State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | nAPP2116941247 |
| District RP | |
| Facility ID | |
| Application ID | |

# Remediation Plan

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

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

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

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

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

Printed Name: Amber Griffin  Title: Rep Safety & Environmental Sr

Signature: Amber Griffin  Date: 11/14/2022

email: Amber_Griffin@eogresources.com  Telephone: 575-748-4111

**OCD Only**

Received by: Jocelyn Harimon  Date: 11/15/2022

☐ Approved  ☒ Approved with Attached Conditions of Approval  ☐ Denied  ☐ Deferral Approved

Signature: Jennifer Nobui  Date: 12/13/2022

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

**Our ref:** 11230052-LTR-1

**November 14, 2022**

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

**Updated Site Remediation Work Plan**
**Rodke AOY #1 Release Site**
**EOG Resources Inc.**
**Incident ID: nAPP2116941247**
**A-21-19S-25E, Eddy County, New Mexico**

To Whom It May Concern:

# 1. Introduction

GHD Services Inc. (GHD), on behalf of EOG Resources (EOG), submits this Updated Site Remediation Work Plan to the New Mexico Oil Conservation Division (NMOCD) District 2 Office. This Report provides documentation of remedial activities, sampling, and analyses in the affected area at the EOG Rodke AOY #1 Release Site (Site). The Site is located in Eddy County, New Mexico. The GPS coordinates for the release site are 32.648371 N latitude and 104.488160 W longitude. The release occurred on private land owned by Ross Ranch. Figure 1 depicts the Site location. The EOG production facility and other site details are depicted on Figure 2, Site Details Map.

# 2. Background Information

A C-141 initial report 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 NAPP2116941247. The Release Notification, Site Assessment/ Characterization and Remediation Plan portions of Form C-141 are attached to the front of this report. 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).

# 3. Excavation Summary

In April, May, and June 2022 GHD, on behalf of EOG, completed excavation and sampling activities at the Site. During the excavation activities composite excavation samples from the sidewalls and bottom of the excavation were collected and analyzed for BTEX by EPA Method 8021B, TPH by Method 8015B Modified, and chloride by EPA Method 300. BTEX and TPH exceedances were noted in bottom hole confirmation samples BH-20 and BH-21 at 20 to 22 feet below ground surface (bgs). At the completion of confirmation sampling and based on results the excavation was backfilled with non-impacted soil prior to the setting of treatment wells to begin bioremediation of the hydrocarbon impacts.

Analytical results are provided in Table 1. Further details regarding all completed excavation activities will be captured in a final closure report.

# 4. Treatment Summary

As approved by NMOCD on March 18, 2022, drilling oversight and installation of treatment wells was conducted on August 24-25, 2022. A total of two soil treatment wells (IW-1 and IW-2) were installed within the affected area to assist with the bioremediation and venting of the hydrocarbon impacts below 20 feet bgs.

One treatment well was installed for every 100 square feet of impacted area to be remediated. The wells consisted of 2-inch pvc pipe with slotted well screen installed for the last 5-10 feet of the well, well depth was staggered to ensure that the microbial product used to increase bioremediation made contact with all areas that required treatment. The product utilized for treatment was Rigby Taylor (RT) Remediact, which is a concentrated solution of bacteria and microorganisms used to bioremediate hydrocarbons in soils. The RT Remediact was absorbed into the surrounding soils, allowing for the digestion of organics and the breakdown of the hydrocarbons. The RT Remediact was injected into the wells every 2 weeks for approximately 12 weeks, totaling 6 separate treatments. A total of 1,032 gallons of solution and 10,320 gallons of water was injected for the entire treatment period. The first treatment was completed the week of August 22, 2022 and the final treatment was completed the week of October 24, 2022.

# 5. Confirmation Soil Sampling Summary and Findings

On November 8, 2022, GHD and EOG's contractor HCI Drilling advanced one soil boring for the purpose of collecting confirmation soil samples. Samples were collected at 5-foot increments beginning at 35 feet bgs to a depth of 50 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 Cardinal Laboratories in Hobbs, New Mexico.

Samples at 45 and 50 feet bgs in the soil boring CB-1 exceeded applicable NMAC Table 1 Closure Criteria for groundwater greater than 100 feet. Figure 2, Site Details Map, depicts the location of the confirmation boring sample. The CB-1 soil boring log is provided as Attachment A. Analytical results are provided in Table 1, on Figure 3, and in the Laboratory Analytical Reports provided in Attachment B.

# 6. nAPP2116941247 Proposed Work Plan

CB-1 exhibited BTEX and TPH GRO and DRO above Table 1 closure criteria to a depth of 45 and 50 feet bgs. None of the other samples submitted for analysis exhibited exceedances above Table 1 closure criteria. Based

on results from the confirmation soil borings further treatment injections are required to adequately breakdown the hydrocarbon within the impacted soils. Continued injections are proposed to the speed of bioremediation.

The RT Remediact microbial strain will continue to be injected into the wells every 3 weeks for approximately 18 weeks, totaling 6 separate treatments. The amount of treatment solution will be increased for the injection events. Approximately 30 days after the last treatment, a core rig will be brought in to perform sampling of the treated areas. This will consist of performing one sample boring per 200 square feet, with samples collected at 5-foot increments with anticipated sampling to begin at 35 feet bgs to a depth of 50 feet bgs.

Once confirmation samples collected from the soil boring(s) post treatment are below Table 1 closure criteria, treatment wells will be plugged with non-impacted soil material and cut/capped at a depth of 3 feet bgs, or completely removed with the bore hole backfilled with non-impacted soil material. A closure report will be prepared to document remediation activities and submitted to the NMOCD. If the samples exhibit Total TPH concentrations above Table 1 closure criteria an update will be provided to NMOCD with the progress to date with the additional remediation steps that will occur for the site.

Regards,

GHD

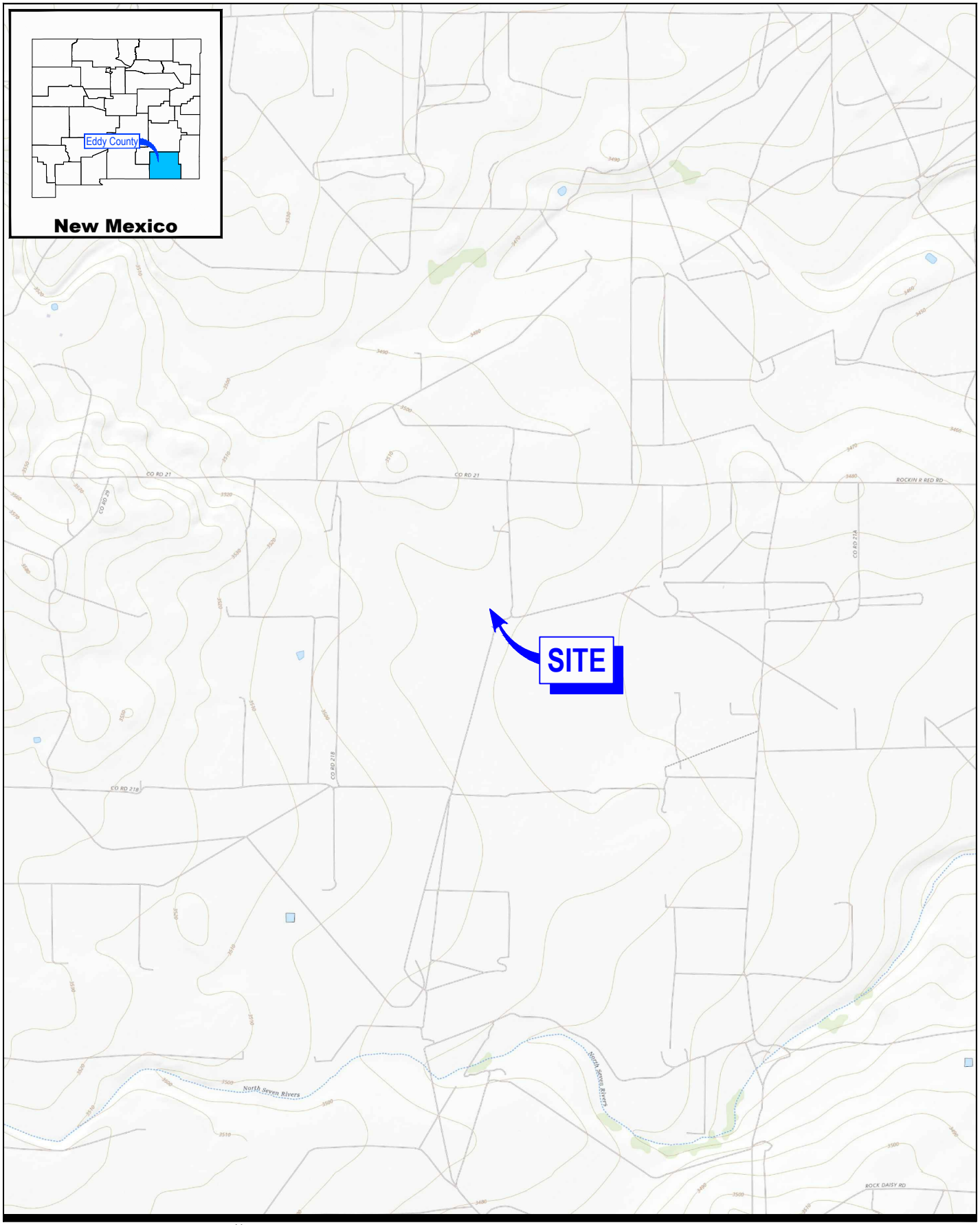
J.T. Murray
Project Director

Moshghan Mansoori
Senior Project Manager

JTM/MM/mk/LTR-1

Encl. Figure 1 – Site Location Map
Figure 2 – Site Details Map
Figure 3 – Confirmation Soil Analytical
Table 1 – Summary of Soil Analytical Data
Attachment A – CB-1 Soil Boring Log
Attachment B – Laboratory Analytical Reports and Chain-of-Custody Documentation

cc: Chase Settle




0 1000 2000 ft

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

N

GHD

EOG RESOURCES
EDDY COUNTY, NEW MEXICO
RODKE AOY #1

Project No. **11230052**
Date **November 2022**

**SITE LOCATION MAP**

**FIGURE 1**

Filename: \\ghdnet\ghd\US\Midland\Projects\562\11230052\Digital_Design\ACAD\Figures\PRE001\11230052-GHD-00-00-PRE-EN-D101_DL-001.dwg

Data Source: USGS 7.5 Minute Quad "Dayton, Seven Rivers, Foster Ranch, and Parish Ranch, New Mexico"
Lat/Long: 32.6481° North, 104.4880° West


LEGEND

- CONFIRMATION SOIL BORING LOCATION
- INJECTION WELL LOCATION

0 20 40 ft

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

N

GHD

EOG RESOURCES
EDDY COUNTY, NEW MEXICO
RODKE AOY #1

SITE DETAILS MAP

Project No. **11230052**
Date **November 2022**

**FIGURE 2**

Filename: \\ghdnet\ghd\US\Midland\Projects\562\11230052\Digital_Design\ACAD\Figures\PRE001\11230052-GHD-00-00-PRE-EN-D101_DL-001.dwg
Plot Date: 14 November 2022 3:23 PM

Data Source: Image © 2021 Google - Imagery Date: December 21, 2019
Lat/Long: 32.6481° North, 104.4880° West


| CB-1 11/08/2022 | | | | |
|---|---|---|---|---|
| DEPTH | 35' | 40' | 45' | 50' |
| BENZENE | 0.305 | 0.678 | 2.05 | 1.46 |
| BTEX | 3.33 | 21.1 | 84.8 | 48.1 |
| TPH | 216 | 232 | 2,450 | 2,662 |
| CHLORIDE | 480 | 624 | 640 | 896 |

LEGEND

- SOIL BORING
- SOIL BORING TO GROUNDWATER
- DEPTH — DEPTH OF SAMPLE (FT)
- BTEX — BENZENE, TOLUENE, ETHYLBENZENE & XYLENES CONCENTRATION (MG/KG)
- TPH — TOTAL PETROLEUM HYDROCARBONS CONCENTRATION (MG/KG)

*NOTES:*

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

0 20 40 ft

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

N

GHD

**EOG RESOURCES**
**EDDY COUNTY, NEW MEXICO**
**RODKE AOY #1**

**CONFIRMATION SOIL ANALYTICAL**

Project No. **11230052**
Date **November 2022**

**FIGURE 3**

Filename: \\ghdnet\ghd\US\Midland\Projects\562\11230052\Digital_Design\ACAD\Figures\PRE001\11230052-GHD-00-00-PRE-EN-D101_DL-001.dwg
Plot Date: 14 November 2022 3:23 PM

Data Source: Image © 2021 Google - Imagery Date: December 21, 2019
Lat/Long: 32.6481° North, 104.4880° West

**Table 1**
**Summary of Soil Analytical Data**
**Rodke AOY 1**
**EOG Resources**
**Eddy County, New Mexico**

| Sample ID | Sample Date | Depth (ft bgs) | Benzene | Toluene | Ethylbenzene | Xylenes | BTEX | Total Petroleum Hydrocarbons (TPH) | | | | Chloride |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | GRO (C6-C10) | DRO (C10-C28) | MRO (C28-C35) | Total GRO/DRO/MRO | |
| | | | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) |
| | | | Table I Closure Criteria for Soils between 51 and 100 feet Depth to Groundwater 19.15.29 NMAC | | | | | | | | | |
| | | | 10 mg/kg | --- | --- | --- | 50 mg/kg | 1,000 mg/kg | | --- | 2,500 mg/kg | 10,000 mg/kg |
| *Initial Assessment Samples* | | | | | | | | | | | | |
| TP1-8 | 7/19/2021 | 8 | **300** | **640** | **260** | **250** | **1,450** | **6,700** | **9,300** | **3,600** | **19,600** | **8,300** |
| TP1-15 | 7/19/2021 | 15 | **11** | **160** | **120** | **120** | **411** | **2,200** | **5,600** | **2,300** | **10,100** | **5,200** |
| TP1-20 | 7/19/2021 | 20 | **29** | **210** | **140** | **160** | **539** | **3,200** | **7,200** | **2,900** | **13,300** | **4,200** |
| TP2-2 | 7/19/2021 | 2 | <0.025 | <0.050 | <0.050 | <0.099 | <0.099 | <5.0 | <10 | <50 | <50 | <60 |
| TP2-6 | 7/19/2021 | 6 | <0.024 | <0.047 | <0.047 | <0.095 | <0.095 | <4.7 | <9.9 | <50 | <50 | <60 |
| TP3-2 | 7/19/2021 | 2 | <0.025 | <0.049 | <0.049 | <0.099 | <0.099 | <4.9 | <8.9 | <44 | <44 | **590** |
| TP3-4 | 7/19/2021 | 4 | <0.024 | <0.049 | <0.049 | <0.097 | <0.097 | <4.9 | <8.8 | <44 | <44 | **300** |
| TP3-7 | 7/19/2021 | 7 | <0.024 | <0.048 | <0.048 | <0.095 | <0.095 | <4.8 | <8.5 | <43 | <43 | **93** |
| TP4-S | 7/20/21 | Surface | <0.025 | <0.050 | <0.050 | <0.10 | <0.10 | <5.0 | <9.4 | <47 | <47 | <60 |
| TP4-2 | 7/20/21 | 2 | <0.025 | <0.050 | <0.050 | <0.10 | <0.10 | <5.0 | <9.9 | <49 | <49 | <60 |
| TP5-S | 7/20/21 | Surface | <0.024 | <0.049 | <0.049 | <0.097 | <0.097 | <4.9 | <8.8 | <44 | <44 | <60 |
| TP5-2 | 7/20/21 | 2 | <0.025 | <0.050 | <0.050 | <0.099 | <0.099 | <5.0 | <9.8 | <49 | <49 | **450** |
| TP5-8 | 7/20/21 | 8 | <0.025 | <0.050 | <0.050 | <0.10 | <0.10 | <5.0 | <8.8 | <44 | <44 | **390** |
| TP5-14 | 7/20/21 | 14 | <0.024 | <0.049 | <0.049 | <0.098 | <0.098 | <4.9 | <9.7 | <48 | <48 | **66** |
| TP6-S | 7/20/21 | Surface | <0.025 | <0.049 | <0.049 | <0.098 | <0.098 | <4.9 | <9.9 | <49 | <49 | <60 |
| TP6-2 | 7/20/21 | 2 | <0.025 | <0.050 | <0.050 | <0.10 | <0.10 | <5.0 | <9.5 | <47 | <47 | **91** |
| TP7-S | 8/30/21 | Surface | <0.023 | <0.047 | <0.047 | <0.093 | <0.093 | <4.7 | <9.7 | <48 | <48 | <61 |
| TP7-2 | 8/30/21 | 2 | <0.023 | <0.046 | <0.046 | <0.093 | <0.093 | <4.6 | <9.3 | <47 | <47 | <60 |
| TP8-S | 8/30/21 | Surface | <0.024 | <0.048 | <0.048 | <0.095 | <0.095 | <4.8 | <9.4 | <47 | <47 | <60 |
| TP8-2 | 8/30/21 | 2 | <0.025 | <0.049 | <0.049 | <0.098 | <0.098 | <4.9 | <9.8 | <49 | <49 | <60 |
| TP9-S | 8/30/21 | Surface | <0.024 | <0.048 | <0.048 | <0.095 | <0.095 | <4.8 | <9.9 | <50 | <50 | <60 |
| TP9-2 | 8/30/21 | 2 | <0.024 | <0.047 | <0.047 | <0.095 | <0.095 | <4.7 | <9.6 | <48 | <48 | 110 |

**Table 1**
**Summary of Soil Analytical Data**
**Rodke AOY 1**
**EOG Resources**
**Eddy County, New Mexico**

| Sample ID | Sample Date | Depth (ft bgs) | Benzene | Toluene | Ethylbenzene | Xylenes | BTEX | Total Petroleum Hydrocarbons (TPH) | | | | Chloride |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | GRO (C6-C10) | DRO (C10-C28) | MRO (C28-C35) | Total GRO/DRO/MRO | |
| | | | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) |
| | | | Table I Closure Criteria for Soils between 51 and 100 feet Depth to Groundwater 19.15.29 NMAC | | | | | | | | | |
| | | | 10 mg/kg | --- | --- | --- | 50 mg/kg | 1,000 mg/kg | | --- | 2,500 mg/kg | 10,000 mg/kg |
| TP10-S | 8/30/21 | Surface | <0.024 | <0.048 | <0.048 | <0.096 | <0.096 | <4.8 | <10 | <50 | <50 | <60 |
| TP10-2 | 8/30/21 | 2 | <0.024 | <0.049 | <0.049 | <0.098 | <0.098 | <4.9 | <10 | <50 | <50 | <60 |
| | | | | | | | | | | | | |
| TP11-6 | 8/30/21 | 6 | <0.49 | <0.97 | <0.97 | <1.9 | <1.9 | **240** | **5,800** | **2,600** | **8,640** | **67** |
| TP11-10 | 8/30/21 | 10 | <0.024 | <0.048 | <0.048 | <0.096 | <0.096 | <4.8 | <9.6 | <48 | <48 | **87** |
| TP11-12 | 8/30/21 | 12 | <0.024 | <0.048 | <0.048 | <0.096 | <0.096 | <4.8 | <9.4 | <47 | <47 | **86** |
| TP11-15 | 8/30/21 | 15 | <0.023 | <0.047 | <0.047 | <0.093 | <0.093 | <4.7 | **93** | **63** | **156** | **82** |
| TP11-20 | 8/30/21 | 20 | <0.023 | <0.046 | <0.046 | <0.092 | <0.092 | <4.6 | <9.9 | <50 | <50 | **200** |
| | | | | | | | | | | | | |
| TPX-1-14' | 5/11/22 | 14 | <0.100 | **0.153** | **11.4** | **21.9** | **33.5** | **397** | **2,510** | **341** | **3,248** | **32.0** |
| TPX-1-14' SW | 5/11/22 | 14 | <0.050 | <0.050 | **5.66** | **6.97** | **12.6** | **495** | **4060** | **537** | **5,092** | **32.0** |
| TPX-1-23' | 5/11/22 | 23 | <0.050 | <0.050 | <0.050 | <0.150 | <0.300 | <10.0 | <10.0 | <10.0 | <10.0 | **32.0** |
| TPX-1-23' SW | 5/11/22 | 23 | <0.050 | <0.050 | <0.050 | <0.150 | <0.300 | <10.0 | <10.0 | <10.0 | <10.0 | **32.0** |
| ***Soil Boring Samples*** | | | | | | | | | | | | |
| SB-1-5' | 12/21/2021 | 5 | **50** | **190** | **110** | **110** | **460** | **3,100** | **1,600** | **550** | **5,250** | **4,200** |
| SB-1-10' | 12/21/2021 | 10 | **6** | **59** | **51** | **60** | **176** | **1,400** | **3,600** | **1,200** | **6,200** | **4,900** |
| SB-1-15' | 12/21/2021 | 15 | <0.48 | **10** | **17** | **19** | **46** | **480** | **4,200** | **1,700** | **6,380** | **2,900** |
| SB-1-20' | 12/21/2021 | 20 | **1.6** | **22** | **33** | **40** | **96.6** | **790** | **7,000** | **2,800** | **10,590** | **2,300** |
| SB-1-25' | 12/21/2021 | 25 | **0.046** | **0.21** | **0.54** | **0.64** | **1.436** | **34** | **130** | <45 | **164** | **71** |
| SB-1-30' | 12/21/2021 | 30 | <0.024 | **0.15** | **0.95** | **1.5** | **2.6** | **40** | **950** | **350** | **1,340** | **120** |
| SB-1-35' | 12/21/2021 | 35 | **0.16** | **2.2** | **3.7** | **4.1** | **10.16** | **96** | **920** | **350** | **1,366** | **260** |
| SB-1-40' | 12/21/2021 | 40 | **3.8** | **21** | **21** | **21** | **66.8** | **610** | **380** | **140** | **1,130** | **290** |
| SB-1-45' | 12/21/2021 | 45 | **53** | **260** | **170** | **170** | **653** | **4,400** | **10,000** | **3,500** | **17,900** | **89** |
| SB-1-50' | 12/21/2021 | 50 | **0.074** | <0.050 | <0.050 | <0.099 | **0.074** | <5.0 | <9.6 | <48 | <48 | <60 |
| ***Composite Confirmation Samples*** | | | | | | | | | | | | |
| CBH | 4/13/2022 | 23 | **2.7** | **5.0** | **2.9** | **3.0** | **13.6** | **71** | **67** | <49 | **138** | **470** |
| SSW | 4/13/2022 | Sidewall | **2.0** | **21** | **23** | **25** | **71** | **380** | **6,200** | **3,000** | **9,580** | **15,000** |
| NSW | 4/13/2022 | Sidewall | **2.9** | **51** | **58** | **63** | **174.9** | **880** | **6,900** | **2,900** | **10,680** | **7,400** |
| WSW | 4/13/2022 | Sidewall | **5.6** | **66** | **57** | **58** | **186.6** | **850** | **3,200** | **1,300** | **5,350** | **2,800** |
| ESW | 4/13/2022 | Sidewall | **0.76** | **22** | **47** | **59** | **128.76** | **700** | **5,400** | **2,800** | **8,900** | **71** |

**Table 1**
**Summary of Soil Analytical Data**
**Rodke AOY 1**
**EOG Resources**
**Eddy County, New Mexico**

| Sample ID | Sample Date | Depth (ft bgs) | Benzene | Toluene | Ethylbenzene | Xylenes | BTEX | Total Petroleum Hydrocarbons (TPH) | | | | Chloride |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | GRO (C6-C10) | DRO (C10-C28) | MRO (C28-C35) | Total GRO/DRO/MRO | |
| | | | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) |
| | | | Table I Closure Criteria for Soils between 51 and 100 feet Depth to Groundwater 19.15.29 NMAC | | | | | | | | | |
| | | | 10 mg/kg | --- | --- | --- | 50 mg/kg | 1,000 mg/kg | | --- | 2,500 mg/kg | 10,000 mg/kg |
| *Bottom Hole Confirmation Samples* | | | | | | | | | | | | |
| BH-1 | 6/2/2022 | 4-8 | <0.12 | <0.24 | <0.24 | <0.49 | <0.49 | <24 | **36** | <47 | **36** | **62** |
| BH-2 | 6/2/2022 | 4-8 | <0.023 | <0.046 | <0.046 | <0.092 | <0.092 | <4.6 | <14 | <46 | <46 | **690** |
| BH-3 | 6/2/2022 | 4-8 | <0.025 | <0.050 | <0.050 | <0.10 | <0.10 | <5.0 | <14 | <47 | <47 | **740** |
| BH-4 | 6/2/2022 | 8-12 | <0.024 | <0.048 | <0.048 | <0.097 | <0.097 | <4.8 | <14 | <48 | <48 | **370** |
| BH-5 | 6/2/2022 | 8-12 | <0.025 | <0.050 | <0.050 | <0.099 | <0.099 | <5.0 | <14 | <48 | <48 | **870** |
| BH-6 | 6/2/2022 | 8-12 | <0.024 | <0.048 | <0.048 | <0.096 | <0.096 | <4.8 | <14 | <48 | <48 | **1,200** |
| BH-7 | 6/2/2022 | 12-16 | <0.023 | <0.047 | <0.047 | <0.093 | <0.093 | <4.7 | <14 | <47 | <47 | **550** |
| BH-8 | 6/2/2022 | 12-16 | <0.024 | <0.048 | <0.048 | <0.097 | <0.097 | <4.8 | **90** | <48 | **90** | **540** |
| BH-9 | 6/2/2022 | 12-16 | <0.025 | <0.050 | <0.050 | <0.10 | <0.10 | <5.0 | **30** | <47 | **30** | **550** |
| BH-10 | 6/10/2022 | 16-20 | <0.023 | <0.047 | <0.047 | <0.094 | <0.094 | <4.7 | **190** | **110** | **300** | **470** |
| BH-11 | 6/10/2022 | 16-20 | <0.024 | <0.049 | <0.049 | <0.098 | <0.098 | <4.9 | **650** | **250** | **900** | **860** |
| BH-12 | 6/10/2022 | 16-20 | <0.024 | <0.049 | <0.049 | <0.097 | <0.097 | <4.9 | **460** | **200** | **660** | **690** |
| BH-13 | 6/10/2022 | 20-22 | <0.024 | <0.049 | <0.049 | <0.098 | <0.098 | <4.9 | <14 | <46 | <46 | **270** |
| BH-14 | 6/10/2022 | 20-22 | <0.12 | <0.25 | <0.25 | <0.49 | <0.49 | <25 | **320** | **190** | **510** | **710** |
| BH-15 | 6/10/2022 | 20-22 | <0.024 | <0.048 | <0.048 | <0.097 | <0.097 | <4.8 | **28** | <50 | **28** | **330** |
| BH-16 | 6/10/2022 | 22 | <0.024 | <0.049 | <0.049 | <0.098 | <0.098 | <4.9 | <14 | <48 | <48 | <60 |
| BH-17 | 6/10/2022 | 22 | <0.024 | <0.049 | <0.049 | <0.098 | <0.098 | <4.9 | <14 | <47 | <47 | <60 |
| BH-18 | 6/10/2022 | ach | <0.12 | <0.23 | <0.23 | <0.47 | <0.47 | <23 | **250** | **90** | **340** | <60 |
| BH-19 | 6/10/2022 | 20-22 | <0.025 | <0.049 | <0.049 | <0.098 | <0.098 | <4.9 | <15 | <49 | <49 | **250** |
| BH-20 | 6/10/2022 | 20-22 | <0.23 | **3.6** | **5.3** | **15** | **23.9** | **290** | **3,600** | **1,300** | **5,190** | **5,600** |
| BH-21 | 6/10/2022 | 22 | **4.3** | **39** | **31** | **32** | **106.3** | **500** | **2,400** | **870** | **3,770** | **2,800** |

**Table 1**
**Summary of Soil Analytical Data**
**Rodke AOY 1**
**EOG Resources**
**Eddy County, New Mexico**

| Sample ID | Sample Date | Depth (ft bgs) | Benzene | Toluene | Ethylbenzene | Xylenes | BTEX | Total Petroleum Hydrocarbons (TPH) | | | | Chloride |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | GRO (C6-C10) | DRO (C10-C28) | MRO (C28-C35) | Total GRO/DRO/MRO | |
| | | | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) |
| | | | Table I Closure Criteria for Soils between 51 and 100 feet Depth to Groundwater 19.15.29 NMAC | | | | | | | | | |
| | | | 10 mg/kg | --- | --- | --- | 50 mg/kg | 1,000 mg/kg | | --- | 2,500 mg/kg | 10,000 mg/kg |
| *Sidewall Confirmation Samples* | | | | | | | | | | | | |
| SW-1 | 6/2/2022 | Sidewall | <0.025 | <0.049 | <0.049 | <0.099 | <0.099 | <4.9 | <14 | <47 | <47 | **200** |
| SW-2 | 6/2/2022 | Sidewall | <0.025 | <0.049 | <0.049 | <0.099 | <0.099 | <4.9 | <15 | <50 | <50 | <60 |
| SW-3 | 6/2/2022 | Sidewall | <0.023 | <0.047 | <0.047 | <0.093 | <0.093 | <4.7 | <15 | <49 | <49 | **180** |
| SW-4 | 6/2/2022 | Sidewall | <0.023 | <0.046 | <0.046 | <0.093 | <0.093 | <4.6 | <15 | <49 | <49 | <60 |
| SW-5 | 6/2/2022 | Sidewall | <0.025 | <0.049 | <0.049 | <0.099 | <0.099 | <4.9 | <14 | <46 | <46 | **100** |
| SW-6 | 6/10/2022 | Sidewall | <0.023 | <0.046 | <0.046 | <0.092 | <0.092 | <4.6 | <15 | <50 | <50 | <60 |
| SW-7 | 6/10/2022 | Sidewall | <0.025 | <0.049 | <0.049 | <0.098 | <0.098 | <4.9 | <15 | <48 | <48 | **510** |
| SW-8 | 6/10/2022 | Sidewall | <0.023 | <0.047 | <0.047 | <0.093 | <0.093 | <4.7 | **16** | <48 | **16** | **210** |
| SW-9 | 6/10/2022 | Sidewall | <0.024 | <0.049 | <0.049 | <0.097 | <0.097 | <4.9 | **130** | **56** | **186** | **420** |
| SW-10 | 6/10/2022 | Sidewall | <0.024 | <0.049 | <0.049 | <0.098 | <0.098 | <4.9 | **700** | **510** | **1,210** | **610** |
| SW-11 | 6/10/2022 | Sidewall | <0.024 | <0.048 | <0.048 | <0.095 | <0.095 | <4.8 | **250** | **110** | **360** | **340** |
| SW-12 | 6/10/2022 | Sidewall | <0.12 | <0.24 | <0.24 | <0.49 | <0.49 | <24 | **430** | **180** | **610** | **720** |
| SW-13 | 6/10/2022 | Sidewall | <0.023 | <0.047 | <0.047 | <0.093 | <0.093 | <4.7 | **250** | **110** | **360** | **690** |
| SW-14 | 6/10/2022 | Sidewall | <0.024 | <0.047 | <0.047 | <0.095 | <0.095 | <4.7 | **910** | **330** | **1,240** | **740** |
| SW-15 | 6/10/2022 | Sidewall | <0.12 | <0.24 | <0.24 | <0.49 | <0.49 | <24 | **760** | **360** | **1,120** | **1,000** |
| SW-16 | 6/10/2022 | Sidewall | <0.024 | <0.049 | <0.049 | <0.098 | <0.098 | <4.9 | **560** | **240** | **800** | **1,100** |
| SW-17 | 6/10/2022 | Sidewall | <0.12 | <0.25 | <0.25 | <0.50 | <0.50 | <25 | **55** | <49 | **55** | **830** |
| *ConfirmationBoring Samples* | | | | | | | | | | | | |
| CB-1 | 11/8/2022 | 35' | **0.305** | **0.469** | **1.51** | **1.04** | **3.33** | **10.1** | **180** | **26** | **216** | **480** |
| CB-1 | 11/8/2022 | 40' | **0.678** | **5.08** | **8.33** | **6.97** | **21.1** | **20.1** | **183** | **29** | **232** | **624** |
| CB-1 | 11/8/2022 | 45' | **2.05** | **18.5** | **32.4** | **31.8** | **84.8** | **338** | **1,870** | **242** | **2,450** | **640** |
| CB-1 | 11/8/2022 | 50' | **1.46** | **11.2** | **18.1** | **17.3** | **48.1** | **202** | **1,060** | **138** | **2,662** | **896** |

*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.
~~B-BH 2~~ Sample Point Excavated
6. GRO/DRO/MRO = Gasoline/Diesel/Motor Oil
7. Indicates analytical samples that exceed the NMOC 19.15.29.12 Table 1 Closure Criteria for the site.
8. Indicates analytical samples that exceed the NMOC 19.15.29.13 Table 1 Closure Criteria for the site. (Top four feet)
9. --- = not defined

# Attachments

# Attachment A

## CB-1 Soil Boring Log

# STRATIGRAPHIC LOG (OVERBURDEN)



PROJECT NAME: Rodke AOY #1
PROJECT NUMBER: 11230052
CLIENT: EOG Resources
LOCATION: Eddy County, New Mexico
DRILLING CONTRACTOR: HCI Drilling

HOLE DESIGNATION: CB-1
DATE COMPLETED: 11 August 2022
DRILLING METHOD: Air Rotary
FIELD PERSONNEL: L. Mullins
DRILLER: K. Cooper

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | DEPTH BGS | SAMPLE NUMBER | SAMPLE INTERVAL | SAMPLE REC (%) | SAMPLE 'N' Value | PID (ppm) |
|---|---|---|---|---|---|---|---|
| 0 | BACKFILL: caliche rock with sand, brown, dry | | | | | | |
| 24 | CL-SILTY CLAY, reddish brown, slightly moist | 24.00 | | | | | |
| 33-35' | | | | | | | 926.1 |
| 36 | SP-SAND, fine to medium grained, light brown, slightly moist | 36.00 | | | | | |
| 38-40' | | | | | | | 3551 |
| 43-45' | | | | | | | 2231 |
| 47 | CL-SANDY CLAY, with partially consolidated sandstone, slightly moist | 47.00 | | | | | |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (oval)

File: \\GHDNET\GHD\US\MIDLAND\PROJECTS\562\11230052\TECH\GINT LOGS\11230052 LOGS-V01.GPJ Library File: GHD_ENVIRO_V06.GLB Report: OVERBURDEN LOG Date: 11/11/22

# STRATIGRAPHIC LOG (OVERBURDEN)



PROJECT NAME: Rodke AOY #1
PROJECT NUMBER: 11230052
CLIENT: EOG Resources
LOCATION: Eddy County, New Mexico
DRILLING CONTRACTOR: HCI Drilling

HOLE DESIGNATION: CB-1
DATE COMPLETED: 11 August 2022
DRILLING METHOD: Air Rotary
FIELD PERSONNEL: L. Mullins
DRILLER: K. Cooper

| DEPTH ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | DEPTH BGS | SAMPLE NUMBER | SAMPLE INTERVAL | SAMPLE REC (%) | SAMPLE 'N' Value | SAMPLE PID (ppm) |
|---|---|---|---|---|---|---|---|
| 50 | END OF BOREHOLE @ 50.00ft BGS | 50.00 | 48-50' | | | | 1288 |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (48-50')

File: \\GHDNET\GHD\US\MIDLAND\PROJECTS\562\11230052\TECH\GINT LOGS\11230052 LOGS-V01.GPJ Library File: GHD_ENVIRO_V06.GLB Report: OVERBURDEN LOG Date: 11/11/22

# Attachment B

## Laboratory Analytical Reports and Chain-of-Custody Documentation

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

November 09, 2022

JT MURREY

GHD SERVICES, INC.

6121 INDIAN SCHOOL RD, NE STE. 200

ALBUQUERQUE, NM 87110

RE: RODKE AOY #1

Enclosed are the results of analyses for samples received by the laboratory on 11/08/22 12:03.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

| | |
|---|---|
| Method EPA 552.2 | Haloacetic Acids (HAA-5) |
| Method EPA 524.2 | Total Trihalomethanes (TTHM) |
| Method EPA 524.4 | Regulated VOCs (V1, V2, V3) |

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

## Analytical Results For:

GHD SERVICES, INC.
JT MURREY
6121 INDIAN SCHOOL RD, NE STE. 200
ALBUQUERQUE NM, 87110
Fax To:

| | | | |
|---|---|---|---|
| Received: | 11/08/2022 | Sampling Date: | 11/08/2022 |
| Reported: | 11/09/2022 | Sampling Type: | Soil |
| Project Name: | RODKE AOY #1 | Sampling Condition: | Cool & Intact |
| Project Number: | 11230052 | Sample Received By: | Tamara Oldaker |
| Project Location: | EOG - ARTESIA, NM | | |

### Sample ID: CB - 1 ( 35' ) (H225264-01)

**BTEX 8021B** mg/kg Analyzed By: JH

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Benzene*** | **0.305** | 0.050 | 11/08/2022 | ND | 1.90 | 94.9 | 2.00 | 2.91 | |
| **Toluene*** | **0.469** | 0.050 | 11/08/2022 | ND | 2.10 | 105 | 2.00 | 2.75 | |
| **Ethylbenzene*** | **1.51** | 0.050 | 11/08/2022 | ND | 1.95 | 97.3 | 2.00 | 3.33 | |
| **Total Xylenes*** | **1.04** | 0.150 | 11/08/2022 | ND | 5.87 | 97.8 | 6.00 | 3.07 | |
| **Total BTEX** | **3.33** | 0.300 | 11/08/2022 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *120 %* *69.9-140*

**Chloride, SM4500Cl-B** mg/kg Analyzed By: GM

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **480** | 16.0 | 11/08/2022 | ND | 416 | 104 | 400 | 3.92 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **GRO C6-C10*** | **10.1** | 10.0 | 11/09/2022 | ND | 181 | 90.4 | 200 | 7.48 | |
| **DRO >C10-C28*** | **180** | 10.0 | 11/09/2022 | ND | 210 | 105 | 200 | 6.11 | |
| **EXT DRO >C28-C36** | **26.4** | 10.0 | 11/09/2022 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *87.9 %* *45.3-161*

*Surrogate: 1-Chlorooctadecane* *95.7 %* *46.3-178*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

## Analytical Results For:

GHD SERVICES, INC.
JT MURREY
6121 INDIAN SCHOOL RD, NE STE. 200
ALBUQUERQUE NM, 87110
Fax To:

| | | | |
|---|---|---|---|
| Received: | 11/08/2022 | Sampling Date: | 11/08/2022 |
| Reported: | 11/09/2022 | Sampling Type: | Soil |
| Project Name: | RODKE AOY #1 | Sampling Condition: | Cool & Intact |
| Project Number: | 11230052 | Sample Received By: | Tamara Oldaker |
| Project Location: | EOG - ARTESIA, NM | | |

### Sample ID: CB - 1 ( 40' ) (H225264-02)

**BTEX 8021B** mg/kg Analyzed By: JH S-04

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Benzene*** | **0.678** | 0.050 | 11/08/2022 | ND | 1.90 | 94.9 | 2.00 | 2.91 | |
| **Toluene*** | **5.08** | 0.050 | 11/08/2022 | ND | 2.10 | 105 | 2.00 | 2.75 | |
| **Ethylbenzene*** | **8.33** | 0.050 | 11/08/2022 | ND | 1.95 | 97.3 | 2.00 | 3.33 | |
| **Total Xylenes*** | **6.97** | 0.150 | 11/08/2022 | ND | 5.87 | 97.8 | 6.00 | 3.07 | |
| **Total BTEX** | **21.1** | 0.300 | 11/08/2022 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *171 %* *69.9-140*

**Chloride, SM4500Cl-B** mg/kg Analyzed By: GM

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **624** | 16.0 | 11/08/2022 | ND | 416 | 104 | 400 | 3.92 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **GRO C6-C10*** | **20.1** | 10.0 | 11/09/2022 | ND | 181 | 90.4 | 200 | 7.48 | |
| **DRO >C10-C28*** | **183** | 10.0 | 11/09/2022 | ND | 210 | 105 | 200 | 6.11 | |
| **EXT DRO >C28-C36** | **29.2** | 10.0 | 11/09/2022 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *91.6 %* *45.3-161*

*Surrogate: 1-Chlorooctadecane* *99.8 %* *46.3-178*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

## Analytical Results For:

GHD SERVICES, INC.
JT MURREY
6121 INDIAN SCHOOL RD, NE STE. 200
ALBUQUERQUE NM, 87110
Fax To:

| | | | |
|---|---|---|---|
| Received: | 11/08/2022 | Sampling Date: | 11/08/2022 |
| Reported: | 11/09/2022 | Sampling Type: | Soil |
| Project Name: | RODKE AOY #1 | Sampling Condition: | Cool & Intact |
| Project Number: | 11230052 | Sample Received By: | Tamara Oldaker |
| Project Location: | EOG - ARTESIA, NM | | |

### Sample ID: CB - 1 ( 45' ) (H225264-03)

**BTEX 8021B** mg/kg Analyzed By: JH

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Benzene*** | **2.05** | 0.500 | 11/08/2022 | ND | 1.90 | 94.9 | 2.00 | 2.91 | |
| **Toluene*** | **18.5** | 0.500 | 11/08/2022 | ND | 2.10 | 105 | 2.00 | 2.75 | |
| **Ethylbenzene*** | **32.4** | 0.500 | 11/08/2022 | ND | 1.95 | 97.3 | 2.00 | 3.33 | |
| **Total Xylenes*** | **31.8** | 1.50 | 11/08/2022 | ND | 5.87 | 97.8 | 6.00 | 3.07 | |
| **Total BTEX** | **84.8** | 3.00 | 11/08/2022 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *136 %* *69.9-140*

**Chloride, SM4500Cl-B** mg/kg Analyzed By: GM

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **640** | 16.0 | 11/09/2022 | ND | 432 | 108 | 400 | 0.00 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **GRO C6-C10*** | **338** | 50.0 | 11/09/2022 | ND | 181 | 90.4 | 200 | 7.48 | |
| **DRO >C10-C28*** | **1870** | 50.0 | 11/09/2022 | ND | 210 | 105 | 200 | 6.11 | |
| **EXT DRO >C28-C36** | **242** | 50.0 | 11/09/2022 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *123 %* *45.3-161*

*Surrogate: 1-Chlorooctadecane* *154 %* *46.3-178*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

## Analytical Results For:

GHD SERVICES, INC.
JT MURREY
6121 INDIAN SCHOOL RD, NE STE. 200
ALBUQUERQUE NM, 87110
Fax To:

| | | | |
|---|---|---|---|
| Received: | 11/08/2022 | Sampling Date: | 11/08/2022 |
| Reported: | 11/09/2022 | Sampling Type: | Soil |
| Project Name: | RODKE AOY #1 | Sampling Condition: | Cool & Intact |
| Project Number: | 11230052 | Sample Received By: | Tamara Oldaker |
| Project Location: | EOG - ARTESIA, NM | | |

### Sample ID: CB - 1 ( 50' ) (H225264-04)

**BTEX 8021B** mg/kg Analyzed By: JH

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Benzene*** | **1.46** | 0.500 | 11/09/2022 | ND | 1.90 | 94.9 | 2.00 | 2.91 | |
| **Toluene*** | **11.2** | 0.500 | 11/09/2022 | ND | 2.10 | 105 | 2.00 | 2.75 | |
| **Ethylbenzene*** | **18.1** | 0.500 | 11/09/2022 | ND | 1.95 | 97.3 | 2.00 | 3.33 | |
| **Total Xylenes*** | **17.3** | 1.50 | 11/09/2022 | ND | 5.87 | 97.8 | 6.00 | 3.07 | |
| **Total BTEX** | **48.1** | 3.00 | 11/09/2022 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *123 %* *69.9-140*

**Chloride, SM4500Cl-B** mg/kg Analyzed By: GM

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **896** | 16.0 | 11/09/2022 | ND | 432 | 108 | 400 | 0.00 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **GRO C6-C10*** | **202** | 50.0 | 11/09/2022 | ND | 181 | 90.4 | 200 | 7.48 | |
| **DRO >C10-C28*** | **1060** | 50.0 | 11/09/2022 | ND | 210 | 105 | 200 | 6.11 | |
| **EXT DRO >C28-C36** | **138** | 50.0 | 11/09/2022 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *114 %* *45.3-161*

*Surrogate: 1-Chlorooctadecane* *132 %* *46.3-178*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

## Notes and Definitions

| | |
|---|---|
| S-04 | The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect. |
| QM-07 | The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery. |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| RPD | Relative Percent Difference |
| ** | Samples not received at proper temperature of 6°C or below. |
| *** | Insufficient time to reach temperature. |
| - | Chloride by SM4500Cl-B does not require samples be received at or below 6°C |
| | Samples reported on an as received basis (wet) unless otherwise noted on report |

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

# CARDINAL Laboratories

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

| | |
|---|---|
| Company Name: | GHD + EOG |
| Project Manager: | JT. Murrey@GHD.com |
| Address: | Amber_Griffin@EOGresources.com |
| City: | State: Zip: |
| Phone #: | Fax #: |
| Project #: | 11230052 Project Owner: Chase_Settle |
| Project Name: | Rodke AOY#1 @EOGresources.com |
| Project Location: | |
| Sampler Name: | Lee M |

**BILL TO**

| | |
|---|---|
| P.O. #: | |
| Company: | EOG |
| Attn: | |
| Address: | |
| City: | |
| State: | Zip: |
| Phone #: | |
| Fax #: | |

**ANALYSIS REQUEST**

| FOR LAB USE ONLY Lab I.D. | Sample I.D. | (G)RAB OR (C)OMP. | # CONTAINERS | MATRIX: GROUNDWATER | WASTEWATER | SOIL | OIL | SLUDGE | OTHER: | PRESERV.: ACID/BASE: | ICE / COOL | OTHER: | SAMPLING DATE | TIME | BTEX-8021b | TPH-Modified 8015 GRO/DRO/MRO | Chloride |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H225264 | | | | | | | | | | | | | | | | | |
| 1 | CB-1 (35') | G | 1 | | | X | | | | | | | 11/8/22 | 0810 | X | X | X |
| 2 | CB-1 (40') | ↓ | ↓ | | | ↓ | | | | | | | | 0820 | ↓ | ↓ | ↓ |
| 3 | CB-1 (45') | | | | | | | | | | | | | 0830 | | | |
| 4 | CB-1 (50') | | | | | | | | | | | | ↓ | 0840 | ↓ | ↓ | ↓ |

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

| | | | |
|---|---|---|---|
| Relinquished By: Lee M | Date: 11/8/22 Time: 1203 | Received By: Tamara Oldaker | Verbal Result: ☐ Yes ☐ No Add'l Phone #: |
| Relinquished By: | Date: Time: | Received By: | All Results are emailed. Please provide Email address: |
| | | | REMARKS: |

| | | | | |
|---|---|---|---|---|
| Delivered By: (Circle One) | Observed Temp. °C 36 | Sample Condition Cool ☑ Yes ☐ No Intact ☑ Yes ☐ No | CHECKED BY: (Initials) | Turnaround Time: Standard ☐ Rush ☒ |
| Sampler - UPS - Bus - Other: | Corrected Temp. °C 3.0 | | | Thermometer ID #113 Correction Factor -0.6°C |

Bacteria (only) Sample Condition Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No Observed Temp. °C Corrected Temp. °C

FORM-006 R 3.3 07/18/22

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

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



## CONDITIONS

| | |
|---|---|
| Operator:<br>EOG RESOURCES INC<br>P.O. Box 2267<br>Midland, TX 79702 | OGRID:<br>7377 |
| | Action Number:<br>158719 |
| | Action Type:<br>[C-141] Release Corrective Action (C-141) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| jnobui | Remediation Plan Approved with Conditions. Please track and report volumes of microbial strain injected into the subsurface. OCD recommends confirmation sampling occur 60 days after last injection event. Please advance confirmation soil borings adequately between injection points. | 12/13/2022 |