

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	nAPP2116941247
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) nAPP2116941247
Contact mailing address 104 S. 4th Street, Artesia, NM 88210	

Location of Release Source

Latitude 32.65187 Longitude -104.48327
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Rodke AOY #1	Site Type Battery
Date Release Discovered 06/09/2021	API# (if applicable) 30-015-28404

Unit Letter	Section	Township	Range	County
A	21	19S	25E	Eddy

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (Name: Jones, Jerome)

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 had corrosion damage that allowed the release of crude oil. Release volume and date are unknown.


State of New Mexico
Oil Conservation Division

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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?	<u>58.9</u> (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 type="checkbox"/> Yes <input checked="" 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

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Printed Name: Chase Settle Title: Rep Safety & Environmental Sr
Signature: Chase Settle Date: 03/14/2022
email: Chase_Settle@eogresources.com Telephone: 575-748-1471

OCD Only

Received by: _____ Date: _____

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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: Chase Settle Title: Rep Safety & Environmental Sr
Signature: Chase Settle Date: 03/14/2022
email: Chase_Settle@eogresources.com Telephone: 575-748-1471

OCD Only

Received by: _____ Date: _____

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

Signature: Jennifer Nobui Date: 03/18/2022

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

Our ref: 11230052

March 09, 2022

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

Re: **Site Characterization and Remediation Work Plan**
Rodke AOY #1 Release Site
EOG Resources Inc.
Incident ID: nAPP2116941247
G-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 Site Characterization and Remediation 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 Rodke AOY #1 Release Site (Site). The Site is located in Unit Letter A Section 21 of Township 19 South and Range 25 East in Eddy County, New Mexico. The GPS coordinates for the release site are 32.648394 N latitude and 104.488039 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 Assessment: Soil Analytical Results 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.

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).

On December 17, 2021, White Drilling Company (White) installed a soil boring at GPS Coordinates, 32.648031 N latitude and 104.488219 W longitude to approximately 60 feet below ground surface (bgs) which is located on the site. The well was left open for 72 hours and a water level meter was utilized to determine the presence or absence of groundwater. Groundwater was detected at 58.9 feet bgs, and the temporary well was plugged and abandoned. Depth to groundwater for this Site is between fifty-one (51) and one hundred (100) feet. No other receptors (water wells, playas, wetlands, waterways, lakebeds or ordinance boundaries) were located within each specific boundaries or distance from the Site. 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 with depth to groundwater between fifty-one (51) and one hundred (100) feet and meets the closure criteria for depth to groundwater between fifty-one (51) and one hundred (100) feet in Table 1 NMAC 19.15.29.12. The Site characterization documentation (White's Temporary Well Log, GHD Boring Log, 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	58.9

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

Constituent	Limits
Chloride	10,000 mg/kg
TPH (GRO+DRO+MRO)	2,500 mg/kg
TPH (GRO+DRO)	1,000 mg/kg
Benzene	10 mg/kg
BTEX	50 mg/kg

4. Initial Soil Delineation Assessment Summary and Findings

On July 19 through August 30, 2021, GHD Services Inc. (GHD) and EOG's contractor Culberson Construction Energy Services (CCI) installed eleven (11) test pits, TP1 through TP11, 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.

Two (2) of the eleven (11) test pits had samples exceeding applicable NMAC Table 1 Closure Criteria for groundwater less than fifty (50) feet: TP1-8, TP1-15, TP1-20, TP11-6 and TP11-15. 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 C.

On December 21, 2021, GHD and White installed a soil boring SB-1 to fifty (50) feet bgs in order to vertically delineate the area around TP-1. Soil samples were collected in approximate five (5) foot intervals beginning at five (5) feet bgs, from SB-1. All soil samples were analyzed for BTEX by EPA Method 8021B, TPH by Method 8015B Modified, and chloride by EPA Method 300 by HEAL in Albuquerque, New Mexico. Benzene, BTEX, and Total TPH concentrations were delineated to below 10 mg/kg, 50 mg/kg, and 2,500 mg/kg at fifty (50) feet bgs. The SB-1 Soil Boring Log is provided as Attachment B.

5. nAPP2116941247 Proposed Work Plan

Test pit TP-1 exhibited benzene, BTEX and Total TPH above Table 1 closure criteria at eight (8), fifteen (15), and twenty (20) feet bgs. Test pit TP-11 exhibited Total TPH above Table 1 closure criteria at six (6) feet bgs, with all remaining samples collected exhibiting no further concentrations above Table 1 criteria. Soil boring SB-1 exhibited exceedances above Table 1 closure criteria for benzene, BTEX, and/or Total TPH at five (5) to twenty (20) feet and forty (40) and forty-five (45) feet bgs. None of the other samples submitted for analysis exhibited exceedances above Table 1 closure criteria.

GHD, on behalf of EOG, proposes to excavate soils containing benzene, BTEX, Total TPH, and chloride concentrations over 10 mg/kg, 50 mg/kg, 100 mg/kg and 600 mg/kg, respectively, within the top four feet of the impacted area. Additionally, the area around TP-11 will be excavated to a depth of six (6) to ten (10) feet bgs depending on confirmation sample results, and TP-1/SB-1 will be excavated to a depth between twenty (20) and twenty-five (25) feet bgs depending on confirmation sample results. At the completion of confirmation sampling, if constituents are below Table 1 criteria, the site will be backfilled with non-impacted soil. If results are above Table 1 criteria, a microbial strain will be added to begin the bioremediation of the underlying hydrocarbon impacts, then the excavation will be backfilled with non-impacted soil prior to the setting of treatment wells.

After the TP-1/SB-1 area has been backfilled, a drill rig will be contracted to install soil treatment wells within this area to assist with the bioremediation and venting of the hydrocarbon impacts below twenty-five (25) feet bgs. One treatment well will be installed for every 100 square feet of impacted area to be remediated, this will be determined by confirmation sampling the bottom of the excavation and sidewalls of the TP-1/SB-1 area when it is excavated to 25 feet bgs. The wells will consist of two (2) inch pvc pipe with slotted well screen installed for the last 5-10 feet of the well, well depth will be staggered to ensure that the microbial product used to increase bioremediation makes contact with all areas that require treatment. The microbial strain will be absorbed into the surrounding soils, allowing for the digestion of organics and the breakdown of the hydrocarbons. The microbial strain will be injected into the wells every two (2) weeks for approximately twelve (12) weeks, totaling six (6) separate treatments. Thirty (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 five (5) foot increments with anticipated sampling to begin at thirty-five (35) feet bgs to a depth of fifty (50) feet bgs.

Composite confirmation samples will be collected from the sidewalls and bottom of the excavation from areas representing no larger than two hundred (200) square feet. Discrete soil samples will be collected from the sidewalls and bottom of the excavation if any staining is observed. All confirmation 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. Sidewall samples in the first four feet will meet Table 1 closure criteria for groundwater less than fifty (50) feet. After four (4) feet the closure criteria will revert back to Table 1 closure criteria for groundwater between fifty-one (51) to one hundred (100) feet.

Excavated soils will be transported to a NMOCD approved disposal facility for disposal. The anticipated volume of soil to be disposed of is approximately 800 cubic yards. The excavation will be backfilled with non-impacted soil transported to the site. The excavation portion of the Remediation Plan will be performed within 90 days after the work plan has been approved. If a driller isn't available within that time frame a request for an extension will be submitted to the NMOCD, the bioremediation portion of the Remediation Plan is scheduled to take 180 days, but more time may be required to adequately breakdown the hydrocarbon within the impacted soils therefore an update and extension of time may be required dependent on the speed of bioremediation. 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 three (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.

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

Sincerely,

GHD



Becky Haskell
Senior Project Manager



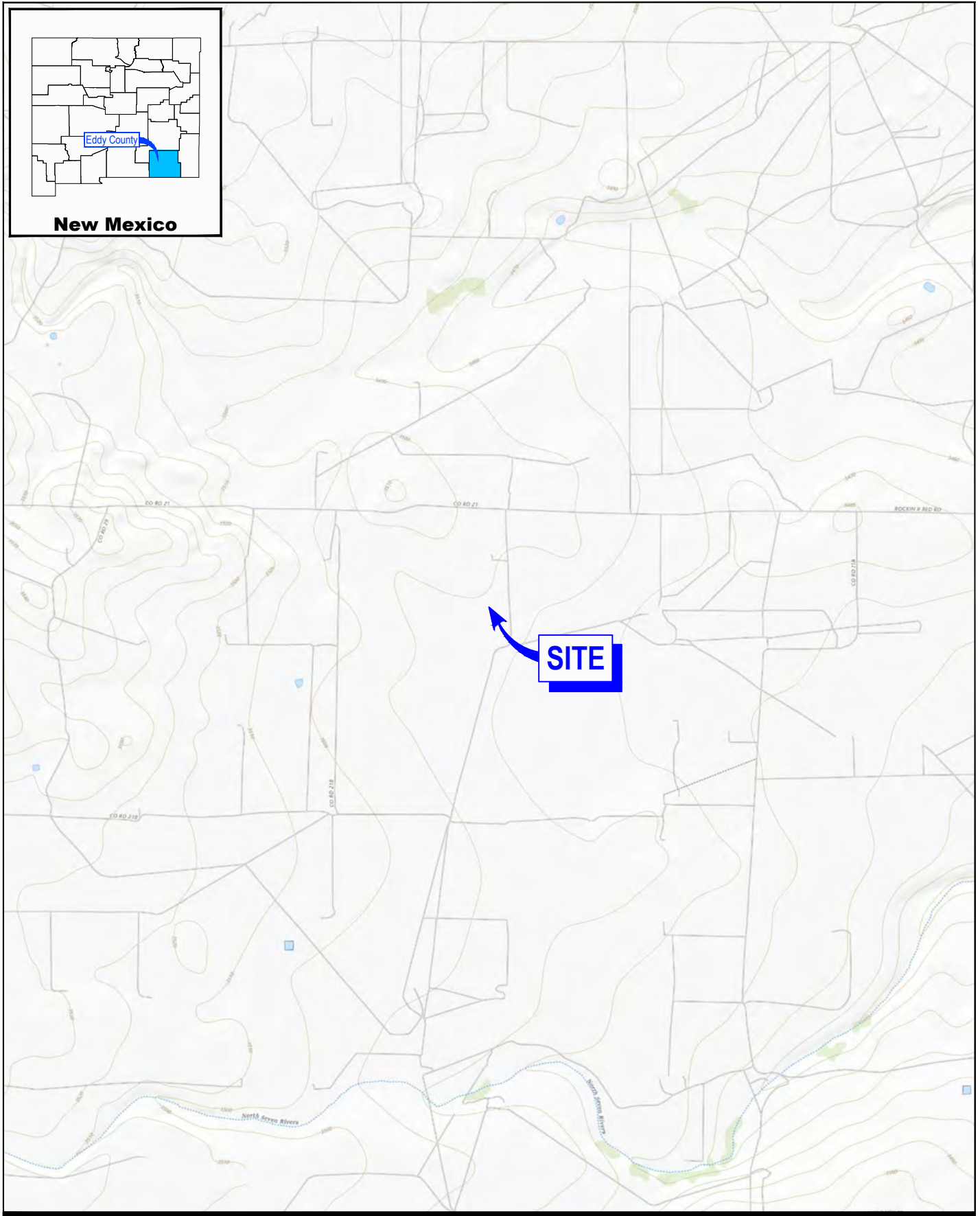
Nate Reece
Environmental Scientist

BH/NR/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 – SB-1 Soil Boring Log
 Attachment C – Laboratory Analytical Reports and Chain-of-Custody Documentation

cc: Chase Settle

Figures



EOG RESOURCES
EDDY COUNTY, NEW MEXICO
RODKE AOY #1

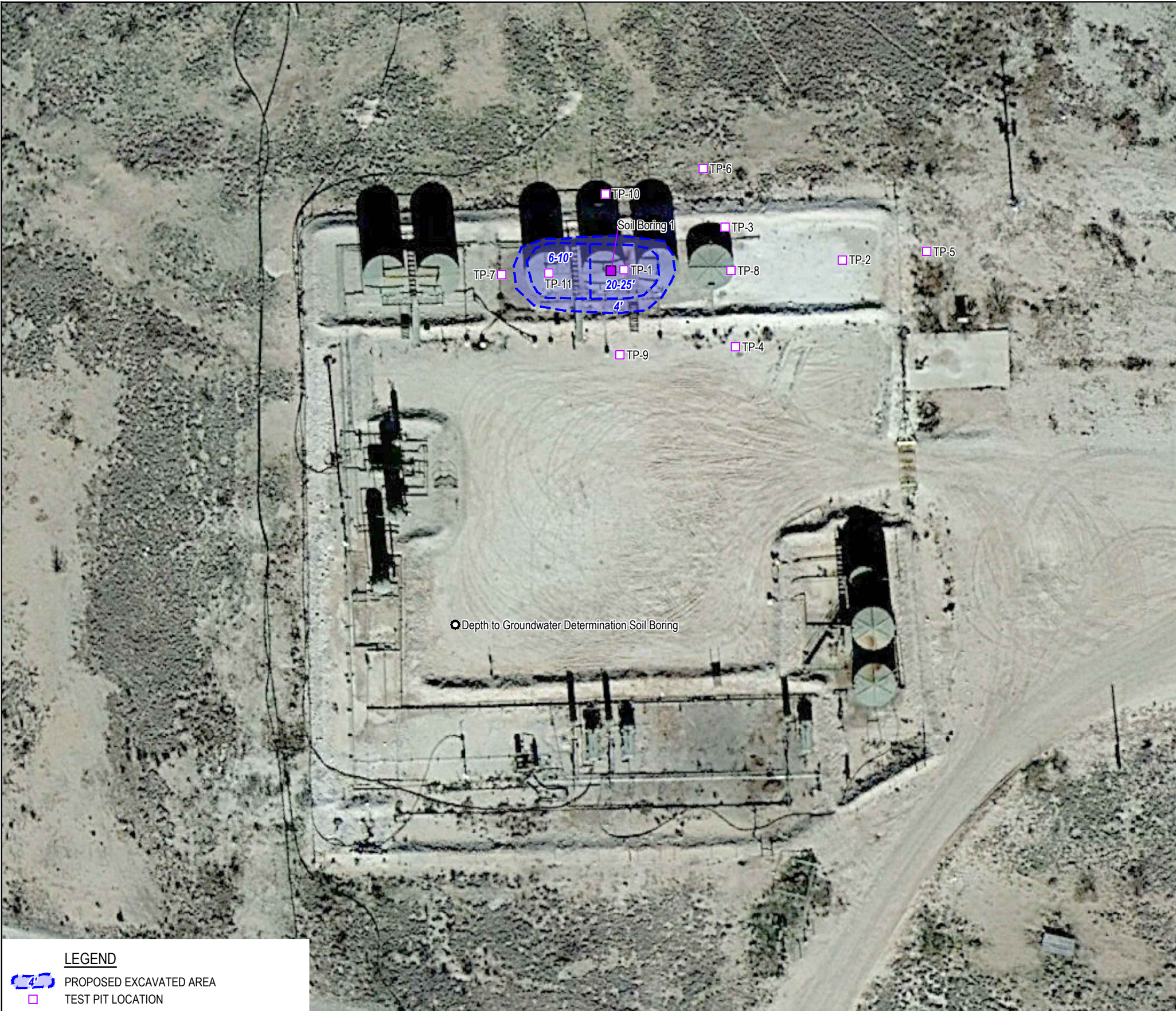
Project No. 11230052
Date December 2021

SITE LOCATION MAP

FIGURE 1

Filename: N:\USMidland\Projects\56211230052\Digital_Design\ACAD\Figures\RPT001\11230052-GHD-0000-RPT-EN-0101_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



PROPOSED EXCAVATED AREA

TEST PIT LOCATION

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)

LEGEND

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

Sample ID	Sample Date	Depth (feet bgs)	Benzene	BTEX	TPH	Chloride
					Total GRO/DRO/MRO	
			(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
			Table I Closure Criteria for Soils <50 feet Depth to Groundwater 19.15.29 NMAC			
10 mg/Kg	50 mg/Kg	2,500 mg/Kg	10,000 mg/Kg			
Initial Assessment Samples						
TP1-8	7/19/2021	8	300	1,450	19,600	8,300
TP1-15	7/19/2021	15	11	411	10,100	5,200
TP1-20	7/19/2021	20	29	539	13,300	4,200
TP2-2	7/19/2021	2	<0.025	<0.099	<50	<60
TP2-6	7/19/2021	6	<0.024	<0.095	<50	<60
TP3-2	7/19/2021	2	<0.025	<0.099	<44	590
TP3-4	7/19/2021	4	<0.024	<0.097	<44	300
TP3-7	7/19/2021	7	<0.024	<0.095	<43	93
TP4-S	7/20/21	Surface	<0.025	<0.10	<47	<60
TP4-2	7/20/21	2	<0.025	<0.10	<49	<60
TP5-S	7/20/21	Surface	<0.024	<0.097	<44	<60
TP5-2	7/20/21	2	<0.025	<0.099	<49	450
TP5-8	7/20/21	8	<0.025	<0.10	<44	390
TP5-14	7/20/21	14	<0.024	<0.098	<48	66
TP6-S	7/20/21	Surface	<0.025	<0.098	<49	<60
TP6-2	7/20/21	2	<0.025	<0.10	<47	91
TP7-S	8/30/21	Surface	<0.023	<0.093	<48	<61
TP7-2	8/30/21	2	<0.023	<0.093	<47	<60
TP8-S	8/30/21	Surface	<0.024	<0.095	<47	<60
TP8-2	8/30/21	2	<0.025	<0.098	<49	<60
TP9-S	8/30/21	Surface	<0.024	<0.095	<50	<60
TP9-2	8/30/21	2	<0.024	<0.095	<48	110
TP10-S	8/30/21	Surface	<0.024	<0.096	<50	<60
TP10-2	8/30/21	2	<0.024	<0.098	<50	<60
TP11-6	8/30/21	6	<0.49	<1.9	8,640	67
TP11-10	8/30/21	10	<0.024	<0.096	<48	87
TP11-12	8/30/21	12	<0.024	<0.096	<47	86
TP11-15	8/30/21	15	<0.023	<0.093	156	82
TP11-20	8/30/21	20	<0.023	<0.092	<50	200
Initial Assessment Samples						
SB-1-5'	12/21/2021	5	50	460	5,250	4,200
SB-1-10'	12/21/2021	10	6	176	6,200	4,900
SB-1-15'	12/21/2021	15	<0.48	46	6,380	2,900
SB-1-20'	12/21/2021	20	1.6	96.6	10,590	2,300
SB-1-25'	12/21/2021	25	0.046	1.436	164	71
SB-1-30'	12/21/2021	30	<0.024	2.6	1,340	120
SB-1-35'	12/21/2021	35	0.16	10.16	1,366	260
SB-1-40'	12/21/2021	40	3.8	66.8	1,130	290
SB-1-45'	12/21/2021	45	53	653	17,900	89
SB-1-50'	12/21/2021	50	0.074	0.074	<48	<60

Tables

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

Sample ID	Sample Date	Depth (feet bgs)	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	GRO(C6-C10)	DRO(C10-C28)	TPH MRO (C28-C35)	Total GRO/DRO/MRO	Chloride
			(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
			10 mg/Kg	---	---	---	50 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
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

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

Sample ID	Sample Date	Depth (feet bgs)	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	GRO(C6-C10)	TPH		Total GRO/DRO/MRO	Chloride
			(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	DRO(C10-C28)	MRO (C28-C35)	(mg/Kg)	(mg/Kg)
			10 mg/Kg	---	---	---	50 mg/Kg	---	---	---	2,500 mg/Kg	10,000 mg/Kg
Initial Assessment 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

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. 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)

B-BH-2

Sample Point Excavated

Attachment A

Site Characterization Documentation



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) RA-13122 POD 2 (DTW)		WELL TAG ID NO.		OSE FILE NO(S). RA-13122			
	WELL OWNER NAME(S) EOG Resources Inc.				PHONE (OPTIONAL) 575-703-6537			
	WELL OWNER MAILING ADDRESS 105 S. 4th Street				CITY Artesia	STATE NM	ZIP 88210	
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32	MINUTES 38	SECONDS 52.91 N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND			
		LONGITUDE 104	29	17.59 W	* DATUM REQUIRED: WGS 84			
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE Rodke AOY								
2. DRILLING & CASING INFORMATION	LICENSE NO. WD-1456		NAME OF LICENSED DRILLER John W. White			NAME OF WELL DRILLING COMPANY White Drilling Company, Inc.		
	DRILLING STARTED 12/17/2021		DRILLING ENDED 12/21/2021		DEPTH OF COMPLETED WELL (FT)		BORE HOLE DEPTH (FT) 60.0	
					DEPTH WATER FIRST ENCOUNTERED (FT) 55.5			
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input type="checkbox"/> DRY HOLE <input checked="" type="checkbox"/> SHALLOW (UNCONFINED)						STATIC WATER LEVEL IN COMPLETED WELL (FT) 55.5	
	DRILLING FLUID: <input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:							
	DEPTH (feet bgl)		BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
	FROM	TO						
	0.0	60.0	6.0	Type 1 Cement-Bentonite Slurry	11.77	Pump Mix w/Trimie Pipe		

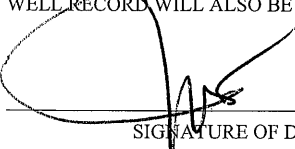
FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 04/30/19)

FILE NO.	POD NO.	TRN NO.
LOCATION	WELL TAG ID NO.	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
	FROM	TO				
	0.0	1.0	1.0	Gravel w/brown sand	Y ✓ N	
	1.0	9.0	8.0	Brown sandy clay	Y ✓ N	
	9.0	11.0	2.0	Gravel w/sand	Y ✓ N	
	11.0	18.0	7.0	Brown clay	Y ✓ N	
	18.0	35.0	17.0	Gravel	Y ✓ N	
	35.0	40.0	5.0	Brown sand/clayey sand	Y ✓ N	
	40.0	50.0	10.0	Green brown sand	Y ✓ N	
	50.0	60.0	10.0	Red brown clayey sand	✓ Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:					TOTAL ESTIMATED WELL YIELD (gpm):	
<input type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER - SPECIFY:					0.00	

5. TEST; RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.
	MISCELLANEOUS INFORMATION:	
	PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE: William B. Atkins	

6. SIGNATURE	BY SIGNING BELOW, I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAS BEEN INSTALLED AND THAT THIS WELL RECORD WILL ALSO BE FILED WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPLETION OF WELL DRILLING.
	<div style="display: flex; justify-content: space-between;"> <div>  _____ SIGNATURE OF DRILLER / PRINT SIGNEE NAME </div> <div> John W. White _____ DATE </div> </div>

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 04/30/2019)

FILE NO.	POD NO.	TRN NO.
LOCATION	WELL TAG ID NO.	PAGE 2 OF 2



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: Rodke AOY #1

HOLE DESIGNATION: DTW Well

PROJECT NUMBER: 11230052

DATE COMPLETED: December 17, 2021

CLIENT: EOG Resources

DRILLING METHOD: Air Rotary/Split Spoons

LOCATION: Artesia, New Mexico

FIELD PERSONNEL: L. Mullins

DRILLING CONTRACTOR: White Drilling Company, Inc.

DRILLER: B. Atkins

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH BGS	SOIL BORING	SAMPLE				
				NUMBER	INTERVAL	REC (%)	CHLORIDE (mg/kg)	
5	SM-SILTY SAND, dark brown, dry							
10								
13.00	CL-SILTY CLAY, light brown, dry	13.00						
18.00	GP-GRAVEL	18.00						
21.00	CL-SILTY CLAY, light brown, dry	21.00						
25								
30								
35.00	CL-SILTY CLAY, reddish brown, dry	35.00						
40								
42.00	SP-SAND, fine to medium grained, light brown, slightly moist	42.00						
45.00	CL-SANDY CLAY, with consolidated sandstone interbedded throughout, reddish brown, moist	45.00						
50								
55	- wet at 55.50ft BGS							
60.00	END OF BOREHOLE @ 60.00ft BGS	60.00						
Gauged depth to water of DTW Well 72 hours later: 58.9 ft BGS.								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ☒ 12/17/2021

File: I:\LOG DATABASE\8-CHAR\11-----\1123-----\11230052 RODKE\11230052-CO.GPJ **Library File:** GHD ENVIRO V06.GLB **Report:** OVERBURDEN LOG **Date:** 1/14/22

OSE PUBLIC PRINT



10/20/2021, 11:22:43 AM

GIS WATERS PODs  OSE District Boundary  SiteBoundaries

● Active New Mexico State Trust Lands
● Pending Both Estates

1:18,056

A number line with two scales. The top scale is labeled in miles (mi) with major tick marks at 0, 0.17, 0.35, and 0.7. The bottom scale is labeled in kilometers (km) with major tick marks at 0, 0.3, 0.6, and 1.2. The scales are aligned such that 0.17 miles corresponds to 0.3 kilometers, 0.35 miles corresponds to 0.6 kilometers, and 0.7 miles corresponds to 1.2 kilometers.

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

Legend

- High
- Low
- Medium
- Rodke AOY #1

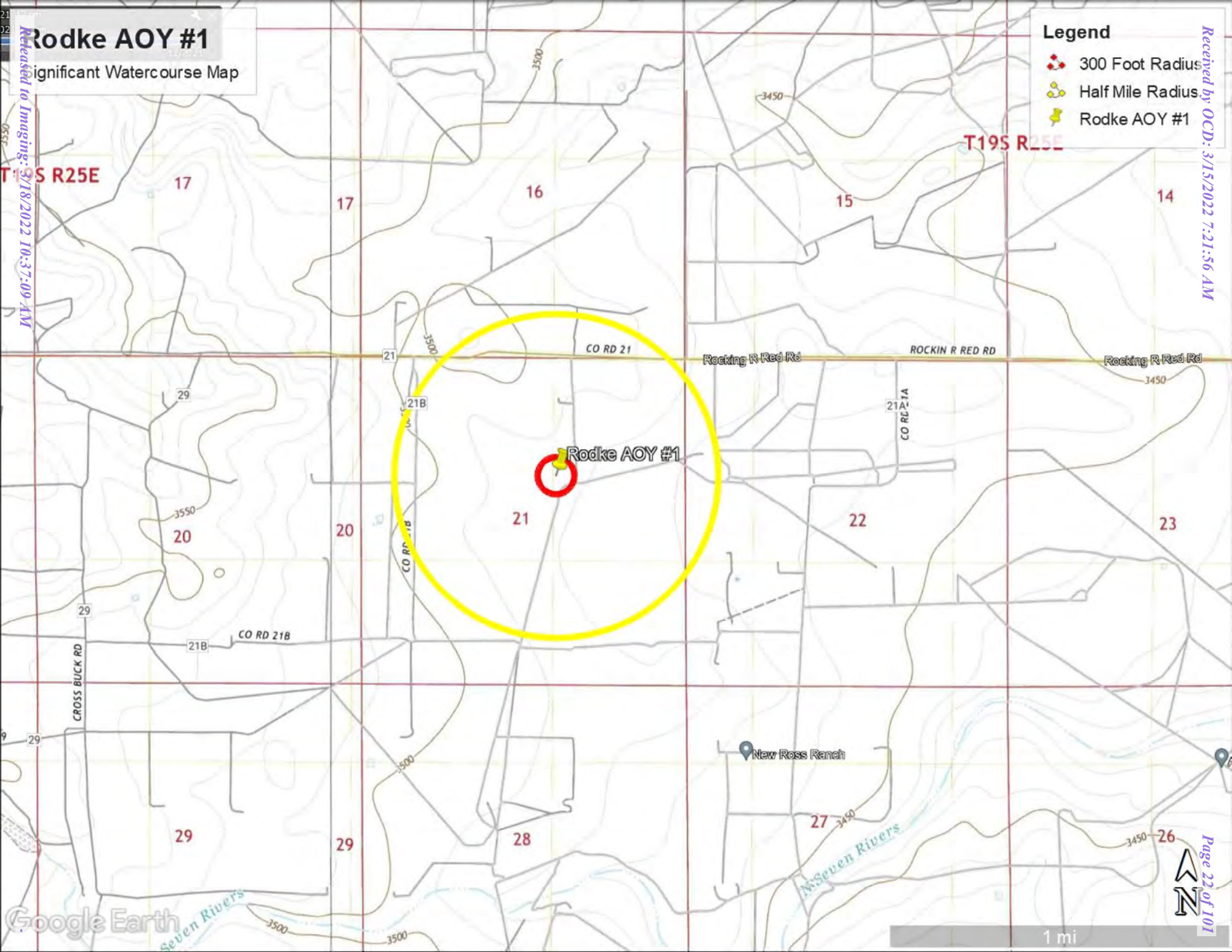


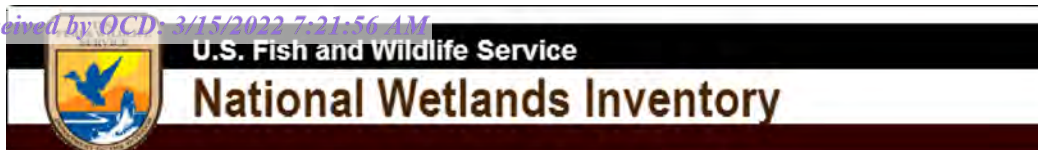
Acquisito il 11/08/2022 10:31:00 AM

aging: 3/18/2022 10:37:09 AM

- 300 Foot Radius
- Half Mile Radius
- Rodke AOY #1

Received by OCD: 3/15/2022 7:21:56 AM










Rodke AOY #1 Wetlands Map




December 13, 2021

Wetlands

-  Estuarine and Marine Deepwater
-  Estuarine and Marine Wetland

-  Freshwater Emergent Wetland
-  Freshwater Forested/Shrub Wetland
-  Freshwater Pond

-  Lake
-  Other
-  Riverine

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

National Flood Hazard Layer FIRMette



104°29'36"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
		Area with Flood Risk due to Levee Zone D
		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		Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped

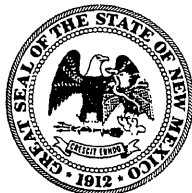
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

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 12/13/2021 at 12:35 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

Attachment B SB-1 Soil Boring Log



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

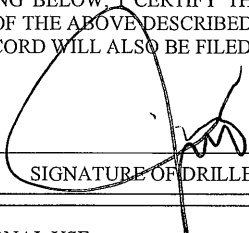
www.ose.state.nm.us

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) RA-13122 POD 1 (SB-1)		WELL TAG ID NO.		OSE FILE NO(S). RA-13122			
	WELL OWNER NAME(S) EOG Resources Inc.				PHONE (OPTIONAL) 575-703-6537			
	WELL OWNER MAILING ADDRESS 105 S. 4th Street				CITY Artesia	STATE NM	ZIP 88210	
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32	MINUTES 38	SECONDS 54.13 N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND			
		LONGITUDE 104	29	17.03 W	* DATUM REQUIRED: WGS 84			
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE Rodke AOY								
2. DRILLING & CASING INFORMATION	LICENSE NO. WD-1456		NAME OF LICENSED DRILLER John W. White			NAME OF WELL DRILLING COMPANY White Drilling Company, Inc.		
	DRILLING STARTED 12/21/2021	DRILLING ENDED 12/21/2021	DEPTH OF COMPLETED WELL (FT)		BORE HOLE DEPTH (FT) 50.0	DEPTH WATER FIRST ENCOUNTERED (FT) DRY		
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input checked="" type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)					STATIC WATER LEVEL IN COMPLETED WELL (FT) DRY		
	DRILLING FLUID: <input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:							
	DEPTH (feet bgl)		BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
	FROM	TO						
	0.0	50.0	6.0	Type 1 Cement-Bentonite Slurry	9.81	Pump Mix w/Trimie Pipe		

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 04/30/19)

FILE NO.	POD NO.	TRN NO.
LOCATION		WELL TAG ID NO.
		PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
	FROM	TO				
	0.0	0.5	0.5	Gravel w/brown sand	Y ✓ N	
	0.5	3.0	2.5	HC stained clay	Y ✓ N	
	3.0	9.0	7.0	Brown sandy clay	Y ✓ N	
	9.0	11.0	2.0	Brown clay w/gravel	Y ✓ N	
	11.0	21.0	10.0	Gravel w/brown sand	Y ✓ N	
	21.0	23.0	2.0	HC stained clay	Y ✓ N	
	23.0	26.0	3.0	Brown sandy clay	Y ✓ N	
	26.0	30.5	4.5	Gravel w/brown sand	Y ✓ N	
	30.5	31.0	0.5	Brown sand/sandstone	Y ✓ N	
	31.0	32.0	1.0	Gray stained clay	Y ✓ N	
	32.0	38.0	6.0	Red brown sandy clay	Y ✓ N	
	38.0	43.0	5.0	Green gray silty sandy clay	Y ✓ N	
	43.0	50.0	7.0	Brown sand/sandstone	Y ✓ N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:					TOTAL ESTIMATED WELL YIELD (gpm): 0.00	
<input type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER – SPECIFY:						
5. TEST, RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.				
	MISCELLANEOUS INFORMATION: Hydrocarbon present					
	PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE: William B. Atkins					
6. SIGNATURE	BY SIGNING BELOW, I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAS BEEN INSTALLED AND THAT THIS WELL RECORD WILL ALSO BE FILED WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPLETION OF WELL DRILLING.					
	 _____ SIGNATURE OF DRILLER / PRINT SIGNEE NAME				_____ 01/04/2022 DATE	
FOR OSE INTERNAL USE						
FILE NO.		POD NO.		WR-20 WELL RECORD & LOG (Version 04/30/2019)		
LOCATION		WELL TAG ID NO.			PAGE 2 OF 2	



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: Rodke AOY #1

HOLE DESIGNATION: SB-1

PROJECT NUMBER: 11230052

DATE COMPLETED: December 21, 2021

CLIENT: EOG Resources

DRILLING METHOD: Air Rotary/Split Spoons

LOCATION: Artesia, New Mexico

FIELD PERSONNEL: L. Mullins

DRILLING CONTRACTOR: White Drilling Company, Inc.

DRILLER: B. Atkins

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH BGS	SOIL BORING	SAMPLE				
				NUMBER	INTERVAL	REC (%)	CHLORIDE (mg/kg)	TOTAL TPH (mg/kg)
5	CL-SILTY CLAY, with gravel interbedded throughout, dark brown and gray, dry			5'		100	4000	5300
10	GP-GRAVEL, with silt	9.00		10'		100	5500	6200
15				15'		100	2900	6400
20				20'		100	2400	11000
25	CL-SANDY CLAY, with gravel, light brown	23.00		25'		100	71	160
	GP-GRAVEL, with silt	26.00		30'		100	120	1300
30	CL-SILTY CLAY, light brown and red, dry	30.00		35'		100	260	1400
35				40'		100	290	1100
40	SM-SILTY SAND, light brown, slightly moist	42.00		45'		100	89	18000
45	SP-SAND, fine to medium grained, light brown, slightly moist	45.00		50'		100	<60	<48
50	END OF BOREHOLE @ 50.00ft BGS	50.00						

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

CHEMICAL ANALYSIS



File: I:\LOG DATABASE\8-CHAR\11-1123-11230052 RODKE11230052-00.GPJ Library File: GHD_ENV\RO_V06.GLB Report: OVERBURDEN LOG Date: 1/14/22

Attachment C

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: Rodke AOY 1

OrderNo.: 2107A08

Dear Becky Haskell:

Hall Environmental Analysis Laboratory received 9 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 light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 2107A08

Date Reported: 7/29/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP1-8

Project: Rodke AOY 1

Collection Date: 7/19/2021 1:00:00 PM

Lab ID: 2107A08-001

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	8300	300		mg/Kg	100	7/27/2021 8:12:21 AM	61562
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	9300	200		mg/Kg	20	7/22/2021 4:57:44 PM	61471
Motor Oil Range Organics (MRO)	3600	1000		mg/Kg	20	7/22/2021 4:57:44 PM	61471
Surr: DNOP	0	70-130	S	%Rec	20	7/22/2021 4:57:44 PM	61471
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	6700	240		mg/Kg	50	7/23/2021 11:30:12 AM	61466
Surr: BFB	308	70-130	S	%Rec	50	7/23/2021 11:30:12 AM	61466
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	300	4.7		mg/Kg	200	7/23/2021 4:14:40 PM	61466
Toluene	640	9.4		mg/Kg	200	7/23/2021 4:14:40 PM	61466
Ethylbenzene	260	9.4		mg/Kg	200	7/23/2021 4:14:40 PM	61466
Xylenes, Total	250	4.7		mg/Kg	50	7/23/2021 11:30:12 AM	61466
Surr: 4-Bromofluorobenzene	149	70-130	S	%Rec	50	7/23/2021 11:30:12 AM	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		

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Analytical Report

Lab Order 2107A08

Date Reported: 7/29/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP1-15

Project: Rodke AOY 1

Collection Date: 7/19/2021 1:30:00 PM

Lab ID: 2107A08-002

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	5200	300		mg/Kg	100	7/27/2021 8:49:35 AM	61562
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	5600	190		mg/Kg	20	7/22/2021 5:21:33 PM	61471
Motor Oil Range Organics (MRO)	2300	970		mg/Kg	20	7/22/2021 5:21:33 PM	61471
Surr: DNOP	0	70-130	S	%Rec	20	7/22/2021 5:21:33 PM	61471
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	2200	230		mg/Kg	50	7/23/2021 11:53:52 AM	61466
Surr: BFB	242	70-130	S	%Rec	50	7/23/2021 11:53:52 AM	61466
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	11	1.2		mg/Kg	50	7/23/2021 11:53:52 AM	61466
Toluene	160	2.3		mg/Kg	50	7/23/2021 11:53:52 AM	61466
Ethylbenzene	120	2.3		mg/Kg	50	7/23/2021 11:53:52 AM	61466
Xylenes, Total	120	4.6		mg/Kg	50	7/23/2021 11:53:52 AM	61466
Surr: 4-Bromofluorobenzene	128	70-130		%Rec	50	7/23/2021 11:53:52 AM	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 2107A08

Date Reported: 7/29/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP1-20

Project: Rodke AOY 1

Collection Date: 7/19/2021 2:15:00 PM

Lab ID: 2107A08-003

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	4200	150		mg/Kg	50	7/27/2021 9:02:00 AM	61562
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	7200	180		mg/Kg	20	7/22/2021 5:45:22 PM	61471
Motor Oil Range Organics (MRO)	2900	900		mg/Kg	20	7/22/2021 5:45:22 PM	61471
Surr: DNOP	0	70-130	S	%Rec	20	7/22/2021 5:45:22 PM	61471
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	3200	480		mg/Kg	100	7/23/2021 12:17:29 PM	61466
Surr: BFB	192	70-130	S	%Rec	100	7/23/2021 12:17:29 PM	61466
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	29	2.4		mg/Kg	100	7/23/2021 12:17:29 PM	61466
Toluene	210	4.8		mg/Kg	100	7/23/2021 12:17:29 PM	61466
Ethylbenzene	140	4.8		mg/Kg	100	7/23/2021 12:17:29 PM	61466
Xylenes, Total	160	9.6		mg/Kg	100	7/23/2021 12:17:29 PM	61466
Surr: 4-Bromofluorobenzene	116	70-130		%Rec	100	7/23/2021 12:17:29 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 2107A08

Date Reported: 7/29/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP2-2

Project: Rodke AOY 1

Collection Date: 7/19/2021 3:00:00 PM

Lab ID: 2107A08-004

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 12:31:50 AM	61562
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/22/2021 9:43:34 PM	61471
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/22/2021 9:43:34 PM	61471
Surr: DNOP	131	70-130	S	%Rec	1	7/22/2021 9:43:34 PM	61471
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/23/2021 4:38:14 PM	61466
Surr: BFB	94.1	70-130		%Rec	1	7/23/2021 4:38:14 PM	61466
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	7/23/2021 4:38:14 PM	61466
Toluene	ND	0.050		mg/Kg	1	7/23/2021 4:38:14 PM	61466
Ethylbenzene	ND	0.050		mg/Kg	1	7/23/2021 4:38:14 PM	61466
Xylenes, Total	ND	0.099		mg/Kg	1	7/23/2021 4:38:14 PM	61466
Surr: 4-Bromofluorobenzene	96.0	70-130		%Rec	1	7/23/2021 4:38:14 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		

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Analytical Report

Lab Order 2107A08

Date Reported: 7/29/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP2-6

Project: Rodke AOY 1

Collection Date: 7/19/2021 3:15:00 PM

Lab ID: 2107A08-005

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 1:09:05 AM	61562
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/22/2021 8:32:19 PM	61471
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/22/2021 8:32:19 PM	61471
Surr: DNOP	111	70-130		%Rec	1	7/22/2021 8:32:19 PM	61471
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	7/23/2021 5:01:43 PM	61466
Surr: BFB	93.7	70-130		%Rec	1	7/23/2021 5:01:43 PM	61466
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	7/23/2021 5:01:43 PM	61466
Toluene	ND	0.047		mg/Kg	1	7/23/2021 5:01:43 PM	61466
Ethylbenzene	ND	0.047		mg/Kg	1	7/23/2021 5:01:43 PM	61466
Xylenes, Total	ND	0.095		mg/Kg	1	7/23/2021 5:01:43 PM	61466
Surr: 4-Bromofluorobenzene	95.2	70-130		%Rec	1	7/23/2021 5:01:43 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 2107A08

Date Reported: 7/29/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP3-2

Project: Rodke AOY 1

Collection Date: 7/19/2021 3:40:00 PM

Lab ID: 2107A08-006

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	590	60		mg/Kg	20	7/27/2021 1:21:30 AM	61562
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	7/22/2021 8:56:03 PM	61471
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	7/22/2021 8:56:03 PM	61471
Surr: DNOP	111	70-130		%Rec	1	7/22/2021 8:56:03 PM	61471
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/23/2021 5:25:10 PM	61466
Surr: BFB	92.0	70-130		%Rec	1	7/23/2021 5:25:10 PM	61466
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	7/23/2021 5:25:10 PM	61466
Toluene	ND	0.049		mg/Kg	1	7/23/2021 5:25:10 PM	61466
Ethylbenzene	ND	0.049		mg/Kg	1	7/23/2021 5:25:10 PM	61466
Xylenes, Total	ND	0.099		mg/Kg	1	7/23/2021 5:25:10 PM	61466
Surr: 4-Bromofluorobenzene	93.2	70-130		%Rec	1	7/23/2021 5:25:10 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		

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Analytical Report

Lab Order 2107A08

Date Reported: 7/29/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP3-4

Project: Rodke AOY 1

Collection Date: 7/19/2021 3:45:00 PM

Lab ID: 2107A08-007

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	300	60		mg/Kg	20	7/27/2021 1:33:55 AM	61562
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	7/22/2021 9:19:50 PM	61471
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	7/22/2021 9:19:50 PM	61471
Surr: DNOP	115	70-130		%Rec	1	7/22/2021 9:19:50 PM	61471
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/23/2021 5:48:46 PM	61466
Surr: BFB	92.4	70-130		%Rec	1	7/23/2021 5:48:46 PM	61466
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	7/23/2021 5:48:46 PM	61466
Toluene	ND	0.049		mg/Kg	1	7/23/2021 5:48:46 PM	61466
Ethylbenzene	ND	0.049		mg/Kg	1	7/23/2021 5:48:46 PM	61466
Xylenes, Total	ND	0.097		mg/Kg	1	7/23/2021 5:48:46 PM	61466
Surr: 4-Bromofluorobenzene	94.2	70-130		%Rec	1	7/23/2021 5:48:46 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		

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Analytical Report

Lab Order 2107A08

Date Reported: 7/29/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP3-7

Project: Rodke AOY 1

Collection Date: 7/19/2021 3:50:00 PM

Lab ID: 2107A08-008

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	93	60		mg/Kg	20	7/27/2021 1:46:20 AM	61562
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	ND	8.5		mg/Kg	1	7/22/2021 10:07:19 PM	61471
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	7/22/2021 10:07:19 PM	61471
Surr: DNOP	116	70-130		%Rec	1	7/22/2021 10:07:19 PM	61471
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/23/2021 6:12:16 PM	61466
Surr: BFB	92.7	70-130		%Rec	1	7/23/2021 6:12:16 PM	61466
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	7/23/2021 6:12:16 PM	61466
Toluene	ND	0.048		mg/Kg	1	7/23/2021 6:12:16 PM	61466
Ethylbenzene	ND	0.048		mg/Kg	1	7/23/2021 6:12:16 PM	61466
Xylenes, Total	ND	0.095		mg/Kg	1	7/23/2021 6:12:16 PM	61466
Surr: 4-Bromofluorobenzene	95.1	70-130		%Rec	1	7/23/2021 6:12:16 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		

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QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2107A08

29-Jul-21

Client: GHD Midland**Project:** Rodke AOY 1

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			

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#: 2107A08

29-Jul-21

Client: GHD Midland**Project:** Rodke AOY 1

Sample ID: MB-61471	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 61471	RunNo: 80001								
Prep Date: 7/21/2021	Analysis Date: 7/22/2021	SeqNo: 2815049	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		111	70	130			

Sample ID: LCS-61471	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 61471	RunNo: 80001								
Prep Date: 7/21/2021	Analysis Date: 7/22/2021	SeqNo: 2815051	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	95.7	68.9	141			
Surr: DNOP	3.8		5.000		76.6	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#: 2107A08

29-Jul-21

Client: GHD Midland**Project:** Rodke AOY 1

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: lcs-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			

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#: 2107A08

29-Jul-21

Client: GHD Midland**Project:** Rodke AOY 1

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			

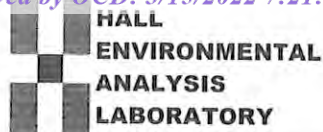
Sample ID: LCS-61466	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 61466	RunNo: 80051								
Prep Date: 7/21/2021	Analysis Date: 7/23/2021	SeqNo: 2816769	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	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			

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

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

Sample Log-In Check List

Client Name: **GHD Midland**Work Order Number: **2107A08**

RcptNo: 1

Received By: **Desiree Dominguez**

7/21/2021 7:50:00 AM

ID₂Completed By: **Desiree Dominguez**

7/21/2021 9:08:13 AM

ID₂

Reviewed By:

JA 7/21/21

Chain of Custody

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

Log In

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

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted?

Checked by: TMC 7-21-21

Special Handling (if applicable)

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

Person Notified:

Date:

By Whom:

Via:

☐ eMail☐ Phone☐ Fax☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.4	Good				



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

July 28, 2021

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

RE: Rodke AOY 1

OrderNo.: 2107A89

Dear Becky Haskell:

Hall Environmental Analysis Laboratory received 8 sample(s) on 7/22/2021 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 light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 2107A89

Date Reported: 7/28/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP4-S

Project: Rodke AOY 1

Collection Date: 7/20/2021 1:15:00 PM

Lab ID: 2107A89-001

Matrix: SOIL

Received Date: 7/22/2021 7:30:00 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 12:44:59 AM	61561
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: CLP
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	7/23/2021 1:37:58 PM	61499
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/23/2021 1:37:58 PM	61499
Surr: DNOP	110	70-130		%Rec	1	7/23/2021 1:37:58 PM	61499
EPA METHOD 8015D: GASOLINE RANGE							Analyst: mb
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/24/2021 8:15:00 AM	61496
Surr: BFB	126	70-130		%Rec	1	7/24/2021 8:15:00 AM	61496
EPA METHOD 8021B: VOLATILES							Analyst: mb
Benzene	ND	0.025		mg/Kg	1	7/24/2021 8:15:00 AM	61496
Toluene	ND	0.050		mg/Kg	1	7/24/2021 8:15:00 AM	61496
Ethylbenzene	ND	0.050		mg/Kg	1	7/24/2021 8:15:00 AM	61496
Xylenes, Total	ND	0.10		mg/Kg	1	7/24/2021 8:15:00 AM	61496
Surr: 4-Bromofluorobenzene	117	70-130		%Rec	1	7/24/2021 8:15:00 AM	61496

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 2107A89

Date Reported: 7/28/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP4-2

Project: Rodke AOY 1

Collection Date: 7/20/2021 1:20:00 PM

Lab ID: 2107A89-002

Matrix: SOIL

Received Date: 7/22/2021 7:30:00 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 12:57:24 AM	61561
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: CLP
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/23/2021 1:47:57 PM	61499
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/23/2021 1:47:57 PM	61499
Surr: DNOP	121	70-130		%Rec	1	7/23/2021 1:47:57 PM	61499
EPA METHOD 8015D: GASOLINE RANGE							Analyst: mb
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/24/2021 8:34:00 AM	61496
Surr: BFB	112	70-130		%Rec	1	7/24/2021 8:34:00 AM	61496
EPA METHOD 8021B: VOLATILES							Analyst: mb
Benzene	ND	0.025		mg/Kg	1	7/24/2021 8:34:00 AM	61496
Toluene	ND	0.050		mg/Kg	1	7/24/2021 8:34:00 AM	61496
Ethylbenzene	ND	0.050		mg/Kg	1	7/24/2021 8:34:00 AM	61496
Xylenes, Total	ND	0.10		mg/Kg	1	7/24/2021 8:34:00 AM	61496
Surr: 4-Bromofluorobenzene	113	70-130		%Rec	1	7/24/2021 8:34:00 AM	61496

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 2107A89

Date Reported: 7/28/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP5-S

Project: Rodke AOY 1

Collection Date: 7/20/2021 1:40:00 PM

Lab ID: 2107A89-003

Matrix: SOIL

Received Date: 7/22/2021 7:30:00 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 1:09:48 AM	61561
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: CLP
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	7/23/2021 1:57:56 PM	61499
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	7/23/2021 1:57:56 PM	61499
Surr: DNOP	130	70-130		%Rec	1	7/23/2021 1:57:56 PM	61499
EPA METHOD 8015D: GASOLINE RANGE							Analyst: mb
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/24/2021 8:54:00 AM	61496
Surr: BFB	116	70-130		%Rec	1	7/24/2021 8:54:00 AM	61496
EPA METHOD 8021B: VOLATILES							Analyst: mb
Benzene	ND	0.024		mg/Kg	1	7/24/2021 8:54:00 AM	61496
Toluene	ND	0.049		mg/Kg	1	7/24/2021 8:54:00 AM	61496
Ethylbenzene	ND	0.049		mg/Kg	1	7/24/2021 8:54:00 AM	61496
Xylenes, Total	ND	0.097		mg/Kg	1	7/24/2021 8:54:00 AM	61496
Surr: 4-Bromofluorobenzene	116	70-130		%Rec	1	7/24/2021 8:54:00 AM	61496

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 2107A89

Date Reported: 7/28/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP5-2

Project: Rodke AOY 1

Collection Date: 7/20/2021 1:50:00 PM

Lab ID: 2107A89-004

Matrix: SOIL

Received Date: 7/22/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	450	60		mg/Kg	20	7/27/2021 1:22:13 AM	61561
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: CLP
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/23/2021 2:07:55 PM	61499
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/23/2021 2:07:55 PM	61499
Surr: DNOP	109	70-130		%Rec	1	7/23/2021 2:07:55 PM	61499
EPA METHOD 8015D: GASOLINE RANGE							Analyst: mb
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/24/2021 9:14:00 AM	61496
Surr: BFB	112	70-130		%Rec	1	7/24/2021 9:14:00 AM	61496
EPA METHOD 8021B: VOLATILES							Analyst: mb
Benzene	ND	0.025		mg/Kg	1	7/24/2021 9:14:00 AM	61496
Toluene	ND	0.050		mg/Kg	1	7/24/2021 9:14:00 AM	61496
Ethylbenzene	ND	0.050		mg/Kg	1	7/24/2021 9:14:00 AM	61496
Xylenes, Total	ND	0.099		mg/Kg	1	7/24/2021 9:14:00 AM	61496
Surr: 4-Bromofluorobenzene	112	70-130		%Rec	1	7/24/2021 9:14:00 AM	61496

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		

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Analytical Report

Lab Order 2107A89

Date Reported: 7/28/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP6-S

Project: Rodke AOY 1

Collection Date: 7/20/2021 2:00:00 PM

Lab ID: 2107A89-005

Matrix: SOIL

Received Date: 7/22/2021 7:30:00 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 1:34:37 AM	61561
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/24/2021 4:39:51 PM	61499
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/24/2021 4:39:51 PM	61499
Surr: DNOP	104	70-130		%Rec	1	7/24/2021 4:39:51 PM	61499
EPA METHOD 8015D: GASOLINE RANGE							Analyst: mb
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/24/2021 9:34:00 AM	61496
Surr: BFB	111	70-130		%Rec	1	7/24/2021 9:34:00 AM	61496
EPA METHOD 8021B: VOLATILES							Analyst: mb
Benzene	ND	0.025		mg/Kg	1	7/24/2021 9:34:00 AM	61496
Toluene	ND	0.049		mg/Kg	1	7/24/2021 9:34:00 AM	61496
Ethylbenzene	ND	0.049		mg/Kg	1	7/24/2021 9:34:00 AM	61496
Xylenes, Total	ND	0.098		mg/Kg	1	7/24/2021 9:34:00 AM	61496
Surr: 4-Bromofluorobenzene	110	70-130		%Rec	1	7/24/2021 9:34:00 AM	61496

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 2107A89

Date Reported: 7/28/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP6-2

Project: Rodke AOY 1

Collection Date: 7/20/2021 2:10:00 PM

Lab ID: 2107A89-006

Matrix: SOIL

Received Date: 7/22/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	91	60		mg/Kg	20	7/27/2021 1:47:02 AM	61561
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: CLP
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	7/23/2021 2:27:50 PM	61499
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/23/2021 2:27:50 PM	61499
Surr: DNOP	86.6	70-130		%Rec	1	7/23/2021 2:27:50 PM	61499
EPA METHOD 8015D: GASOLINE RANGE							Analyst: mb
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/24/2021 9:54:00 AM	61496
Surr: BFB	114	70-130		%Rec	1	7/24/2021 9:54:00 AM	61496
EPA METHOD 8021B: VOLATILES							Analyst: mb
Benzene	ND	0.025		mg/Kg	1	7/24/2021 9:54:00 AM	61496
Toluene	ND	0.050		mg/Kg	1	7/24/2021 9:54:00 AM	61496
Ethylbenzene	ND	0.050		mg/Kg	1	7/24/2021 9:54:00 AM	61496
Xylenes, Total	ND	0.10		mg/Kg	1	7/24/2021 9:54:00 AM	61496
Surr: 4-Bromofluorobenzene	114	70-130		%Rec	1	7/24/2021 9:54:00 AM	61496

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		

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Analytical Report

Lab Order 2107A89

Date Reported: 7/28/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP5-8

Project: Rodke AOY 1

Collection Date: 7/20/2021 2:55:00 PM

Lab ID: 2107A89-007

Matrix: SOIL

Received Date: 7/22/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	390	60		mg/Kg	20	7/27/2021 1:59:26 AM	61561
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: CLP
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	7/23/2021 2:37:46 PM	61499
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	7/23/2021 2:37:46 PM	61499
Surr: DNOP	166	70-130	S	%Rec	1	7/23/2021 2:37:46 PM	61499
EPA METHOD 8015D: GASOLINE RANGE							Analyst: mb
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/24/2021 10:14:00 AM	61496
Surr: BFB	113	70-130		%Rec	1	7/24/2021 10:14:00 AM	61496
EPA METHOD 8021B: VOLATILES							Analyst: mb
Benzene	ND	0.025		mg/Kg	1	7/24/2021 10:14:00 AM	61496
Toluene	ND	0.050		mg/Kg	1	7/24/2021 10:14:00 AM	61496
Ethylbenzene	ND	0.050		mg/Kg	1	7/24/2021 10:14:00 AM	61496
Xylenes, Total	ND	0.10		mg/Kg	1	7/24/2021 10:14:00 AM	61496
Surr: 4-Bromofluorobenzene	112	70-130		%Rec	1	7/24/2021 10:14:00 AM	61496

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		

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Analytical Report

Lab Order 2107A89

Date Reported: 7/28/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP5-14

Project: Rodke AOY 1

Collection Date: 7/20/2021 3:20:00 PM

Lab ID: 2107A89-008

Matrix: SOIL

Received Date: 7/22/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	66	60		mg/Kg	20	7/26/2021 9:25:38 PM	61562
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: CLP
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/23/2021 3:17:02 PM	61500
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/23/2021 3:17:02 PM	61500
Surr: DNOP	105	70-130		%Rec	1	7/23/2021 3:17:02 PM	61500
EPA METHOD 8015D: GASOLINE RANGE							Analyst: mb
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/24/2021 10:34:00 AM	61496
Surr: BFB	117	70-130		%Rec	1	7/24/2021 10:34:00 AM	61496
EPA METHOD 8021B: VOLATILES							Analyst: mb
Benzene	ND	0.024		mg/Kg	1	7/24/2021 10:34:00 AM	61496
Toluene	ND	0.049		mg/Kg	1	7/24/2021 10:34:00 AM	61496
Ethylbenzene	ND	0.049		mg/Kg	1	7/24/2021 10:34:00 AM	61496
Xylenes, Total	ND	0.098		mg/Kg	1	7/24/2021 10:34:00 AM	61496
Surr: 4-Bromofluorobenzene	116	70-130		%Rec	1	7/24/2021 10:34:00 AM	61496

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		

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QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2107A89

28-Jul-21

Client: GHD Midland**Project:** Rodke AOY 1

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-61561	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 61561	RunNo: 80086								
Prep Date: 7/26/2021	Analysis Date: 7/26/2021	SeqNo: 2818870 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-61561	SampType: LCS	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 61561	RunNo: 80086								
Prep Date: 7/26/2021	Analysis Date: 7/26/2021	SeqNo: 2818871 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.3	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#: 2107A89

28-Jul-21

Client: GHD Midland**Project:** Rodke AOY 1

Sample ID: MB-61499	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 61499	RunNo: 80042								
Prep Date: 7/22/2021	Analysis Date: 7/23/2021	SeqNo: 2816402 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		129	70	130			

Sample ID: LCS-61499	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 61499	RunNo: 80042								
Prep Date: 7/22/2021	Analysis Date: 7/23/2021	SeqNo: 2816403 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	103	68.9	141			
Surr: DNOP	4.4		5.000		87.3	70	130			

Sample ID: MB-61500	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 61500	RunNo: 80042								
Prep Date: 7/22/2021	Analysis Date: 7/23/2021	SeqNo: 2816425 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.8		10.00		97.7	70	130			

Sample ID: LCS-61500	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 61500	RunNo: 80042								
Prep Date: 7/22/2021	Analysis Date: 7/23/2021	SeqNo: 2816426 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	10	50.00	0	109	68.9	141			
Surr: DNOP	4.0		5.000		80.7	70	130			

Sample ID: 2107A89-008AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: TP5-14	Batch ID: 61500	RunNo: 80042								
Prep Date: 7/22/2021	Analysis Date: 7/23/2021	SeqNo: 2816428 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	9.5	47.62	0	102	15	184			
Surr: DNOP	3.9		4.762		82.0	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical 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#: 2107A89
28-Jul-21

Client: GHD Midland
Project: Rodke AOY 1

Sample ID: 2107A89-008AMSD		SampType: MSD		TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: TP5-14		Batch ID: 61500		RunNo: 80042						
Prep Date: 7/22/2021		Analysis Date: 7/23/2021		SeqNo: 2816429		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	9.1	45.62	0	110	15	184	3.77	23.9	
Surr: DNOP	4.1		4.562		88.9	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#: 2107A89

28-Jul-21

Client: GHD Midland**Project:** Rodke AOY 1

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: %Rec				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		113	70	130			

Sample ID: lcs-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: %Rec				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1300		1000		127	70	130			

Sample ID: lcs-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: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	87.9	78.6	131			
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

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QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2107A89

28-Jul-21

Client: GHD Midland**Project:** Rodke AOY 1

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: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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: 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	1.1		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: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.2		1.000		116	70	130			

Sample ID: lcs-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: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	1.000	0	92.6	80	120			
Toluene	0.93	0.050	1.000	0	93.0	80	120			
Ethylbenzene	0.95	0.050	1.000	0	94.8	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.2	80	120			
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: **2107A89**

RcptNo: 1

Received By: **Juan Rojas**

7/22/2021 7:30:00 AM

*Juan Rojas*Completed By: **Isaiah Ortiz**

7/22/2021 7:55:27 AM

*I-Ortiz*Reviewed By: *SPA 7.22.21*

Chain of Custody

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

Log In

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

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted?

Checked by: *JR 7/22/21*

Special Handling (if applicable)

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

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.8	Good	Not Present			
2	1.4	Good	Not Present			

Released to Imaging: 3/18/2022 10:37:09 AM

☐ EDD (Type)

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



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

September 08, 2021

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

RE: Rodke AOY 1

OrderNo.: 2109006

Dear Tom Larson:

Hall Environmental Analysis Laboratory received 13 sample(s) on 9/1/2021 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 light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 2109006

Date Reported: 9/8/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP7-S

Project: Rodke AOY 1

Collection Date: 8/30/2021 8:00:00 AM

Lab ID: 2109006-001

Matrix: SOIL

Received Date: 9/1/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	ND	61		mg/Kg	20	9/3/2021 6:16:02 PM	62384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/3/2021 8:35:47 PM	62355
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/3/2021 8:35:47 PM	62355
Surr: DNOP	106	70-130		%Rec	1	9/3/2021 8:35:47 PM	62355
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/2/2021 6:06:11 PM	62338
Surr: BFB	111	70-130		%Rec	1	9/2/2021 6:06:11 PM	62338
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	9/2/2021 6:06:11 PM	62338
Toluene	ND	0.047		mg/Kg	1	9/2/2021 6:06:11 PM	62338
Ethylbenzene	ND	0.047		mg/Kg	1	9/2/2021 6:06:11 PM	62338
Xylenes, Total	ND	0.093		mg/Kg	1	9/2/2021 6:06:11 PM	62338
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	9/2/2021 6:06:11 PM	62338

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		

Page 1 of 18

Analytical Report

Lab Order 2109006

Date Reported: 9/8/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP7-2

Project: Rodke AOY 1

Collection Date: 8/30/2021 8:10:00 AM

Lab ID: 2109006-002

Matrix: SOIL

Received Date: 9/1/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	ND	60		mg/Kg	20	9/3/2021 6:53:15 PM	62384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	9/3/2021 8:55:49 PM	62355
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/3/2021 8:55:49 PM	62355
Surr: DNOP	101	70-130		%Rec	1	9/3/2021 8:55:49 PM	62355
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/2/2021 6:29:50 PM	62338
Surr: BFB	111	70-130		%Rec	1	9/2/2021 6:29:50 PM	62338
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	9/2/2021 6:29:50 PM	62338
Toluene	ND	0.046		mg/Kg	1	9/2/2021 6:29:50 PM	62338
Ethylbenzene	ND	0.046		mg/Kg	1	9/2/2021 6:29:50 PM	62338
Xylenes, Total	ND	0.093		mg/Kg	1	9/2/2021 6:29:50 PM	62338
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	9/2/2021 6:29:50 PM	62338

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		

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Analytical Report

Lab Order 2109006

Date Reported: 9/8/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP8-S

Project: Rodke AOY 1

Collection Date: 8/30/2021 8:25:00 AM

Lab ID: 2109006-003

Matrix: SOIL

Received Date: 9/1/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	ND	60		mg/Kg	20	9/3/2021 7:05:40 PM	62384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	9/3/2021 9:15:50 PM	62355
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/3/2021 9:15:50 PM	62355
Surr: DNOP	99.7	70-130		%Rec	1	9/3/2021 9:15:50 PM	62355
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/2/2021 6:53:24 PM	62338
Surr: BFB	111	70-130		%Rec	1	9/2/2021 6:53:24 PM	62338
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	9/2/2021 6:53:24 PM	62338
Toluene	ND	0.048		mg/Kg	1	9/2/2021 6:53:24 PM	62338
Ethylbenzene	ND	0.048		mg/Kg	1	9/2/2021 6:53:24 PM	62338
Xylenes, Total	ND	0.095		mg/Kg	1	9/2/2021 6:53:24 PM	62338
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	9/2/2021 6:53:24 PM	62338

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		

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Analytical Report

Lab Order 2109006

Date Reported: 9/8/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP8-2

Project: Rodke AOY 1

Collection Date: 8/30/2021 8:35:00 AM

Lab ID: 2109006-004

Matrix: SOIL

Received Date: 9/1/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	ND	60		mg/Kg	20	9/3/2021 7:18:04 PM	62384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	9/3/2021 9:25:57 PM	62355
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/3/2021 9:25:57 PM	62355
Surr: DNOP	101	70-130		%Rec	1	9/3/2021 9:25:57 PM	62355
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/2/2021 7:17:03 PM	62338
Surr: BFB	112	70-130		%Rec	1	9/2/2021 7:17:03 PM	62338
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	9/2/2021 7:17:03 PM	62338
Toluene	ND	0.049		mg/Kg	1	9/2/2021 7:17:03 PM	62338
Ethylbenzene	ND	0.049		mg/Kg	1	9/2/2021 7:17:03 PM	62338
Xylenes, Total	ND	0.098		mg/Kg	1	9/2/2021 7:17:03 PM	62338
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	9/2/2021 7:17:03 PM	62338

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		

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Analytical Report

Lab Order 2109006

Date Reported: 9/8/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP9-S

Project: Rodke AOY 1

Collection Date: 8/30/2021 8:40:00 AM

Lab ID: 2109006-005

Matrix: SOIL

Received Date: 9/1/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	ND	60		mg/Kg	20	9/3/2021 7:30:28 PM	62384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/3/2021 9:36:04 PM	62355
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/3/2021 9:36:04 PM	62355
Surr: DNOP	102	70-130		%Rec	1	9/3/2021 9:36:04 PM	62355
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/2/2021 7:40:40 PM	62338
Surr: BFB	112	70-130		%Rec	1	9/2/2021 7:40:40 PM	62338
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	9/2/2021 7:40:40 PM	62338
Toluene	ND	0.048		mg/Kg	1	9/2/2021 7:40:40 PM	62338
Ethylbenzene	ND	0.048		mg/Kg	1	9/2/2021 7:40:40 PM	62338
Xylenes, Total	ND	0.095		mg/Kg	1	9/2/2021 7:40:40 PM	62338
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	9/2/2021 7:40:40 PM	62338

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		

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Analytical Report

Lab Order 2109006

Date Reported: 9/8/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP9-2

Project: Rodke AOY 1

Collection Date: 8/30/2021 8:50:00 AM

Lab ID: 2109006-006

Matrix: SOIL

Received Date: 9/1/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	110	60		mg/Kg	20	9/3/2021 7:42:52 PM	62384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	9/3/2021 9:46:08 PM	62355
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/3/2021 9:46:08 PM	62355
Surr: DNOP	96.1	70-130		%Rec	1	9/3/2021 9:46:08 PM	62355
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/2/2021 8:04:16 PM	62338
Surr: BFB	110	70-130		%Rec	1	9/2/2021 8:04:16 PM	62338
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	9/2/2021 8:04:16 PM	62338
Toluene	ND	0.047		mg/Kg	1	9/2/2021 8:04:16 PM	62338
Ethylbenzene	ND	0.047		mg/Kg	1	9/2/2021 8:04:16 PM	62338
Xylenes, Total	ND	0.095		mg/Kg	1	9/2/2021 8:04:16 PM	62338
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	9/2/2021 8:04:16 PM	62338

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		

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Analytical Report

Lab Order 2109006

Date Reported: 9/8/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP10-S

Project: Rodke AOY 1

Collection Date: 8/30/2021 9:00:00 AM

Lab ID: 2109006-007

Matrix: SOIL

Received Date: 9/1/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	ND	60		mg/Kg	20	9/3/2021 8:20:06 PM	62384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/3/2021 9:56:12 PM	62355
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/3/2021 9:56:12 PM	62355
Surr: DNOP	91.0	70-130		%Rec	1	9/3/2021 9:56:12 PM	62355
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/2/2021 8:27:51 PM	62338
Surr: BFB	111	70-130		%Rec	1	9/2/2021 8:27:51 PM	62338
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	9/2/2021 8:27:51 PM	62338
Toluene	ND	0.048		mg/Kg	1	9/2/2021 8:27:51 PM	62338
Ethylbenzene	ND	0.048		mg/Kg	1	9/2/2021 8:27:51 PM	62338
Xylenes, Total	ND	0.096		mg/Kg	1	9/2/2021 8:27:51 PM	62338
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	9/2/2021 8:27:51 PM	62338

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		

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Analytical Report

Lab Order 2109006

Date Reported: 9/8/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP10-2

Project: Rodke AOY 1

Collection Date: 8/30/2021 9:10:00 AM

Lab ID: 2109006-008

Matrix: SOIL

Received Date: 9/1/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	ND	60		mg/Kg	20	9/3/2021 8:32:30 PM	62384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/3/2021 11:04:16 AM	62364
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/3/2021 11:04:16 AM	62364
Surr: DNOP	124	70-130		%Rec	1	9/3/2021 11:04:16 AM	62364
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/3/2021 8:56:23 AM	62360
Surr: BFB	111	70-130		%Rec	1	9/3/2021 8:56:23 AM	62360
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	9/3/2021 8:56:23 AM	62360
Toluene	ND	0.049		mg/Kg	1	9/3/2021 8:56:23 AM	62360
Ethylbenzene	ND	0.049		mg/Kg	1	9/3/2021 8:56:23 AM	62360
Xylenes, Total	ND	0.098		mg/Kg	1	9/3/2021 8:56:23 AM	62360
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	9/3/2021 8:56:23 AM	62360

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		

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Analytical Report

Lab Order 2109006

Date Reported: 9/8/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP11-6

Project: Rodke AOY 1

Collection Date: 8/30/2021 9:25:00 AM

Lab ID: 2109006-009

Matrix: SOIL

Received Date: 9/1/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	67	60		mg/Kg	20	9/3/2021 8:44:54 PM	62384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	5800	99		mg/Kg	10	9/3/2021 11:52:01 AM	62364
Motor Oil Range Organics (MRO)	2600	500		mg/Kg	10	9/3/2021 11:52:01 AM	62364
Surr: DNOP	0	70-130	S	%Rec	10	9/3/2021 11:52:01 AM	62364
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	240	97		mg/Kg	20	9/3/2021 10:07:19 AM	62360
Surr: BFB	175	70-130	S	%Rec	20	9/3/2021 10:07:19 AM	62360
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.49		mg/Kg	20	9/3/2021 10:07:19 AM	62360
Toluene	ND	0.97		mg/Kg	20	9/3/2021 10:07:19 AM	62360
Ethylbenzene	ND	0.97		mg/Kg	20	9/3/2021 10:07:19 AM	62360
Xylenes, Total	ND	1.9		mg/Kg	20	9/3/2021 10:07:19 AM	62360
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	20	9/3/2021 10:07:19 AM	62360

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		

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Analytical Report

Lab Order 2109006

Date Reported: 9/8/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP11-10

Project: Rodke AOY 1

Collection Date: 8/30/2021 9:40:00 AM

Lab ID: 2109006-010

Matrix: SOIL

Received Date: 9/1/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	87	61		mg/Kg	20	9/3/2021 8:57:18 PM	62384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	9/3/2021 11:13:55 AM	62364
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/3/2021 11:13:55 AM	62364
Surr: DNOP	122	70-130		%Rec	1	9/3/2021 11:13:55 AM	62364
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/3/2021 10:54:28 AM	62360
Surr: BFB	113	70-130		%Rec	1	9/3/2021 10:54:28 AM	62360
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	9/3/2021 10:54:28 AM	62360
Toluene	ND	0.048		mg/Kg	1	9/3/2021 10:54:28 AM	62360
Ethylbenzene	ND	0.048		mg/Kg	1	9/3/2021 10:54:28 AM	62360
Xylenes, Total	ND	0.096		mg/Kg	1	9/3/2021 10:54:28 AM	62360
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	9/3/2021 10:54:28 AM	62360

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		

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Analytical Report

Lab Order 2109006

Date Reported: 9/8/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP11-12

Project: Rodke AOY 1

Collection Date: 8/30/2021 9:50:00 AM

Lab ID: 2109006-011

Matrix: SOIL

Received Date: 9/1/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	86	59		mg/Kg	20	9/3/2021 9:09:43 PM	62384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	9/3/2021 11:23:36 AM	62364
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/3/2021 11:23:36 AM	62364
Surr: DNOP	123	70-130		%Rec	1	9/3/2021 11:23:36 AM	62364
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/3/2021 11:18:01 AM	62360
Surr: BFB	116	70-130		%Rec	1	9/3/2021 11:18:01 AM	62360
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	9/3/2021 11:18:01 AM	62360
Toluene	ND	0.048		mg/Kg	1	9/3/2021 11:18:01 AM	62360
Ethylbenzene	ND	0.048		mg/Kg	1	9/3/2021 11:18:01 AM	62360
Xylenes, Total	ND	0.096		mg/Kg	1	9/3/2021 11:18:01 AM	62360
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	9/3/2021 11:18:01 AM	62360

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		

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Analytical Report

Lab Order 2109006

Date Reported: 9/8/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP11-15

Project: Rodke AOY 1

Collection Date: 8/30/2021 10:00:00 AM

Lab ID: 2109006-012

Matrix: SOIL

Received Date: 9/1/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	82	60		mg/Kg	20	9/3/2021 11:50:58 PM	62387
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	93	9.7		mg/Kg	1	9/3/2021 11:34:09 AM	62364
Motor Oil Range Organics (MRO)	63	48		mg/Kg	1	9/3/2021 11:34:09 AM	62364
Surr: DNOP	120	70-130		%Rec	1	9/3/2021 11:34:09 AM	62364
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/3/2021 11:41:37 AM	62360
Surr: BFB	121	70-130		%Rec	1	9/3/2021 11:41:37 AM	62360
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	9/3/2021 11:41:37 AM	62360
Toluene	ND	0.047		mg/Kg	1	9/3/2021 11:41:37 AM	62360
Ethylbenzene	ND	0.047		mg/Kg	1	9/3/2021 11:41:37 AM	62360
Xylenes, Total	ND	0.093		mg/Kg	1	9/3/2021 11:41:37 AM	62360
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	9/3/2021 11:41:37 AM	62360

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		

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Analytical Report

Lab Order 2109006

Date Reported: 9/8/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP11-20

Project: Rodke AOY 1

Collection Date: 8/30/2021 10:25:00 AM

Lab ID: 2109006-013

Matrix: SOIL

Received Date: 9/1/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: VP
Chloride	200	60		mg/Kg	20	9/4/2021 12:03:22 AM	62387
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/3/2021 11:43:51 AM	62364
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/3/2021 11:43:51 AM	62364
Surr: DNOP	112	70-130		%Rec	1	9/3/2021 11:43:51 AM	62364
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/3/2021 12:05:16 PM	62360
Surr: BFB	118	70-130		%Rec	1	9/3/2021 12:05:16 PM	62360
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	9/3/2021 12:05:16 PM	62360
Toluene	ND	0.046		mg/Kg	1	9/3/2021 12:05:16 PM	62360
Ethylbenzene	ND	0.046		mg/Kg	1	9/3/2021 12:05:16 PM	62360
Xylenes, Total	ND	0.092		mg/Kg	1	9/3/2021 12:05:16 PM	62360
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	9/3/2021 12:05:16 PM	62360

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		

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QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2109006

09-Sep-21

Client: GHD Midland**Project:** Rodke AOY 1

Sample ID: MB-62384	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 62384	RunNo: 81060								
Prep Date: 9/3/2021	Analysis Date: 9/3/2021	SeqNo: 2861006	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-62384	SampType: LCS	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 62384	RunNo: 81060								
Prep Date: 9/3/2021	Analysis Date: 9/3/2021	SeqNo: 2861007	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-62387	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 62387	RunNo: 81060								
Prep Date: 9/3/2021	Analysis Date: 9/3/2021	SeqNo: 2861038	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-62387	SampType: LCS	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 62387	RunNo: 81060								
Prep Date: 9/3/2021	Analysis Date: 9/3/2021	SeqNo: 2861039	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.1	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical 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#: 2109006

09-Sep-21

Client: GHD Midland**Project:** Rodke AOY 1

Sample ID: MB-62355	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 62355	RunNo: 81036								
Prep Date: 9/2/2021	Analysis Date: 9/3/2021	SeqNo: 2860688 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		103	70	130			

Sample ID: MB-62364	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 62364	RunNo: 81036								
Prep Date: 9/2/2021	Analysis Date: 9/3/2021	SeqNo: 2860689 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	12		10.00		122	70	130			

Sample ID: LCS-62355	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 62355	RunNo: 81036								
Prep Date: 9/2/2021	Analysis Date: 9/3/2021	SeqNo: 2860691 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	95.9	68.9	135			
Surr: DNOP	4.0		5.000		80.2	70	130			

Sample ID: LCS-62364	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 62364	RunNo: 81036								
Prep Date: 9/2/2021	Analysis Date: 9/3/2021	SeqNo: 2860692 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	102	68.9	135			
Surr: DNOP	5.4		5.000		108	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

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QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2109006

09-Sep-21

Client: GHD Midland**Project:** Rodke AOY 1

Sample ID: mb-62338	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 62338	RunNo: 81017								
Prep Date: 9/1/2021	Analysis Date: 9/2/2021	SeqNo: 2859296 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		111	70	130			

Sample ID: lcs-62338	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 62338	RunNo: 81017								
Prep Date: 9/1/2021	Analysis Date: 9/2/2021	SeqNo: 2859297 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	106	78.6	131			
Surr: BFB	1200		1000		121	70	130			

Sample ID: mb-62360	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 62360	RunNo: 81062								
Prep Date: 9/2/2021	Analysis Date: 9/3/2021	SeqNo: 2861079 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		110	70	130			

Sample ID: lcs-62360	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 62360	RunNo: 81062								
Prep Date: 9/2/2021	Analysis Date: 9/3/2021	SeqNo: 2861080 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	105	78.6	131			
Surr: BFB	1200		1000		120	70	130			

Sample ID: 2109006-008ams	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: TP10-2	Batch ID: 62360	RunNo: 81062								
Prep Date: 9/2/2021	Analysis Date: 9/3/2021	SeqNo: 2861082 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	31	4.7	23.70	0	129	61.3	114			S
Surr: BFB	1200		947.9		124	70	130			

Sample ID: 2109006-008amsd	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: TP10-2	Batch ID: 62360	RunNo: 81062								
Prep Date: 9/2/2021	Analysis Date: 9/3/2021	SeqNo: 2861083 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#: 2109006
09-Sep-21

Client: GHD Midland
Project: Rodke AOY 1

Sample ID: 2109006-008amsd		SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range						
Client ID: TP10-2		Batch ID: 62360		RunNo: 81062						
Prep Date: 9/2/2021		Analysis Date: 9/3/2021		SeqNo: 2861083		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	24.93	0	100	61.3	114	19.9	20	
Surr: BFB	1200		997.0		121	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#: 2109006

09-Sep-21

Client: GHD Midland**Project:** Rodke AOY 1

Sample ID: mb-62338	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 62338	RunNo: 81017								
Prep Date: 9/1/2021	Analysis Date: 9/2/2021	SeqNo: 2859341 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		102	70	130			

Sample ID: LCS-62338	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 62338	RunNo: 81017								
Prep Date: 9/1/2021	Analysis Date: 9/2/2021	SeqNo: 2859342 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	94.4	80	120			
Toluene	0.95	0.050	1.000	0	95.2	80	120			
Ethylbenzene	0.95	0.050	1.000	0	95.0	80	120			
Xylenes, Total	2.8	0.10	3.000	0	94.2	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	70	130			

Sample ID: mb-62360	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 62360	RunNo: 81062								
Prep Date: 9/2/2021	Analysis Date: 9/3/2021	SeqNo: 2861106 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		101	70	130			

Sample ID: LCS-62360	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 62360	RunNo: 81062								
Prep Date: 9/2/2021	Analysis Date: 9/3/2021	SeqNo: 2861107 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	93.9	80	120			
Toluene	0.95	0.050	1.000	0	94.9	80	120			
Ethylbenzene	0.95	0.050	1.000	0	94.9	80	120			
Xylenes, Total	2.8	0.10	3.000	0	94.0	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical 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: 2109006

RcptNo: 1

Received By: Cheyenne Cason 9/1/2021 7:30:00 AM

Completed By: Sean Livingston 9/1/2021 9:09:40 AM

Reviewed By: Cmc 9/1/21

Chain of Custody

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

Log In

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

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted?

Checked by: JN 9/1/21

Special Handling (if applicable)

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

Person Notified:

Date:

By Whom:

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.4	Good				

**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

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

Analysis Request

☐ RushCooler Temp (including CF): $2.6 - 0.2 = 2.4$

HEAL No.

001

007

၁၀၅

004

005

306

007

008

509

010

$$\frac{0.1}{0.2}$$

Date	Time
------	------

Date	Time
------	------

Cmc cour. cr 891112 0730

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.

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

[illegible]

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



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

January 05, 2022

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

RE: Rodke AOY 1

OrderNo.: 2112D34

Dear Becky Haskell:

Hall Environmental Analysis Laboratory received 10 sample(s) on 12/23/2021 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 light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 2112D34

Date Reported: 1/5/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SB-1-5'

Project: Rodke AOY 1

Collection Date: 12/21/2021 7:30:00 AM

Lab ID: 2112D34-001

Matrix: SOIL

Received Date: 12/23/2021 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	4200	150		mg/Kg	50	1/3/2022 6:16:20 PM	64801
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	1600	94		mg/Kg	10	12/28/2021 1:31:55 PM	64734
Motor Oil Range Organics (MRO)	550	470		mg/Kg	10	12/28/2021 1:31:55 PM	64734
Surr: DNOP	0	70-130	S	%Rec	10	12/28/2021 1:31:55 PM	64734
EPA METHOD 8015D: GASOLINE RANGE							Analyst: mb
Gasoline Range Organics (GRO)	3100	97		mg/Kg	20	12/28/2021 3:51:00 AM	64722
Surr: BFB	567	70-130	S	%Rec	20	12/28/2021 3:51:00 AM	64722
EPA METHOD 8021B: VOLATILES							Analyst: mb
Benzene	50	0.49		mg/Kg	20	12/28/2021 3:51:00 AM	64722
Toluene	190	4.9		mg/Kg	100	12/28/2021 8:55:00 AM	64722
Ethylbenzene	110	4.9		mg/Kg	100	12/28/2021 8:55:00 AM	64722
Xylenes, Total	110	1.9		mg/Kg	20	12/28/2021 3:51:00 AM	64722
Surr: 4-Bromofluorobenzene	209	70-130	S	%Rec	20	12/28/2021 3:51:00 AM	64722

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	Estimated value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix interference		

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Analytical Report

Lab Order 2112D34

Date Reported: 1/5/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SB-1-10'

Project: Rodke AOY 1

Collection Date: 12/21/2021 7:35:00 AM

Lab ID: 2112D34-002

Matrix: SOIL

Received Date: 12/23/2021 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	4900	300		mg/Kg	100	1/3/2022 6:28:44 PM	64801
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	3600	91		mg/Kg	10	12/28/2021 1:42:39 PM	64734
Motor Oil Range Organics (MRO)	1200	460		mg/Kg	10	12/28/2021 1:42:39 PM	64734
Surr: DNOP	0	70-130	S	%Rec	10	12/28/2021 1:42:39 PM	64734
EPA METHOD 8015D: GASOLINE RANGE							Analyst: mb
Gasoline Range Organics (GRO)	1400	94		mg/Kg	20	12/28/2021 4:10:00 AM	64722
Surr: BFB	416	70-130	S	%Rec	20	12/28/2021 4:10:00 AM	64722
EPA METHOD 8021B: VOLATILES							Analyst: mb
Benzene	6.0	0.47		mg/Kg	20	12/28/2021 4:10:00 AM	64722
Toluene	59	0.94		mg/Kg	20	12/28/2021 9:34:00 AM	64722
Ethylbenzene	51	0.94		mg/Kg	20	12/28/2021 9:34:00 AM	64722
Xylenes, Total	60	1.9		mg/Kg	20	12/28/2021 4:10:00 AM	64722
Surr: 4-Bromofluorobenzene	166	70-130	S	%Rec	20	12/28/2021 4:10:00 AM	64722

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	Estimated value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix interference		

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Analytical Report

Lab Order 2112D34

Date Reported: 1/5/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SB-1-15'

Project: Rodke AOY 1

Collection Date: 12/21/2021 7:40:00 AM

Lab ID: 2112D34-003

Matrix: SOIL

Received Date: 12/23/2021 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	2900	150		mg/Kg	50	1/3/2022 6:41:08 PM	64801
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	4200	88		mg/Kg	10	12/28/2021 1:53:34 PM	64734
Motor Oil Range Organics (MRO)	1700	440		mg/Kg	10	12/28/2021 1:53:34 PM	64734
Surr: DNOP	0	70-130	S	%Rec	10	12/28/2021 1:53:34 PM	64734
EPA METHOD 8015D: GASOLINE RANGE							Analyst: mb
Gasoline Range Organics (GRO)	480	97		mg/Kg	20	12/28/2021 4:30:00 AM	64722
Surr: BFB	245	70-130	S	%Rec	20	12/28/2021 4:30:00 AM	64722
EPA METHOD 8021B: VOLATILES							Analyst: mb
Benzene	ND	0.48		mg/Kg	20	12/28/2021 4:30:00 AM	64722
Toluene	10	0.97		mg/Kg	20	12/28/2021 4:30:00 AM	64722
Ethylbenzene	17	0.97		mg/Kg	20	12/28/2021 4:30:00 AM	64722
Xylenes, Total	19	1.9		mg/Kg	20	12/28/2021 4:30:00 AM	64722
Surr: 4-Bromofluorobenzene	122	70-130		%Rec	20	12/28/2021 4:30:00 AM	64722

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	Estimated value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix interference		

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Analytical Report

Lab Order 2112D34

Date Reported: 1/5/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SB-1-20'

Project: Rodke AOY 1

Collection Date: 12/21/2021 8:00:00 AM

Lab ID: 2112D34-004

Matrix: SOIL

Received Date: 12/23/2021 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	2300	150		mg/Kg	50	1/3/2022 6:53:32 PM	64801
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	7000	180		mg/Kg	20	12/28/2021 2:04:27 PM	64734
Motor Oil Range Organics (MRO)	2800	910		mg/Kg	20	12/28/2021 2:04:27 PM	64734
Surr: DNOP	0	70-130	S	%Rec	20	12/28/2021 2:04:27 PM	64734
EPA METHOD 8015D: GASOLINE RANGE							Analyst: mb
Gasoline Range Organics (GRO)	790	95		mg/Kg	20	12/28/2021 5:48:00 AM	64722
Surr: BFB	358	70-130	S	%Rec	20	12/28/2021 5:48:00 AM	64722
EPA METHOD 8021B: VOLATILES							Analyst: mb
Benzene	1.6	0.48		mg/Kg	20	12/28/2021 5:48:00 AM	64722
Toluene	22	0.95		mg/Kg	20	12/28/2021 5:48:00 AM	64722
Ethylbenzene	33	0.95		mg/Kg	20	12/28/2021 5:48:00 AM	64722
Xylenes, Total	40	1.9		mg/Kg	20	12/28/2021 5:48:00 AM	64722
Surr: 4-Bromofluorobenzene	153	70-130	S	%Rec	20	12/28/2021 5:48:00 AM	64722

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	Estimated value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix interference		

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Analytical Report

Lab Order 2112D34

Date Reported: 1/5/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SB-1-25'

Project: Rodke AOY 1

Collection Date: 12/21/2021 8:10:00 AM

Lab ID: 2112D34-005

Matrix: SOIL

Received Date: 12/23/2021 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	71	59		mg/Kg	20	12/30/2021 5:19:48 PM	64801
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	130	9.1		mg/Kg	1	12/29/2021 8:45:23 PM	64734
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	12/29/2021 8:45:23 PM	64734
Surr: DNOP	83.3	70-130		%Rec	1	12/29/2021 8:45:23 PM	64734
EPA METHOD 8015D: GASOLINE RANGE							Analyst: mb
Gasoline Range Organics (GRO)	34	4.7		mg/Kg	1	12/28/2021 9:54:00 AM	64722
Surr: BFB	272	70-130	S	%Rec	1	12/28/2021 9:54:00 AM	64722
EPA METHOD 8021B: VOLATILES							Analyst: mb
Benzene	0.046	0.023		mg/Kg	1	12/28/2021 9:54:00 AM	64722
Toluene	0.21	0.047		mg/Kg	1	12/28/2021 9:54:00 AM	64722
Ethylbenzene	0.54	0.047		mg/Kg	1	12/28/2021 9:54:00 AM	64722
Xylenes, Total	0.64	0.094		mg/Kg	1	12/28/2021 9:54:00 AM	64722
Surr: 4-Bromofluorobenzene	117	70-130		%Rec	1	12/28/2021 9:54:00 AM	64722

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	Estimated value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report

Lab Order 2112D34

Date Reported: 1/5/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SB-1-30'

Project: Rodke AOY 1

Collection Date: 12/21/2021 8:15:00 AM

Lab ID: 2112D34-006

Matrix: SOIL

Received Date: 12/23/2021 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	120	60		mg/Kg	20	12/30/2021 5:32:09 PM	64801
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	950	43		mg/Kg	5	1/3/2022 11:56:56 AM	64734
Motor Oil Range Organics (MRO)	350	210		mg/Kg	5	1/3/2022 11:56:56 AM	64734
Surr: DNOP	116	70-130		%Rec	5	1/3/2022 11:56:56 AM	64734
EPA METHOD 8015D: GASOLINE RANGE							Analyst: mb
Gasoline Range Organics (GRO)	40	4.8		mg/Kg	1	12/28/2021 10:33:00 AM	64722
Surr: BFB	298	70-130	S	%Rec	1	12/28/2021 10:33:00 AM	64722
EPA METHOD 8021B: VOLATILES							Analyst: mb
Benzene	ND	0.024		mg/Kg	1	12/28/2021 10:33:00 AM	64722
Toluene	0.15	0.048		mg/Kg	1	12/28/2021 10:33:00 AM	64722
Ethylbenzene	0.95	0.048		mg/Kg	1	12/28/2021 10:33:00 AM	64722
Xylenes, Total	1.5	0.096		mg/Kg	1	12/28/2021 10:33:00 AM	64722
Surr: 4-Bromofluorobenzene	167	70-130	S	%Rec	1	12/28/2021 10:33:00 AM	64722

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	Estimated value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix interference		

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Analytical Report

Lab Order 2112D34

Date Reported: 1/5/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SB-1-35'

Project: Rodke AOY 1

Collection Date: 12/21/2021 8:20:00 AM

Lab ID: 2112D34-007

Matrix: SOIL

Received Date: 12/23/2021 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	260	60		mg/Kg	20	12/30/2021 5:44:29 PM	64801
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	920	49		mg/Kg	5	12/30/2021 8:47:18 PM	64735
Motor Oil Range Organics (MRO)	350	240		mg/Kg	5	12/30/2021 8:47:18 PM	64735
Surr: DNOP	77.8	70-130		%Rec	5	12/30/2021 8:47:18 PM	64735
EPA METHOD 8015D: GASOLINE RANGE							Analyst: mb
Gasoline Range Organics (GRO)	96	24		mg/Kg	5	12/30/2021 4:00:00 AM	64725
Surr: BFB	216	70-130	S	%Rec	5	12/30/2021 4:00:00 AM	64725
EPA METHOD 8021B: VOLATILES							Analyst: mb
Benzene	0.16	0.12		mg/Kg	5	12/30/2021 4:00:00 AM	64725
Toluene	2.2	0.24		mg/Kg	5	12/30/2021 4:00:00 AM	64725
Ethylbenzene	3.7	0.24		mg/Kg	5	12/30/2021 4:00:00 AM	64725
Xylenes, Total	4.1	0.47		mg/Kg	5	12/30/2021 4:00:00 AM	64725
Surr: 4-Bromofluorobenzene	114	70-130		%Rec	5	12/30/2021 4:00:00 AM	64725

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	Estimated value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix interference		

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Analytical Report

Lab Order 2112D34

Date Reported: 1/5/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SB-1-40'

Project: Rodke AOY 1

Collection Date: 12/21/2021 8:40:00 AM

Lab ID: 2112D34-008

Matrix: SOIL

Received Date: 12/23/2021 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	290	60		mg/Kg	20	12/30/2021 5:56:50 PM	64801
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	380	9.5		mg/Kg	1	12/29/2021 11:55:36 PM	64735
Motor Oil Range Organics (MRO)	140	48		mg/Kg	1	12/29/2021 11:55:36 PM	64735
Surr: DNOP	92.7	70-130		%Rec	1	12/29/2021 11:55:36 PM	64735
EPA METHOD 8015D: GASOLINE RANGE							Analyst: mb
Gasoline Range Organics (GRO)	610	50		mg/Kg	10	12/28/2021 12:11:00 PM	64725
Surr: BFB	353	70-130	S	%Rec	10	12/28/2021 12:11:00 PM	64725
EPA METHOD 8021B: VOLATILES							Analyst: mb
Benzene	3.8	0.25		mg/Kg	10	12/28/2021 12:11:00 PM	64725
Toluene	21	0.50		mg/Kg	10	12/28/2021 12:11:00 PM	64725
Ethylbenzene	21	0.50		mg/Kg	10	12/28/2021 12:11:00 PM	64725
Xylenes, Total	21	0.99		mg/Kg	10	12/28/2021 12:11:00 PM	64725
Surr: 4-Bromofluorobenzene	150	70-130	S	%Rec	10	12/28/2021 12:11:00 PM	64725

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	Estimated value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report

Lab Order 2112D34

Date Reported: 1/5/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SB-1-45'

Project: Rodke AOY 1

Collection Date: 12/21/2021 8:50:00 AM

Lab ID: 2112D34-009

Matrix: SOIL

Received Date: 12/23/2021 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	89	60		mg/Kg	20	12/30/2021 6:09:11 PM	64801
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	10000	200		mg/Kg	20	12/28/2021 3:31:08 PM	64735
Motor Oil Range Organics (MRO)	3500	980		mg/Kg	20	12/28/2021 3:31:08 PM	64735
Surr: DNOP	0	70-130	S	%Rec	20	12/28/2021 3:31:08 PM	64735
EPA METHOD 8015D: GASOLINE RANGE							Analyst: mb
Gasoline Range Organics (GRO)	4400	500		mg/Kg	100	12/29/2021 8:40:00 AM	64725
Surr: BFB	259	70-130	S	%Rec	100	12/29/2021 8:40:00 AM	64725
EPA METHOD 8021B: VOLATILES							Analyst: mb
Benzene	53	2.5		mg/Kg	100	12/29/2021 8:40:00 AM	64725
Toluene	260	5.0		mg/Kg	100	12/29/2021 8:40:00 AM	64725
Ethylbenzene	170	5.0		mg/Kg	100	12/29/2021 8:40:00 AM	64725
Xylenes, Total	170	10		mg/Kg	100	12/29/2021 8:40:00 AM	64725
Surr: 4-Bromofluorobenzene	129	70-130		%Rec	100	12/29/2021 8:40:00 AM	64725

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	Estimated value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report

Lab Order 2112D34

Date Reported: 1/5/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SB-1-50'

Project: Rodke AOY 1

Collection Date: 12/21/2021 9:05:00 AM

Lab ID: 2112D34-010

Matrix: SOIL

Received Date: 12/23/2021 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	12/30/2021 6:46:12 PM	64803
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: SB
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	12/28/2021 3:41:55 PM	64735
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/28/2021 3:41:55 PM	64735
Surr: DNOP	99.5	70-130		%Rec	1	12/28/2021 3:41:55 PM	64735
EPA METHOD 8015D: GASOLINE RANGE							Analyst: mb
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/28/2021 12:51:00 PM	64725
Surr: BFB	118	70-130		%Rec	1	12/28/2021 12:51:00 PM	64725
EPA METHOD 8021B: VOLATILES							Analyst: mb
Benzene	0.074	0.025		mg/Kg	1	12/29/2021 9:19:00 AM	64725
Toluene	ND	0.050		mg/Kg	1	12/28/2021 12:51:00 PM	64725
Ethylbenzene	ND	0.050		mg/Kg	1	12/28/2021 12:51:00 PM	64725
Xylenes, Total	ND	0.099		mg/Kg	1	12/28/2021 12:51:00 PM	64725
Surr: 4-Bromofluorobenzene	82.9	70-130		%Rec	1	12/28/2021 12:51:00 PM	64725

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	Estimated value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix interference		

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QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2112D34

05-Jan-22

Client: GHD Midland**Project:** Rodke AOY 1

Sample ID: MB-64801	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 64801	RunNo: 84894								
Prep Date: 12/30/2021	Analysis Date: 12/30/2021	SeqNo: 2986385		Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-64801	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 64801	RunNo: 84894								
Prep Date: 12/30/2021	Analysis Date: 12/30/2021	SeqNo: 2986386		Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.7	90	110			

Sample ID: MB-64803	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 64803	RunNo: 84894								
Prep Date: 12/30/2021	Analysis Date: 12/30/2021	SeqNo: 2986415		Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-64803	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 64803	RunNo: 84894								
Prep Date: 12/30/2021	Analysis Date: 12/30/2021	SeqNo: 2986416		Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.2	90	110			

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 interference

B Analyte detected in the associated Method Blank
E Estimated value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2112D34

05-Jan-22

Client: GHD Midland**Project:** Rodke AOY 1

Sample ID: LCS-64734	SampType: LCS			TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: LCSS	Batch ID: 64734			RunNo: 84808						
Prep Date: 12/27/2021	Analysis Date: 12/28/2021			SeqNo: 2983230		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	86.4	68.9	135			
Surr: DNOP	4.3		5.000		85.9	70	130			

Sample ID: MB-64734	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: PBS	Batch ID: 64734			RunNo: 84808						
Prep Date: 12/27/2021	Analysis Date: 12/28/2021			SeqNo: 2983231		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	7.8		10.00		77.6	70	130			

Sample ID: LCS-64735	SampType: LCS			TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: LCSS	Batch ID: 64735			RunNo: 84808						
Prep Date: 12/27/2021	Analysis Date: 12/28/2021			SeqNo: 2983329		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	103	68.9	135			
Surr: DNOP	5.8		5.000		117	70	130			

Sample ID: MB-64735	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: PBS	Batch ID: 64735			RunNo: 84859						
Prep Date: 12/27/2021	Analysis Date: 12/29/2021			SeqNo: 2985227		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.2		10.00		91.6	70	130			

Sample ID: 2112D34-007AMS	SampType: MS			TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: SB-1-35'	Batch ID: 64735			RunNo: 84875						
Prep Date: 12/27/2021	Analysis Date: 12/30/2021			SeqNo: 2985939		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	570	49	49.16	920.4	-715	39.3	155			S
Surr: DNOP	3.0		4.916		60.6	70	130			S

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 2112D34
05-Jan-22

Client: GHD Midland
Project: Rodke AOY 1

Sample ID: 2112D34-007AMSD		SampType: MSD		TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: SB-1-35'		Batch ID: 64735		RunNo: 84875						
Prep Date: 12/27/2021		Analysis Date: 12/30/2021		SeqNo: 2985940		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	410	46	46.21	920.4	-1100	39.3	155	31.6	23.4	RS
Surr: DNOP	2.5		4.621		53.8	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 interference
- B Analyte detected in the associated Method Blank

E Estimated value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2112D34

05-Jan-22

Client: GHD Midland**Project:** Rodke AOY 1

Sample ID: mb-64722	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 64722		RunNo: 84781							
Prep Date: 12/23/2021	Analysis Date: 12/27/2021		SeqNo: 2982231		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	830		1000		82.7	70	130			

Sample ID: lcs-64722	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 64722		RunNo: 84781							
Prep Date: 12/23/2021	Analysis Date: 12/27/2021		SeqNo: 2982232		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	980		1000		97.8	70	130			

Sample ID: mb-64725	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 64725		RunNo: 84821							
Prep Date: 12/23/2021	Analysis Date: 12/28/2021		SeqNo: 2983480		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	880		1000		88.0	70	130			

Sample ID: lcs-64725	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 64725		RunNo: 84821							
Prep Date: 12/23/2021	Analysis Date: 12/28/2021		SeqNo: 2983482		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	102	78.6	131			
Surr: BFB	1100		1000		108	70	130			

Qualifiers:

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

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2112D34

05-Jan-22

Client: GHD Midland**Project:** Rodke AOY 1

Sample ID: mb-64722	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 64722	RunNo: 84781								
Prep Date: 12/23/2021	Analysis Date: 12/27/2021	SeqNo: 2982272 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	0.77		1.000		76.7	70	130			

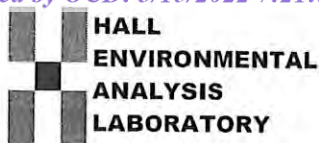
Sample ID: lcs-64722	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 64722	RunNo: 84781								
Prep Date: 12/23/2021	Analysis Date: 12/27/2021	SeqNo: 2982273 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	1.000	0	89.8	80	120			
Toluene	0.88	0.050	1.000	0	87.8	80	120			
Ethylbenzene	0.88	0.050	1.000	0	87.7	80	120			
Xylenes, Total	2.6	0.10	3.000	0	85.7	80	120			
Surr: 4-Bromofluorobenzene	0.75		1.000		75.3	70	130			

Sample ID: mb-64725	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 64725	RunNo: 84821								
Prep Date: 12/23/2021	Analysis Date: 12/28/2021	SeqNo: 2983529 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	0.78		1.000		78.2	70	130			

Sample ID: lcs-64725	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 64725	RunNo: 84821								
Prep Date: 12/23/2021	Analysis Date: 12/28/2021	SeqNo: 2983531 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	90.6	80	120			
Toluene	0.89	0.050	1.000	0	89.0	80	120			
Ethylbenzene	0.88	0.050	1.000	0	88.3	80	120			
Xylenes, Total	2.6	0.10	3.000	0	86.0	80	120			
Surr: 4-Bromofluorobenzene	0.77		1.000		77.4	70	130			

Qualifiers:

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



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: 2112D34

RcptNo: 1

Received By: Isaiah Ortiz 12/23/2021 7:40:00 AM

Completed By: Isaiah Ortiz 12/23/2021 8:47:25 AM

Reviewed By: JN 12/23/21

I-Ox

I-Ox

Chain of Custody

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

Log In

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

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted? _____

Checked by: KPG 12/23/21

Special Handling (if applicable)

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

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.9	Good	Not Present			
2	4.7	Good	Not Present			

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 90254

CONDITIONS

Operator: EOG RESOURCES INC P.O. Box 2267 Midland, TX 79702	OGRID: 7377
	Action Number: 90254
	Action Type: [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.	3/18/2022