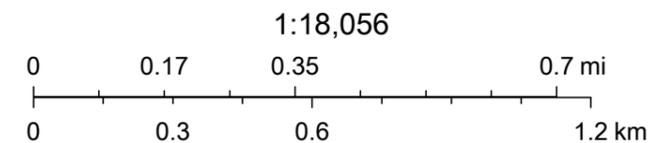
Roden GD Federal #3



12/14/2021, 8:26:02 AM

GIS WATERS PODs OSE District Boundary Site Boundaries

- Active Water Right Regulations
- Pending Closure Area



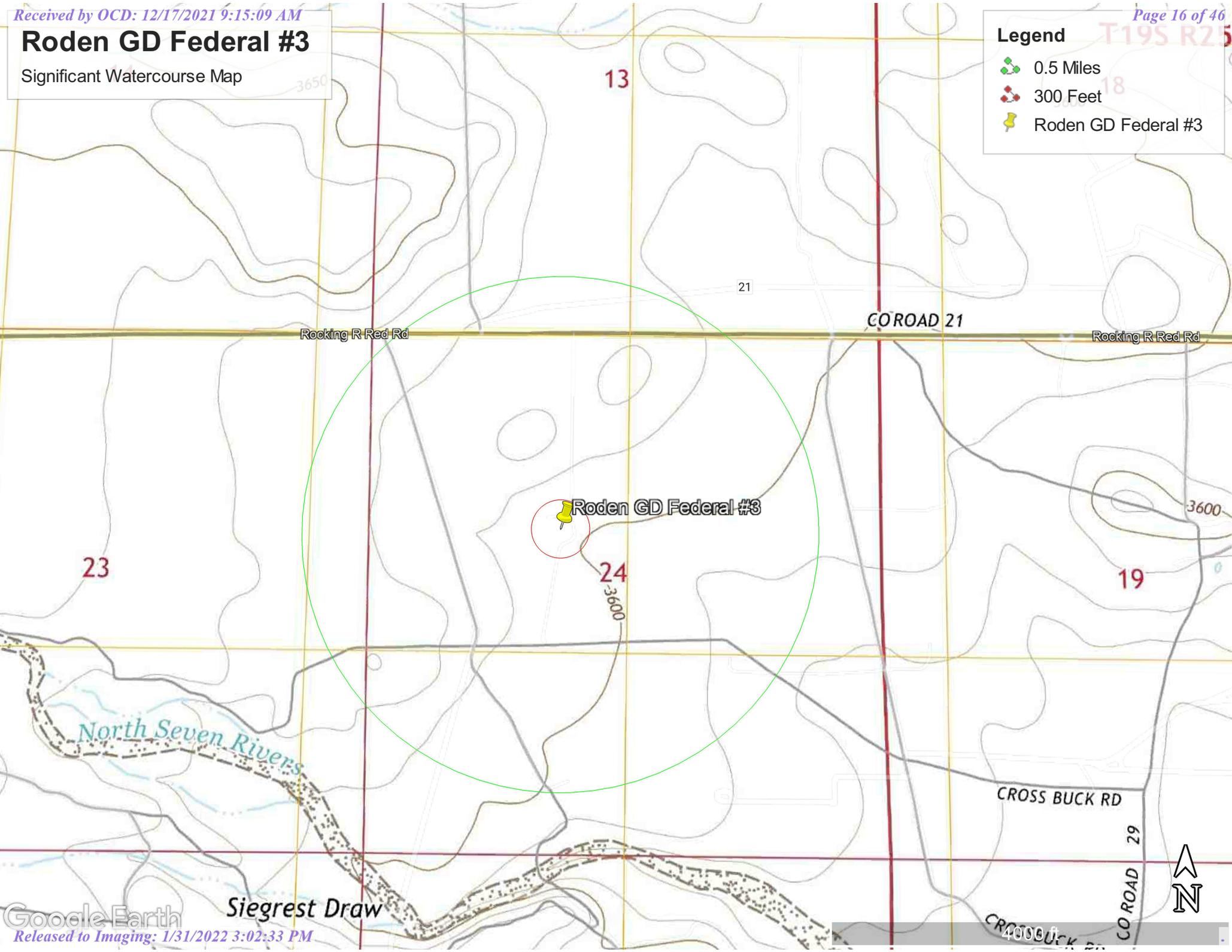
Esri, HERE, iPC, U.S. Department of Energy Office of Legacy Management, Esri, HERE, Garmin, iPC, Maxar

Roden GD Federal #3

Significant Watercourse Map

Legend

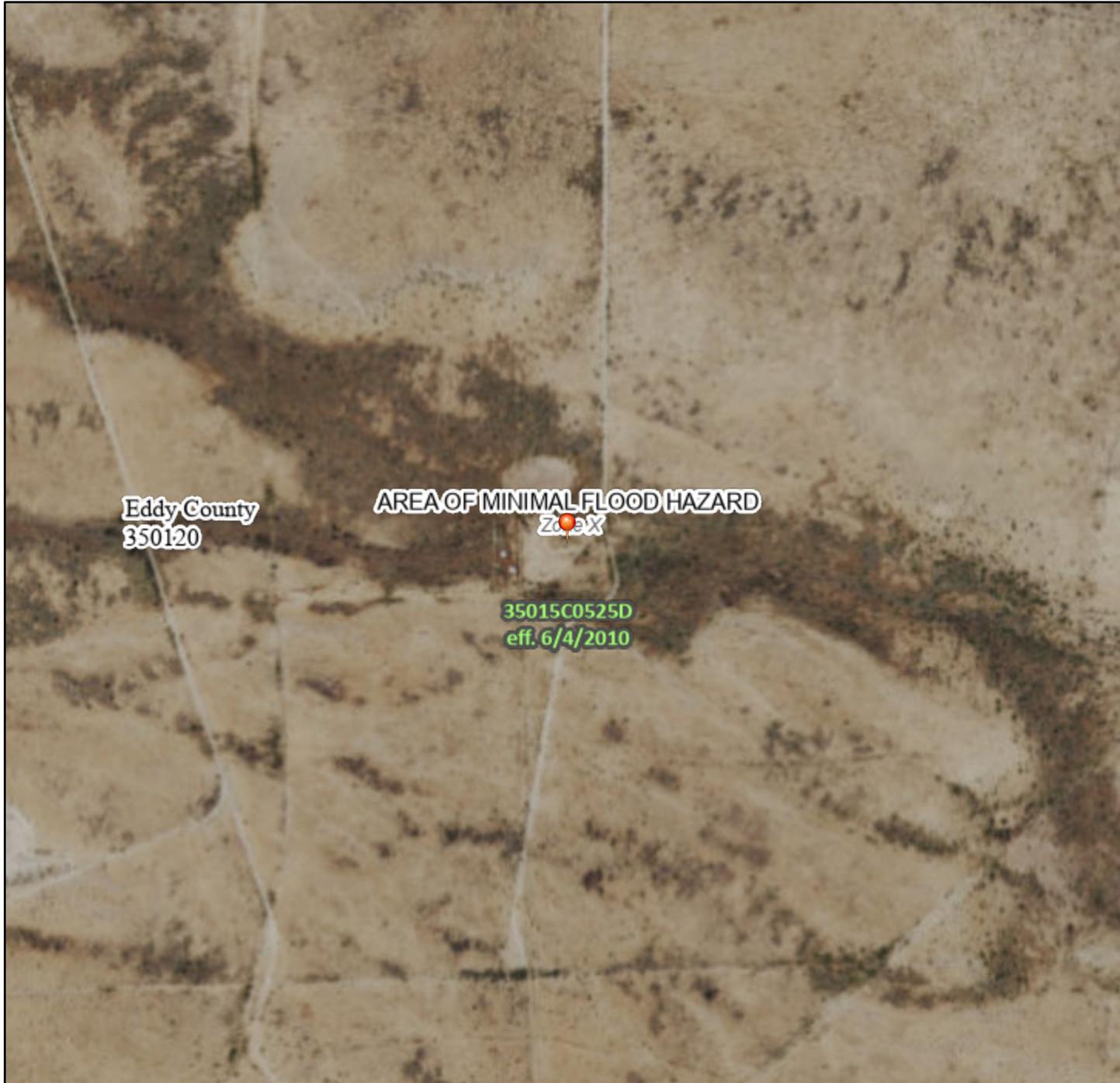
-  0.5 Miles
-  300 Feet
-  Roden GD Federal #3



National Flood Hazard Layer FIRMMette



104°32'56"W 32°39'9"N



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

OTHER AREAS OF FLOOD HAZARD		Area with Flood Risk due to Levee Zone D
		NO SCREEN Area of Minimal Flood Hazard Zone X

OTHER AREAS		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 Water Surface Elevation
		17.5 Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Profile Baseline
OTHER FEATURES		Hydrographic Feature

MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



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

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

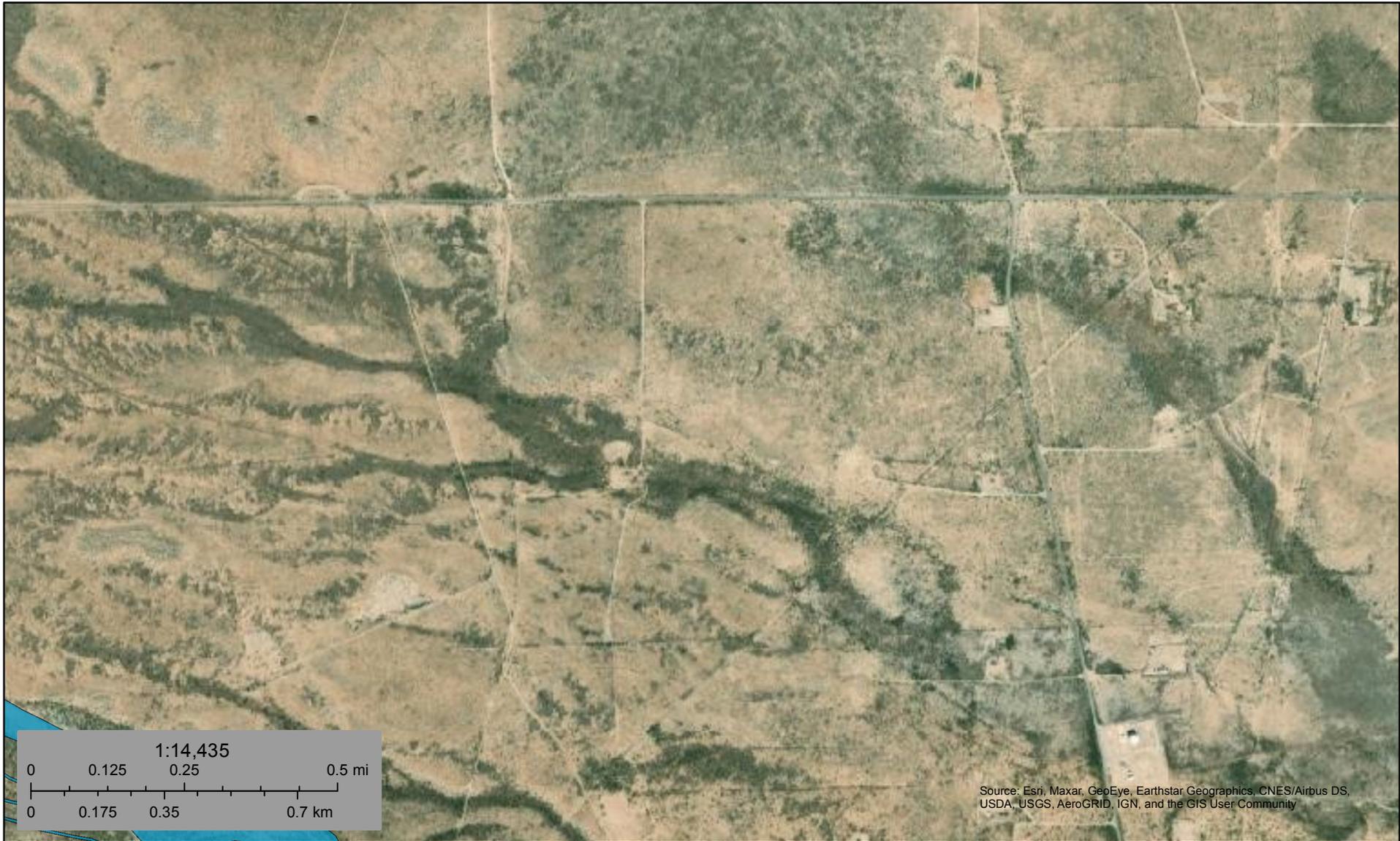
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **12/14/2021 at 9:36 AM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded 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.



U.S. Fish and Wildlife Service
National Wetlands Inventory

Roden GD Federal #3



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

December 14, 2021

Wetlands

- Estuarine and Marine Deepwater
- Freshwater Emergent Wetland
- Estuarine and Marine 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.

Attachment B

Laboratory Analytical Reports and Chain-of-Custody Documentation



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

July 29, 2021

Becky Haskell
GHD Midland
2135 S Loop 250 W
Midland, TX 79703
TEL: (432) 686-0086
FAX

RE: Roden GD Federal 3

OrderNo.: 2107A10

Dear Becky Haskell:

Hall Environmental Analysis Laboratory received 15 sample(s) on 7/21/2021 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,

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

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order **2107A10**

Date Reported: **7/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP1-2

Project: Roden GD Federal 3

Collection Date: 7/19/2021 7:45:00 AM

Lab ID: 2107A10-001

Matrix: SOIL

Received Date: 7/21/2021 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	ND	60		mg/Kg	20	7/27/2021 1:58:45 AM	61562
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	7/23/2021 1:46:03 PM	61492
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/23/2021 1:46:03 PM	61492
Surr: DNOP	99.9	70-130		%Rec	1	7/23/2021 1:46:03 PM	61492
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/23/2021 6:35:49 PM	61466
Surr: BFB	94.7	70-130		%Rec	1	7/23/2021 6:35:49 PM	61466
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	7/23/2021 6:35:49 PM	61466
Toluene	ND	0.049		mg/Kg	1	7/23/2021 6:35:49 PM	61466
Ethylbenzene	ND	0.049		mg/Kg	1	7/23/2021 6:35:49 PM	61466
Xylenes, Total	ND	0.099		mg/Kg	1	7/23/2021 6:35:49 PM	61466
Surr: 4-Bromofluorobenzene	97.4	70-130		%Rec	1	7/23/2021 6:35:49 PM	61466

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **2107A10**

Date Reported: **7/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP1-4

Project: Roden GD Federal 3

Collection Date: 7/19/2021 7:50:00 AM

Lab ID: 2107A10-002

Matrix: SOIL

Received Date: 7/21/2021 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	ND	60		mg/Kg	20	7/27/2021 2:11:10 AM	61562
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/23/2021 2:29:20 PM	61492
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/23/2021 2:29:20 PM	61492
Surr: DNOP	107	70-130		%Rec	1	7/23/2021 2:29:20 PM	61492
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/23/2021 6:59:17 PM	61466
Surr: BFB	93.6	70-130		%Rec	1	7/23/2021 6:59:17 PM	61466
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	7/23/2021 6:59:17 PM	61466
Toluene	ND	0.049		mg/Kg	1	7/23/2021 6:59:17 PM	61466
Ethylbenzene	ND	0.049		mg/Kg	1	7/23/2021 6:59:17 PM	61466
Xylenes, Total	ND	0.099		mg/Kg	1	7/23/2021 6:59:17 PM	61466
Surr: 4-Bromofluorobenzene	96.3	70-130		%Rec	1	7/23/2021 6:59:17 PM	61466

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **2107A10**

Date Reported: **7/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP1-6

Project: Roden GD Federal 3

Collection Date: 7/19/2021 7:55:00 AM

Lab ID: 2107A10-003

Matrix: SOIL

Received Date: 7/21/2021 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	150	60		mg/Kg	20	7/27/2021 2:23:35 AM	61562
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/23/2021 2:40:51 PM	61492
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/23/2021 2:40:51 PM	61492
Surr: DNOP	107	70-130		%Rec	1	7/23/2021 2:40:51 PM	61492
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/23/2021 7:22:45 PM	61466
Surr: BFB	94.0	70-130		%Rec	1	7/23/2021 7:22:45 PM	61466
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	7/23/2021 7:22:45 PM	61466
Toluene	ND	0.048		mg/Kg	1	7/23/2021 7:22:45 PM	61466
Ethylbenzene	ND	0.048		mg/Kg	1	7/23/2021 7:22:45 PM	61466
Xylenes, Total	ND	0.096		mg/Kg	1	7/23/2021 7:22:45 PM	61466
Surr: 4-Bromofluorobenzene	96.5	70-130		%Rec	1	7/23/2021 7:22:45 PM	61466

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **2107A10**

Date Reported: **7/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP2-S

Project: Roden GD Federal 3

Collection Date: 7/19/2021 8:10:00 AM

Lab ID: 2107A10-004

Matrix: SOIL

Received Date: 7/21/2021 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	ND	60		mg/Kg	20	7/27/2021 2:36:00 AM	61562
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/23/2021 2:52:24 PM	61492
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/23/2021 2:52:24 PM	61492
Surr: DNOP	116	70-130		%Rec	1	7/23/2021 2:52:24 PM	61492
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/23/2021 7:46:14 PM	61466
Surr: BFB	89.7	70-130		%Rec	1	7/23/2021 7:46:14 PM	61466
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	7/23/2021 7:46:14 PM	61466
Toluene	ND	0.049		mg/Kg	1	7/23/2021 7:46:14 PM	61466
Ethylbenzene	ND	0.049		mg/Kg	1	7/23/2021 7:46:14 PM	61466
Xylenes, Total	ND	0.098		mg/Kg	1	7/23/2021 7:46:14 PM	61466
Surr: 4-Bromofluorobenzene	91.9	70-130		%Rec	1	7/23/2021 7:46:14 PM	61466

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **2107A10**

Date Reported: **7/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP2-2

Project: Roden GD Federal 3

Collection Date: 7/19/2021 8:15:00 AM

Lab ID: 2107A10-005

Matrix: SOIL

Received Date: 7/21/2021 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	ND	60		mg/Kg	20	7/27/2021 2:48:24 AM	61562
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/23/2021 3:03:59 PM	61492
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/23/2021 3:03:59 PM	61492
Surr: DNOP	109	70-130		%Rec	1	7/23/2021 3:03:59 PM	61492
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/23/2021 8:56:43 PM	61466
Surr: BFB	93.7	70-130		%Rec	1	7/23/2021 8:56:43 PM	61466
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	7/23/2021 8:56:43 PM	61466
Toluene	ND	0.050		mg/Kg	1	7/23/2021 8:56:43 PM	61466
Ethylbenzene	ND	0.050		mg/Kg	1	7/23/2021 8:56:43 PM	61466
Xylenes, Total	ND	0.099		mg/Kg	1	7/23/2021 8:56:43 PM	61466
Surr: 4-Bromofluorobenzene	96.5	70-130		%Rec	1	7/23/2021 8:56:43 PM	61466

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **2107A10**

Date Reported: **7/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP3-S

Project: Roden GD Federal 3

Collection Date: 7/19/2021 8:20:00 AM

Lab ID: 2107A10-006

Matrix: SOIL

Received Date: 7/21/2021 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	ND	60		mg/Kg	20	7/27/2021 3:00:49 AM	61562
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/23/2021 3:15:33 PM	61492
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/23/2021 3:15:33 PM	61492
Surr: DNOP	121	70-130		%Rec	1	7/23/2021 3:15:33 PM	61492
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/23/2021 9:20:12 PM	61466
Surr: BFB	91.8	70-130		%Rec	1	7/23/2021 9:20:12 PM	61466
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	7/23/2021 9:20:12 PM	61466
Toluene	ND	0.048		mg/Kg	1	7/23/2021 9:20:12 PM	61466
Ethylbenzene	ND	0.048		mg/Kg	1	7/23/2021 9:20:12 PM	61466
Xylenes, Total	ND	0.096		mg/Kg	1	7/23/2021 9:20:12 PM	61466
Surr: 4-Bromofluorobenzene	94.2	70-130		%Rec	1	7/23/2021 9:20:12 PM	61466

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **2107A10**

Date Reported: **7/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP3-2

Project: Roden GD Federal 3

Collection Date: 7/19/2021 8:25:00 AM

Lab ID: 2107A10-007

Matrix: SOIL

Received Date: 7/21/2021 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	ND	60		mg/Kg	20	7/27/2021 9:43:28 AM	61578
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/23/2021 4:01:51 PM	61498
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/23/2021 4:01:51 PM	61498
Surr: DNOP	117	70-130		%Rec	1	7/23/2021 4:01:51 PM	61498
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/23/2021 9:43:40 PM	61466
Surr: BFB	92.0	70-130		%Rec	1	7/23/2021 9:43:40 PM	61466
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	7/23/2021 9:43:40 PM	61466
Toluene	ND	0.048		mg/Kg	1	7/23/2021 9:43:40 PM	61466
Ethylbenzene	ND	0.048		mg/Kg	1	7/23/2021 9:43:40 PM	61466
Xylenes, Total	ND	0.096		mg/Kg	1	7/23/2021 9:43:40 PM	61466
Surr: 4-Bromofluorobenzene	94.3	70-130		%Rec	1	7/23/2021 9:43:40 PM	61466

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **2107A10**

Date Reported: **7/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP4-S

Project: Roden GD Federal 3

Collection Date: 7/19/2021 9:15:00 AM

Lab ID: 2107A10-008

Matrix: SOIL

Received Date: 7/21/2021 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	ND	60		mg/Kg	20	7/27/2021 10:20:42 AM	61578
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	14	9.7		mg/Kg	1	7/23/2021 4:36:43 PM	61498
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/23/2021 4:36:43 PM	61498
Surr: DNOP	155	70-130	S	%Rec	1	7/23/2021 4:36:43 PM	61498
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/23/2021 10:07:19 PM	61466
Surr: BFB	88.3	70-130		%Rec	1	7/23/2021 10:07:19 PM	61466
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	7/23/2021 10:07:19 PM	61466
Toluene	ND	0.049		mg/Kg	1	7/23/2021 10:07:19 PM	61466
Ethylbenzene	ND	0.049		mg/Kg	1	7/23/2021 10:07:19 PM	61466
Xylenes, Total	ND	0.097		mg/Kg	1	7/23/2021 10:07:19 PM	61466
Surr: 4-Bromofluorobenzene	91.6	70-130		%Rec	1	7/23/2021 10:07:19 PM	61466

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **2107A10**

Date Reported: **7/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP4-2

Project: Roden GD Federal 3

Collection Date: 7/19/2021 9:20:00 AM

Lab ID: 2107A10-009

Matrix: SOIL

Received Date: 7/21/2021 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	ND	60		mg/Kg	20	7/27/2021 11:22:46 AM	61578
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	7/23/2021 4:48:34 PM	61498
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/23/2021 4:48:34 PM	61498
Surr: DNOP	103	70-130		%Rec	1	7/23/2021 4:48:34 PM	61498
EPA METHOD 8015D: GASOLINE RANGE							Analyst: mb
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/23/2021 3:20:00 PM	61491
Surr: BFB	116	70-130		%Rec	1	7/23/2021 3:20:00 PM	61491
EPA METHOD 8021B: VOLATILES							Analyst: mb
Benzene	ND	0.025		mg/Kg	1	7/23/2021 3:20:00 PM	61491
Toluene	ND	0.050		mg/Kg	1	7/23/2021 3:20:00 PM	61491
Ethylbenzene	ND	0.050		mg/Kg	1	7/23/2021 3:20:00 PM	61491
Xylenes, Total	ND	0.10		mg/Kg	1	7/23/2021 3:20:00 PM	61491
Surr: 4-Bromofluorobenzene	115	70-130		%Rec	1	7/23/2021 3:20:00 PM	61491

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **2107A10**

Date Reported: **7/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP5-15

Project: Roden GD Federal 3

Collection Date: 7/19/2021 10:00:00 AM

Lab ID: 2107A10-010

Matrix: SOIL

Received Date: 7/21/2021 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	110	60		mg/Kg	20	7/27/2021 11:35:10 AM	61578
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	9900	180		mg/Kg	20	7/23/2021 5:00:16 PM	61498
Motor Oil Range Organics (MRO)	3900	900		mg/Kg	20	7/23/2021 5:00:16 PM	61498
Surr: DNOP	0	70-130	S	%Rec	20	7/23/2021 5:00:16 PM	61498
EPA METHOD 8015D: GASOLINE RANGE							Analyst: mb
Gasoline Range Organics (GRO)	2000	50		mg/Kg	10	7/27/2021 1:12:00 PM	61491
Surr: BFB	685	70-130	S	%Rec	10	7/27/2021 1:12:00 PM	61491
EPA METHOD 8021B: VOLATILES							Analyst: mb
Benzene	4.1	0.25		mg/Kg	10	7/27/2021 1:12:00 PM	61491
Toluene	20	0.50		mg/Kg	10	7/27/2021 1:12:00 PM	61491
Ethylbenzene	73	5.0		mg/Kg	100	7/27/2021 10:51:00 PM	61491
Xylenes, Total	100	9.9		mg/Kg	100	7/27/2021 10:51:00 PM	61491
Surr: 4-Bromofluorobenzene	387	70-130	S	%Rec	10	7/27/2021 1:12:00 PM	61491

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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Analytical Report

Lab Order **2107A10**

Date Reported: **7/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP5-20

Project: Roden GD Federal 3

Collection Date: 7/19/2021 10:10:00 AM

Lab ID: 2107A10-011

Matrix: SOIL

Received Date: 7/21/2021 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	140	61		mg/Kg	20	7/27/2021 11:47:36 AM	61578
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	8800	180		mg/Kg	20	7/23/2021 5:12:08 PM	61498
Motor Oil Range Organics (MRO)	3500	890		mg/Kg	20	7/23/2021 5:12:08 PM	61498
Surr: DNOP	0	70-130	S	%Rec	20	7/23/2021 5:12:08 PM	61498
EPA METHOD 8015D: GASOLINE RANGE							Analyst: mb
Gasoline Range Organics (GRO)	2300	48		mg/Kg	10	7/27/2021 1:32:00 PM	61491
Surr: BFB	720	70-130	S	%Rec	10	7/27/2021 1:32:00 PM	61491
EPA METHOD 8021B: VOLATILES							Analyst: mb
Benzene	10	0.24		mg/Kg	10	7/27/2021 1:32:00 PM	61491
Toluene	19	0.48		mg/Kg	10	7/27/2021 1:32:00 PM	61491
Ethylbenzene	82	4.8		mg/Kg	100	7/27/2021 11:11:00 PM	61491
Xylenes, Total	110	9.6		mg/Kg	100	7/27/2021 11:11:00 PM	61491
Surr: 4-Bromofluorobenzene	403	70-130	S	%Rec	10	7/27/2021 1:32:00 PM	61491

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **2107A10**

Date Reported: **7/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP6-S

Project: Roden GD Federal 3

Collection Date: 7/19/2021 11:00:00 AM

Lab ID: 2107A10-012

Matrix: SOIL

Received Date: 7/21/2021 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	ND	60		mg/Kg	20	7/27/2021 12:00:01 PM	61578
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/23/2021 5:23:52 PM	61498
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/23/2021 5:23:52 PM	61498
Surr: DNOP	162	70-130	S	%Rec	1	7/23/2021 5:23:52 PM	61498
EPA METHOD 8015D: GASOLINE RANGE							Analyst: mb
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/27/2021 1:52:00 PM	61491
Surr: BFB	133	70-130	S	%Rec	1	7/27/2021 1:52:00 PM	61491
EPA METHOD 8021B: VOLATILES							Analyst: mb
Benzene	ND	0.024		mg/Kg	1	7/27/2021 1:52:00 PM	61491
Toluene	ND	0.049		mg/Kg	1	7/27/2021 1:52:00 PM	61491
Ethylbenzene	ND	0.049		mg/Kg	1	7/27/2021 1:52:00 PM	61491
Xylenes, Total	ND	0.097		mg/Kg	1	7/27/2021 1:52:00 PM	61491
Surr: 4-Bromofluorobenzene	114	70-130		%Rec	1	7/27/2021 1:52:00 PM	61491

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **2107A10**

Date Reported: **7/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP6-2

Project: Roden GD Federal 3

Collection Date: 7/19/2021 11:05:00 AM

Lab ID: 2107A10-013

Matrix: SOIL

Received Date: 7/21/2021 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	ND	60		mg/Kg	20	7/27/2021 12:12:26 PM	61578
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	7/23/2021 5:35:43 PM	61498
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	7/23/2021 5:35:43 PM	61498
Surr: DNOP	104	70-130		%Rec	1	7/23/2021 5:35:43 PM	61498
EPA METHOD 8015D: GASOLINE RANGE							Analyst: mb
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/27/2021 2:12:00 PM	61491
Surr: BFB	119	70-130		%Rec	1	7/27/2021 2:12:00 PM	61491
EPA METHOD 8021B: VOLATILES							Analyst: mb
Benzene	ND	0.024		mg/Kg	1	7/23/2021 7:58:00 PM	61491
Toluene	ND	0.049		mg/Kg	1	7/23/2021 7:58:00 PM	61491
Ethylbenzene	ND	0.049		mg/Kg	1	7/23/2021 7:58:00 PM	61491
Xylenes, Total	ND	0.098		mg/Kg	1	7/23/2021 7:58:00 PM	61491
Surr: 4-Bromofluorobenzene	111	70-130		%Rec	1	7/23/2021 7:58:00 PM	61491

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **2107A10**

Date Reported: **7/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP7-S

Project: Roden GD Federal 3

Collection Date: 7/19/2021 11:20:00 AM

Lab ID: 2107A10-014

Matrix: SOIL

Received Date: 7/21/2021 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	150	60		mg/Kg	20	7/27/2021 12:24:50 PM	61578
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/23/2021 5:47:37 PM	61498
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/23/2021 5:47:37 PM	61498
Surr: DNOP	121	70-130		%Rec	1	7/23/2021 5:47:37 PM	61498
EPA METHOD 8015D: GASOLINE RANGE							Analyst: mb
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/27/2021 2:32:00 PM	61491
Surr: BFB	120	70-130		%Rec	1	7/27/2021 2:32:00 PM	61491
EPA METHOD 8021B: VOLATILES							Analyst: mb
Benzene	ND	0.025		mg/Kg	1	7/23/2021 8:17:00 PM	61491
Toluene	ND	0.050		mg/Kg	1	7/23/2021 8:17:00 PM	61491
Ethylbenzene	ND	0.050		mg/Kg	1	7/23/2021 8:17:00 PM	61491
Xylenes, Total	ND	0.099		mg/Kg	1	7/23/2021 8:17:00 PM	61491
Surr: 4-Bromofluorobenzene	113	70-130		%Rec	1	7/23/2021 8:17:00 PM	61491

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **2107A10**

Date Reported: **7/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP7-2

Project: Roden GD Federal 3

Collection Date: 7/19/2021 11:25:00 AM

Lab ID: 2107A10-015

Matrix: SOIL

Received Date: 7/21/2021 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	ND	60		mg/Kg	20	7/27/2021 12:37:14 PM	61578
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/23/2021 5:59:30 PM	61498
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/23/2021 5:59:30 PM	61498
Surr: DNOP	123	70-130		%Rec	1	7/23/2021 5:59:30 PM	61498
EPA METHOD 8015D: GASOLINE RANGE							Analyst: mb
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/27/2021 2:52:00 PM	61491
Surr: BFB	121	70-130		%Rec	1	7/27/2021 2:52:00 PM	61491
EPA METHOD 8021B: VOLATILES							Analyst: mb
Benzene	ND	0.025		mg/Kg	1	7/23/2021 8:37:00 PM	61491
Toluene	ND	0.050		mg/Kg	1	7/23/2021 8:37:00 PM	61491
Ethylbenzene	ND	0.050		mg/Kg	1	7/23/2021 8:37:00 PM	61491
Xylenes, Total	ND	0.10		mg/Kg	1	7/23/2021 8:37:00 PM	61491
Surr: 4-Bromofluorobenzene	108	70-130		%Rec	1	7/23/2021 8:37:00 PM	61491

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2107A10

29-Jul-21

Client: GHD Midland
Project: Roden GD Federal 3

Sample ID: MB-61562	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 61562	RunNo: 80053								
Prep Date: 7/26/2021	Analysis Date: 7/26/2021	SeqNo: 2818288	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-61562	SampType: LCS	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 61562	RunNo: 80053								
Prep Date: 7/26/2021	Analysis Date: 7/26/2021	SeqNo: 2818289	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.4	90	110			

Sample ID: MB-61578	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 61578	RunNo: 80089								
Prep Date: 7/27/2021	Analysis Date: 7/27/2021	SeqNo: 2820505	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-61578	SampType: LCS	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 61578	RunNo: 80089								
Prep Date: 7/27/2021	Analysis Date: 7/27/2021	SeqNo: 2820506	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.3	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of 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#: 2107A10

29-Jul-21

Client: GHD Midland
Project: Roden GD Federal 3

Sample ID: MB-61492	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 61492	RunNo: 80027								
Prep Date: 7/22/2021	Analysis Date: 7/23/2021	SeqNo: 2816162	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.8		10.00		88.5	70	130			

Sample ID: LCS-61492	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 61492	RunNo: 80027								
Prep Date: 7/22/2021	Analysis Date: 7/23/2021	SeqNo: 2816163	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	45	10	50.00	0	90.8	68.9	141			
Surr: DNOP	4.6		5.000		92.0	70	130			

Sample ID: MB-61498	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 61498	RunNo: 80027								
Prep Date: 7/22/2021	Analysis Date: 7/23/2021	SeqNo: 2817071	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	13		10.00		132	70	130			S

Sample ID: LCS-61498	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 61498	RunNo: 80027								
Prep Date: 7/22/2021	Analysis Date: 7/23/2021	SeqNo: 2817072	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	64	10	50.00	0	128	68.9	141			
Surr: DNOP	6.6		5.000		131	70	130			S

Sample ID: 2107A10-007AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: TP3-2	Batch ID: 61498	RunNo: 80027								
Prep Date: 7/22/2021	Analysis Date: 7/23/2021	SeqNo: 2817084	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	45	8.5	42.48	0	106	15	184			
Surr: DNOP	4.5		4.248		105	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of 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#: 2107A10

29-Jul-21

Client: GHD Midland
Project: Roden GD Federal 3

Sample ID: 2107A10-007AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: TP3-2	Batch ID: 61498	RunNo: 80027								
Prep Date: 7/22/2021	Analysis Date: 7/23/2021	SeqNo: 2817085 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	9.8	48.88	0	102	15	184	9.85	23.9	
Surr: DNOP	4.9		4.888		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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2107A10

29-Jul-21

Client: GHD Midland
Project: Roden GD Federal 3

Sample ID: mb-61466	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 61466	RunNo: 80051								
Prep Date: 7/21/2021	Analysis Date: 7/23/2021	SeqNo: 2816709			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		96.4	70	130			

Sample ID: ics-61466	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 61466	RunNo: 80051								
Prep Date: 7/21/2021	Analysis Date: 7/23/2021	SeqNo: 2816710			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	101	78.6	131			
Surr: BFB	1000		1000		102	70	130			

Sample ID: mb-61491	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 61491	RunNo: 80029								
Prep Date: 7/22/2021	Analysis Date: 7/23/2021	SeqNo: 2818753			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	1200		1000		120	70	130			

Sample ID: mb-61496	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 61496	RunNo: 80029								
Prep Date: 7/22/2021	Analysis Date: 7/24/2021	SeqNo: 2818754			Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		113	70	130			

Sample ID: ics-61491	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 61491	RunNo: 80029								
Prep Date: 7/22/2021	Analysis Date: 7/23/2021	SeqNo: 2818755			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	96.1	78.6	131			
Surr: BFB	1300		1000		127	70	130			

Sample ID: ics-61496	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 61496	RunNo: 80029								
Prep Date: 7/22/2021	Analysis Date: 7/24/2021	SeqNo: 2818757			Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1300		1000		126	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of 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#: 2107A10

29-Jul-21

Client: GHD Midland
Project: Roden GD Federal 3

Sample ID: 2107A10-009ams	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: TP4-2	Batch ID: 61491	RunNo: 80104								
Prep Date: 7/22/2021	Analysis Date: 7/27/2021	SeqNo: 2820637	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.8	24.15	0	91.8	61.3	114			
Surr: BFB	1300		966.2		130	70	130			

Sample ID: 2107A10-009amsd	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: TP4-2	Batch ID: 61491	RunNo: 80104								
Prep Date: 7/22/2021	Analysis Date: 7/27/2021	SeqNo: 2820641	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.9	24.73	0	83.6	61.3	114	7.05	20	
Surr: BFB	1300		989.1		131	70	130	0	0	S

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of 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#: 2107A10

29-Jul-21

Client: GHD Midland
Project: Roden GD Federal 3

Sample ID: mb-61466	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 61466	RunNo: 80051								
Prep Date: 7/21/2021	Analysis Date: 7/23/2021	SeqNo: 2816768			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		97.7	70	130			

Sample ID: LCS-61466	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 61466	RunNo: 80051								
Prep Date: 7/21/2021	Analysis Date: 7/23/2021	SeqNo: 2816769			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	1.000	0	93.0	80	120			
Toluene	0.94	0.050	1.000	0	94.3	80	120			
Ethylbenzene	0.94	0.050	1.000	0	94.4	80	120			
Xylenes, Total	2.8	0.10	3.000	0	94.8	80	120			
Surr: 4-Bromofluorobenzene	0.98		1.000		98.4	70	130			

Sample ID: mb-61491	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 61491	RunNo: 80029								
Prep Date: 7/22/2021	Analysis Date: 7/23/2021	SeqNo: 2818955			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	1.2		1.000		118	70	130			

Sample ID: mb-61496	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 61496	RunNo: 80029								
Prep Date: 7/22/2021	Analysis Date: 7/24/2021	SeqNo: 2818956			Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		112	70	130			

Sample ID: lcs-61491	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 61491	RunNo: 80029								
Prep Date: 7/22/2021	Analysis Date: 7/23/2021	SeqNo: 2818957			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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2107A10

29-Jul-21

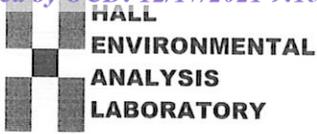
Client: GHD Midland
Project: Roden GD Federal 3

Sample ID: ics-61491	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 61491		RunNo: 80029							
Prep Date: 7/22/2021	Analysis Date: 7/23/2021		SeqNo: 2818957		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	94.7	80	120			
Toluene	0.95	0.050	1.000	0	95.4	80	120			
Ethylbenzene	0.98	0.050	1.000	0	97.5	80	120			
Xylenes, Total	3.0	0.10	3.000	0	98.4	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		116	70	130			

Sample ID: ics-61496	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 61496		RunNo: 80029							
Prep Date: 7/22/2021	Analysis Date: 7/24/2021		SeqNo: 2818959		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		114	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of 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
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: GHD Midland Work Order Number: 2107A10 RcptNo: 1

Received By: Desiree Dominguez 7/21/2021 7:50:00 AM
Completed By: Desiree Dominguez 7/21/2021 9:20:01 AM
Reviewed By: JN 7/21/21

Chain of Custody

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

Log In

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

of preserved bottles checked for pH: (<2 or >12 unless noted)
Adjusted?
Checked by: TML 7-21-21

Special Handling (if applicable)

- 15. Was client notified of all discrepancies with this order? Yes [] No [] NA [checked]

Person Notified:
By Whom:
Regarding:
Client Instructions:
Date:
Via: [] eMail [] Phone [] Fax [] In Person

16. Additional remarks:

17. Cooler Information

Table with 7 columns: Cooler No, Temp °C, Condition, Seal Intact, Seal No, Seal Date, Signed By. Row 1: 1, 2.4, Good, [], [], []



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Turn-Around Time:
 Standard Rush 5-8
 Project Name:
Rocky GDFederal #3

Project #:
11230055

Project Manager:
 Becky Haskell
 Tom Larson
 Sampler: Zach Comino
 On Ice: Yes No
 # of Coolers: 1
 Cooler Temp (including GF): 2.6 - 0.2 = 2.4°C

Container Type and #
Jar
 Preservative Type
 HEAL No.
2107AID

Received by: Becky Haskell Date: 7/20/21 Time: 7:50
 Relinquished by: Zach Comino Date: 7/20/21 Time: 7:50

Client: GHD
 Mailing Address:
 324 W. Main St. Suite 108, Artesia NM 88210
 Phone #: (505)377-4218
 email or Fax#: Becky.Haskell@ghd.com

QA/QC Package:
 Standard Level 4 (Full Validation)
 Accreditation: Az Compliance Other
 NELAC EDD (Type)

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
<u>07/21</u>	<u>0745</u>	<u>S</u>	<u>TP1-2</u>	<u>Jar</u>		<u>2107AID</u>
	<u>0750</u>		<u>TP1-4</u>			<u>-001</u>
	<u>0755</u>		<u>TP1-6</u>			<u>-002</u>
	<u>0810</u>		<u>TP2-8</u>			<u>-003</u>
	<u>0815</u>		<u>TP2-2</u>			<u>-004</u>
	<u>0820</u>		<u>TP3-5</u>			<u>-005</u>
	<u>0825</u>		<u>TP3-2</u>			<u>-006</u>
	<u>0915</u>		<u>TP4-5</u>			<u>-007</u>
	<u>0920</u>		<u>TP4-2</u>			<u>-008</u>
	<u>1000</u>		<u>TP5-15</u>			<u>-009</u>
	<u>1010</u>		<u>TP5-20</u>			<u>-010</u>
	<u>1100</u>		<u>TP6-5</u>			<u>-011</u>
						<u>-012</u>

Analysis Request

RTX7 MTBE / TMB's (8021)	<u>2</u>	
TPH:8015D(GRO / DR / MRO)	<u>2</u>	
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)	<u>2</u>	<u>Chloride Method 500</u>

Remarks: Please email: Chase.Settle@eogresources.com;
 Tom.Larson@ghd.com; Zach.Comino@ghd.com
 Matthew.Laughlin@ghd.com: Along with Becky Haskell listed above.

Direct Bill to EOG Chase Settle

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



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Turn-Around Time: Standard Rush 5-d

Project Name: Rodden GD Federal #3

Project #: 11230055

Project Manager: Becky Haskell

Project Manager: Tom Larson

Sampler: Zach Comino

On Ice: Yes No

of Coolers: 1

Cooler Temp (including CF): 2.6-0.2 = 2.4°C

Client: GHD

Mailing Address: 324 W. Main St. Suite 108, Artesia NM 88210

Phone #: (505)377-4218

email or Fax#: Becky.Haskell@ghd.com

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

Accreditation: Az Compliance NELAC Other

EDD (Type)

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
07/21	1105	S	TP6-2	JW		2107A10
↓	1120	↓	TP7-5	↓		-013
	1125		TP7-2			-014
						-015

Received by: Whumine Date: 7/20/21 Time: 1800

Relinquished by: Zach Comino Date: 7/21/21 Time: 7:50

Relinquished by: Whumine Date: 7/21/21 Time: 7:50

Analysis Request

Analysis Request	Result
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)	<u>Chloride Method 300</u>

Remarks: Please email: Chase_Settle@eogresources.com; Tom.Larson@ghd.com; Zach.Comino@ghd.com; Matthew.Laughlin@ghd.com; Along with Becky Haskell listed above.

Direct Bill to EOG Chase Settle

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

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

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

CONDITIONS

Action 67719

CONDITIONS

Operator: EOG RESOURCES INC P.O. Box 2267 Midland, TX 79702	OGRID: 7377
	Action Number: 67719
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Delineation Workplan approved. Locate soil boring for vertical delineation as close as possible to TP-5. Collect soil samples at 5-foot intervals from 20-50 ft bgs for 8015 and 8021.	1/31/2022