

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	NRM2030932103
District RP	
Facility ID	
Application ID	

## Release Notification

### Responsible Party

Responsible Party EOG Resources, Inc.	OGRID 7377
Contact Name Robert Asher	Contact Telephone 575-748-4217
Contact email bob_asher@eogresources.com	Incident # (assigned by OCD) NRM2030932103
Contact mailing address 104 S. 4 <sup>th</sup> Street, Artesia, New Mexico	

### Location of Release Source

Latitude 33.54260 Longitude -103.55593  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Abby BLF State #1	Site Type: Battery
Date Release: Discovered 10/20/2020	API# 30-025-38951

Unit Letter	Section	Township	Range	County
N	10	9S	33E	Lea

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private (Name: \_\_\_\_\_)

### Nature and Volume of Release

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

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) 172.42	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;

Pinhole developed in the bottom of a 500 BBL crude oil tank. Volume released was calculated using previous gauge reading of 6' 10" and the current reading of 1' 8 3/4".


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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? Volume released was greater than 25 bbls.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Yes, an email notification was sent from Robert Asher to Brad Billings, Jim Griswold, Mark Naranjo, Ryan Mann, and enmrd-ocd-district1spills@state.nm.us on 10/20/2020 at 6:13 p.m.	

### 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>Robert Asher</u> Signature:  email: <u>bob_asher@eogresources.com</u>	Title: <u>Environmental Supervisor</u> Date: <u>12/16/2020</u> Telephone: <u>575-748-4217</u>
<b><u>OCD Only</u></b> Received by: <u>Cristina Eads</u> Date: <u>12/16/2020</u>	

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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?	54.81 (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 <b>not</b> 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.

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

Printed Name: Chase Settle Title: Rep Safety & Environmental Sr  
Signature: Chase Settle Date: 06/22/2022  
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: 06/22/2022  
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: 07/05/2022

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Application ID	

## Closure

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

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

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

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

Printed Name: Amber Griffin Title: Rep Safety & Environmental Sr  
Signature: Amber Griffin Date: 8/31/2022  
email: amber\_griffin@eogresources.com Telephone: 575-748-1471

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

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

Closure Approved by: Jennifer Nobui Date: 09/08/2022  
Printed Name: Jennifer Nobui Title: Environmental Specialist A



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

Our ref: 11220612

31 August 2022

New Mexico Oil Conservation Division  
District 1  
1625 N. French Drive  
Hobbs, New Mexico 88240

Re: Site Closure Report  
Abby BLF State #1 Release Site  
EOG Resources Inc.  
Incident ID: nRM2030932103  
N-10-9S-33E, Lea County, New Mexico

## 1. Introduction

GHD Services Inc. (GHD), on behalf of EOG Resources (EOG), submits this Site Closure Report to the New Mexico Oil Conservation Division (NMOCD) District 1 Office. This Report provides documentation of delineation, sampling, remedial activities, and analysis in the affected area at the EOG Abby BLF State #1 Release Site (Site). The Site is located in Unit Letter N, Section 10, Township 9 South, and Range 33 East in Lea County, New Mexico (Figure 1). The GPS coordinates for the tank battery where the release occurred are 33.54260 N latitude and 103.55593 W longitude. The surface owner of the land where the release occurred is the New Mexico State Land Office (NMSLO). The EOG production facility and other Site details are depicted on Figure 2, Site Assessment: Soil Analytical Results Map.

## 2. Background Information

A Form C-141, Release Notification, was submitted to the NMOCD on October 28, 2020, then again on December 16, 2020. The C-141 stated that the release was discovered on October 20, 2020 and was due to a pinhole in the bottom of a five hundred (500) barrel crude oil tank. Approximately one hundred-seventy-two (172) barrels of crude oil was calculated to have been released, with zero (0) barrels being recovered. The crude oil was released within a tank battery surrounded by an unlined berm.

The release falls under the jurisdiction of the NMOCD District 1 Office in Hobbs, New Mexico. The NMOCD assigned the release with Incident Number nRM2030932103. A previous Site Characterization and Remediation Work Plan dated February 4, 2021 was submitted to the NMOCD for approval. The work plan was denied on June 17, 2021, due to not having the site delineated and due to lack of depth to groundwater information within a half mile of the site. The original Plan stated the nearest groundwater well was located approximately 1.7 miles west of the Site. An Amended Site Characterization and Remediation Work Plan dated June 22, 2022 was

submitted to the NMOCD and approved July 5, 2022. The Release Notification, Site Assessment/Characterization, Remediation, and Closure sections of Form C-141 are attached to the front of this report.

### 3. Groundwater and Site Characterization

On July 20, 2021, Talon LPE (Talon) installed a temporary well, Abby Temp Well, at the following GPS coordinates, 33.542237 N latitude and 103.555846 W longitude, which is located on the well pad and within a half mile from the Site. The temporary well was installed to a total depth of 57.40 feet below ground surface (bgs) and was dry when drilled. The Abby BLF State #1 Temp Well was left open for seventy-two (72) hours and a water level meter was utilized to determine the presence or absence of groundwater. The depth to groundwater was measured at 54.81 feet bgs. Abby BLF State #1 Temp well plugged and abandoned.

According to the Site characterization evaluation and 19.15.29.12.C(4)(a) the Site is located within an area of low karst potential with depth to groundwater fifty-one (51) to one hundred (100) feet bgs and meets the closure criteria for depth to groundwater fifty-one (51) to one hundred (100) feet in Table I in NMAC 19.15.29.12. The Site characterization documentation (Karst Potential, Talon and GHD Soil Boring Log, FEMA, Points of Diversion and Wetlands maps) are provided in Attachment A. The soil closure criteria are listed below:

#### General Site Characterization and Groundwater:

Site Characterization	Average Groundwater Depth (ft)
No Receptors Found	>100 ft

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

Regulatory Standard	Chloride	TPH (GRO+DRO+MRO)	TPH (GRO+MRO)	BTEX	Benzene
19.15.29.13 Restoration, Reclamation and Re-Vegetation (Impacted Area 0-4 Feet)	600 mg/kg	100 mg/kg	---	50 mg/kg	10 mg/kg
19.15.29.12 NMAC Table I Closure Criteria for Soils Impacted by a Release	10,000 mg/kg	2,500 mg/kg	1,000 mg/kg	50 mg/kg	10 mg/kg
Notes: --- = not defined					

### 4. Initial Response Summary

EOG conducted an Initial Response action in early November 2020 by removing all equipment from the tank battery, then excavating soils within the berm area to a depth of four (4) feet bgs. GHD conducted confirmation sampling of the initial excavation on November 11, 2020. Composite confirmation samples were collected from the bottom and side walls of the excavation from areas representing an area no greater than two hundred (200) square feet. Twenty (20) confirmation samples were collected from the bottom of the excavation (BH-1 through BH-20) and six (6) sidewall confirmation samples (SW-1 through SW-6) were collected from the excavation

sidewalls. All soil samples were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8021B, total petroleum hydrocarbons (TPH) by Method 8015B Modified, and chloride by EPA Method 300 by Envirotech Laboratory in Farmington, New Mexico.

Analytical results indicated twelve (12) of the bottom hole confirmation samples and one (1) sidewall confirmation sample exhibited TPH concentrations above Table I Closure Criteria: B-1 through B-6, B-8 through B-10, and B-12 through B-14.

None of the confirmation samples exhibited chloride concentrations above Table I Closure Criteria of 10,000 mg/kg. Details of initial activities were documented in a Site Characterization and Remediation Plan, dated February 3, 2021.

## **5. Soil Delineation Assessment Summary, Findings, and Waste Management**

On June 22, 2021, GHD and EOG's contractor, Culberson Construction Energy Services (CCI) installed 7 test pits, TP1 through TP7, within and around the suspected impacted area. The test pit locations were excavated to depths ranging from the surface to eighteen (18) feet below grade. Soil samples were collected from varying depths of the test pits and field screened for chloride and hydrocarbons. Select 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.

Analytical results indicated TPH and/or BTEX concentrations above Table I Closure Criteria for TP1, TP2, TP3, and TP5. All chloride concentrations were below Table I Closure Criteria. Analytical results and sample locations are provided on Figure 2 and Table 1. Details of delineation activities were documented in the Amended Site Characterization and Remediation Work Plan dated June 22, 2022.

Waste Management activities were performed in coordination with EOG directives. EOG obtained regulatory approval via the successful processing of Form C-138 Request for Approval to Accept Solid Waste. The waste was approved for acceptance at the OCD-permitted (NM-01-0019), Gandy Marley, Inc facility. Approximately 740 cubic yards of impacted soil were disposed at Gandy Marley, Inc. The waste manifests from June 22 through July 19, 2021, are available upon request and aren't included in this report due to the size of the file. A Daily Disposal Summary is provided in Table 2.

## **6. Excavation, Confirmation Sampling, and Waste Management**

Due to test pits exhibiting benzene, BTEX, and TPH concentrations above Table I Closure Criteria, GHD and BDS Enterprises, LLC (BDS) mobilized to the Site on July 27, 2022, to excavate the impacted areas. BDS excavated the area around test pits TP1, TP2, TP3, and TP5 to various depths. The area around TP1 was excavated to a depth of seven (7) feet bgs. The area around TP2 was excavated to depths ranging from twelve (12) to sixteen (16) feet bgs. The area around TP3 was excavated to depths ranging from eight (8) to twelve (12) feet bgs. The area around TP5 was excavated to a depth of two (2) feet bgs. The surface dimensions of the excavation totalled approximately 5,040 sq feet, measuring approximately 88 feet long and ranging in width from 50 to 60 feet. Composite confirmation samples were collected from the bottom and sidewalls of the excavation

representing no more than two hundred (200) sq feet. Thirty-four (34) bottom hole (BHA-1 through BHA-6, BHA-4A through BHA-7A, BHB-1 through BHB-8, BHC-1 through BHC-8, and BHD-1 through BHD-8) and twenty-one (21) sidewall (SWA-1 through SW-3, SWB-1, SWB-2, SWC-1 through SWC-5, SWD-1 through SWD-5, SWAB-1, SWAB-2, SWBC-1, SWBC-2, SWCD-1, and SWCD-2) composite confirmation samples were collected. All confirmation samples were submitted to HEAL in Albuquerque, New Mexico, and analyzed for BTEX by EPA Method 8021B, TPH by Method 8015B Modified, and chloride by EPA Method 300.

Analytical results indicated six (6) of the fifty-five (55) confirmation samples exhibited TPH concentrations above Table I Closure Criteria (BHA-7A, BHD-1, SWC-1, SWC-5, SWAB-1, and SWAB-2), BHD-1 also exhibited BTEX concentrations above Table I Closure Criteria. Figure 3 depicts the locations of the bottom hole and sidewall confirmation samples. Analytical results are provided on Table 1 and in the Laboratory Analytical Reports provided in Attachment B.

Due to the confirmation samples with BTEX and TPH concentrations above Table I Closure Criteria, GHD and BDS returned to the Site on August 17, 2022, to further excavate the areas and resample. The area around BHA-7A was excavated deeper to seven (7) feet bgs and resampled (BHA-7B). The area around BHD-1 was excavated deeper to twenty-four (24) feet bgs and resampled (BHD-1A). The sidewall locations with Table I Closure Criteria exceedances were excavated further and resampled (SWC-1A, SWC-5A, SWAB-1A, SWAB-2A) and two additional sidewall samples were collected due to excavation becoming deeper (SWD-6 and SWD-7). None of the samples collected exhibited benzene, BTEX, TPH, or chloride concentrations above Table I Closure Criteria. Figure 3 depicts the locations of the bottom hole and sidewall confirmation samples. Analytical results are provided on Table 1 and in the Laboratory Analytical Reports provided in Attachment B. Confirmation Sampling Notifications are provided as Attachment C. A photographic log is included as Attachment D.

Waste Management activities were performed in coordination with EOG directives. EOG obtained regulatory approval via the successful processing of Form C-138 Request for Approval to Accept Solid Waste. The waste was approved for acceptance at the OCD-permitted (WM-1-035), Gandy Marley, Inc facility located at US Highway 62 West, Carlsbad, NM, 88203. Approximately 580 yards of impacted soil were disposed at Gandy Marley, Inc. The waste manifests from August 4 through August 8, 2022, are available upon request and aren't included in this report due to the size of the file. A Daily Disposal Summary is provided in Table 2.

## 7. nRM2030932103 Closure Request

The excavation will be backfilled with non-impacted material as soon as backfill activities can be scheduled with a contractor. Site characterization, soil delineation, and remediation activities for this incident number have been performed in accordance with applicable NMOCD guidance and regulations. Based upon supporting documentation provided in this report, GHD, on behalf of EOG, respectfully requests closure and no further regulatory actions for nRM2030932103.

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



Sincerely,

GHD



J.T. Murrey  
Senior Project Manager

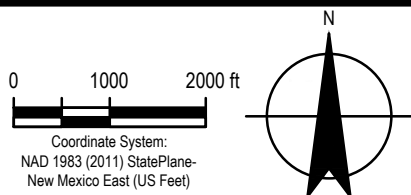
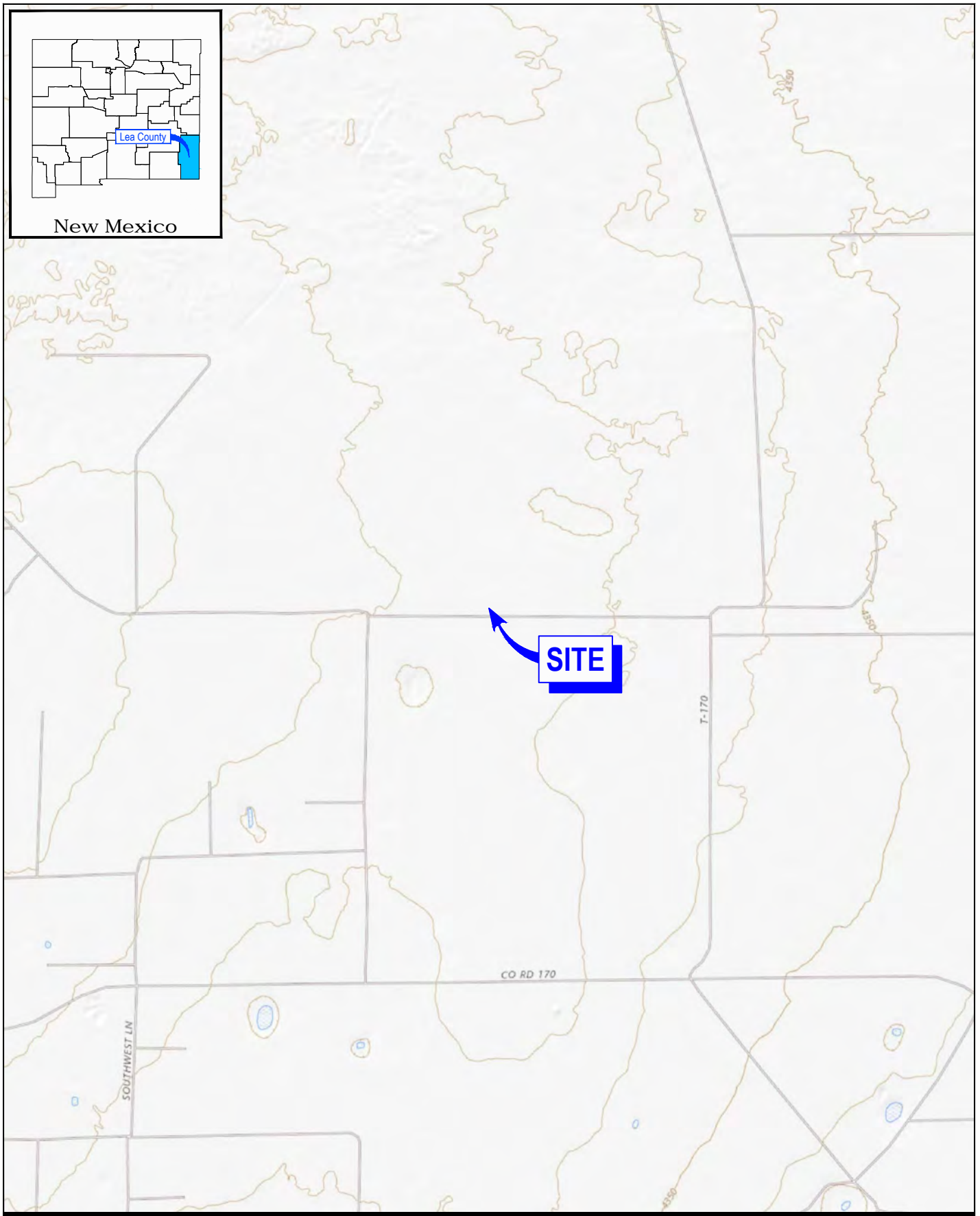


Nate Reece  
Environmental Scientist

NR/jt/1

Encl.    Figure 1 – Site Location Map  
          Figure 2 – Site Assessment: Soil Analytical Results Map  
          Figure 3 – Excavation and Confirmation Sampling: Analytical Results Map  
          Table 1 – Summary of Soil Analytical Data  
          Table 2 – Daily Disposal Summary  
          Attachment A – Site Characterization Documentation  
          Attachment B – Laboratory Analytical Reports and Chain-of-Custody Documentation  
          Attachment C – Sampling Notifications  
          Attachment D – Photographic Log

## Figures



EOG RESOURCES  
LEA COUNTY, NEW MEXICO  
ABBY BLF STATE #1

Project No. 11220612  
Date November 2021

SITE LOCATION MAP

FIGURE 1

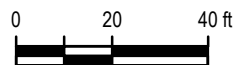
Sample ID	Sample Date	Depth (feet bgs)	Benzene	BTEX	TPH Total GRO/DRO/MRO	Chloride
			(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
			Table I Closure Criteria for Soils <50 feet Depth to			
			10 mg/Kg	50 mg/Kg	2,500 mg/Kg	10,000 mg/Kg
<b>2021 Assessment Samples</b>						
TP1-4	6/22/21	4	<0.096	36.4	5,610	86
TP1-8	6/22/21	8	<0.019	<0.077	<49	<60
TP1-12	6/22/21	12	<0.018	<0.072	<48	<60
TP1-13	6/22/21	13	<0.091	<0.36	<50	<60
TP2-4	6/22/21	4	15	344	33,700	470
TP2-10	6/22/21	10	7.4	218.4	13,500	150
TP2-15	6/22/21	15	0.046	1.002	422	240
TP2-18	6/22/21	18	<0.022	<0.088	263	260
TP3-4	6/22/21	4	4.6	275.6	18,600	<60
TP3-8	6/22/21	8	0.41	35.91	4,560	140
TP3-12	6/22/21	12	<0.093	2.72	810	68
TP4-S	6/22/21	Surface	<0.017	<0.069	12	<59
TP4-2	6/22/21	2	<0.019	<0.074	<46	<60
TP5-S	6/22/21	Surface	<0.020	<0.080	670	<60
TP5-2	6/22/21	2	<0.018	<0.072	<50	<60
TP6-S	6/22/21	Surface	<0.020	<0.080	<48	<60
TP6-2	6/22/21	2	<0.018	<0.071	<48	<59
TP7-S	6/22/21	Surface	<0.017	<0.067	94	<60
TP7-2	6/22/21	2	<0.019	<0.076	<45	88



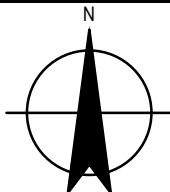
## LEGEND

- 8-12' PROPOSED EXCAVATION AREA w/ DEPTH
- TEST PIT LOCATION
- DEPTH DEPTH OF SAMPLE (FT)
- BTEX BENZENE, TOLUENE, ETHYLBENZENE & XYLENES CONCENTRATION (MG/KG)
- TPH TOTAL PETROLEUM HYDROCARBONS CONCENTRATION (MG/KG)

ACCESS ROAD



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



## NOTES:

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



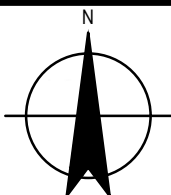
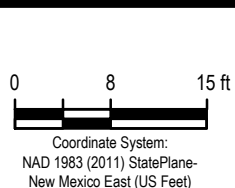
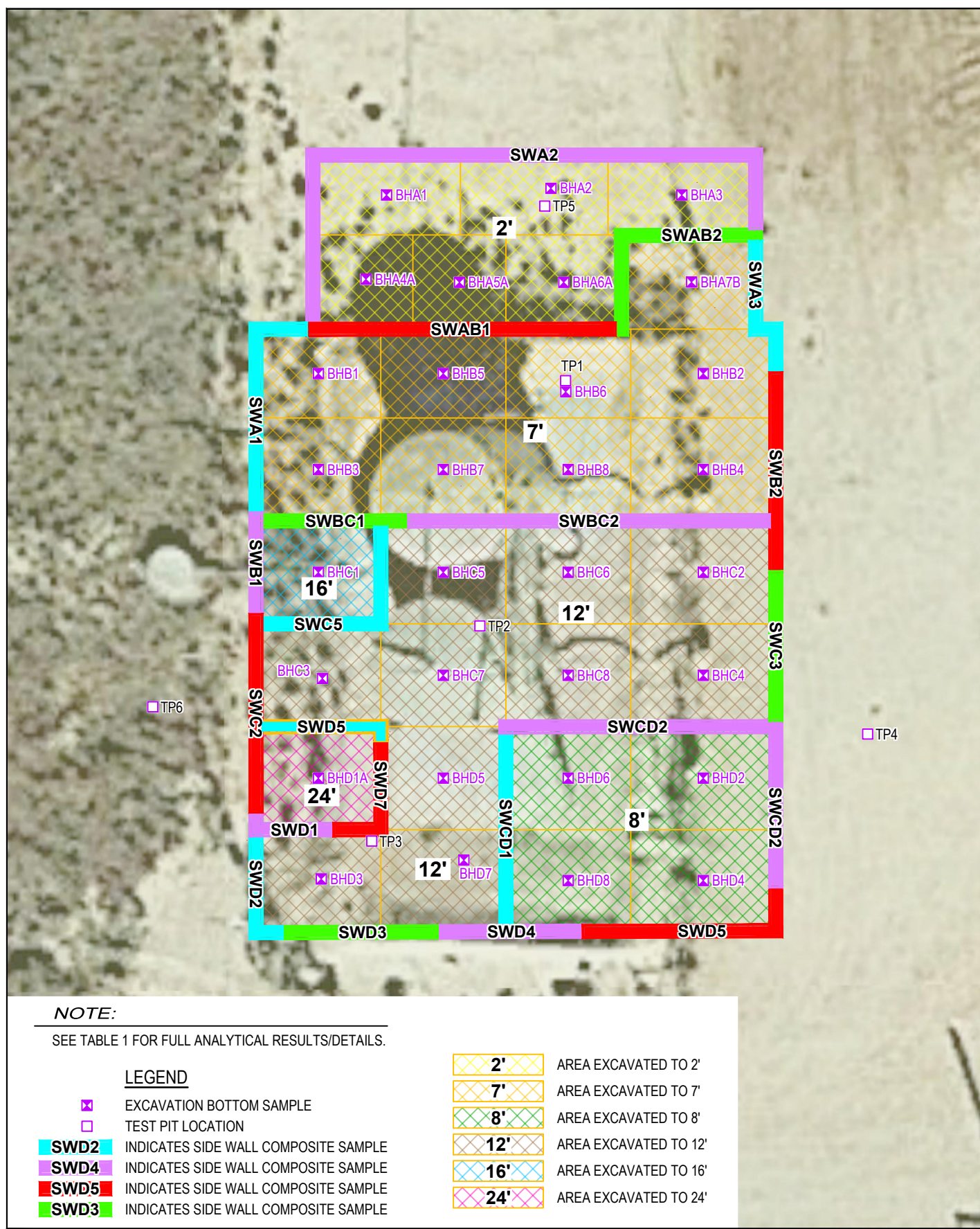
EOG RESOURCES  
LEA COUNTY, NEW MEXICO  
ABBY BLF STATE #1

Project No. 11220612  
Date June 2022

**SITE ASSESSMENT:  
SOIL ANALYTICAL RESULTS MAP**

**FIGURE 2**





EOG RESOURCES  
LEA COUNTY, NEW MEXICO  
ABBY BLF STATE #1

Project No. 11220612  
Date August 2022

EXCAVATION AND CONFIRMATION  
SAMPLING: ANALYTICAL RESULTS MAP

**FIGURE 3**

## Tables



**Table 1**  
**Summary of Soil Analytical Data**  
**Abby BLF State #1**  
**EOG Resources**  
**Lea County, New Mexico**

Sample ID	Sample Date	Depth (feet bgs)	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	TPH				Chloride
			(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	GRO(C6-C10)	DRO(C10-C28)	MRO (C28-C35)	Total GRO/DRO/MRO	(mg/Kg)
			Table I Closure Criteria for Soils 51-100 feet Depth to Groundwater 19.15.29 NMAC									
			10	---	---	---	50	1,000	---	2,500	10,000	
<b>Initial Assessment Samples</b>												
SW-1	11/11/2020	SW	<0.0250	<.0250	<.0250	0.0655	<b>0.1</b>	<200	<b>61</b>	<50.0	<b>61</b>	<b>1,360</b>
SW-2	11/11/2020	SW	<0.0250	<.0250	<.0250	<.0250	<0.0250	<200	<25.0	<50.0	0	<b>277</b>
SW-3	11/11/2020	SW	<0.0250	1.06	1.17	9.13	<b>11.4</b>	<200	<b>13,700</b>	<b>4,290</b>	<b>17,990</b>	<b>4,700</b>
SW-4	11/11/2020	SW	<0.0250	<.0250	<.0250	<.0250	<0.0250	<200	<b>40</b>	<50.0	40	<b>1,340</b>
SW-5	11/11/2020	SW	<0.0250	<.0250	<.0250	<.0250	<0.0250	<200	<b>25</b>	<50.0	25	<b>194</b>
SW-6	11/11/2020	SW	<0.0250	<.0250	<.0250	<.0250	<0.0250	<200	<25.0	<50.0	<275	<b>114</b>
B-1	11/11/2020	4'	<b>1.47</b>	18.8	11	74.5	<b>105.8</b>	564	<b>14,300</b>	<b>3,220</b>	<b>18,084</b>	<b>1,470</b>
B-2	11/11/2020	4'	<b>1.88</b>	23.6	14.7	101	<b>141.2</b>	859	<b>19,600</b>	<b>3,120</b>	<b>23,579</b>	<b>467</b>
B-3	11/11/2020	4'	<b>0.926</b>	7.51	6.21	47.6	<b>62.2</b>	532	<b>19,900</b>	<b>4,720</b>	<b>25,152</b>	<b>403</b>
B-4	11/11/2020	4'	<0.0250	0.0388	0.0313	0.405	<b>0.5</b>	<200	<b>1,840</b>	<b>490</b>	<b>2,330</b>	<b>1,370</b>
B-5	11/11/2020	4'	<0.0250	<.0250	<.0250	<.0250	<0.0250	<200	<b>1,050</b>	<b>294</b>	<b>1,344</b>	<b>723</b>
B-6	11/11/2020	4'	<0.0250	<.0250	<.0250	1.41	<b>1.41</b>	<200	<b>4,350</b>	<b>881</b>	<b>5,231</b>	<b>333</b>
B-7	11/11/2020	4'	<0.0250	<.0250	<.0250	<.0250	<.0251	<200	<b>714</b>	<b>254</b>	968	<b>190</b>
B-8	11/11/2020	4'	0.788	6.44	4.64	34.6	<b>46.5</b>	347	<b>14,500</b>	<b>2,550</b>	<b>17,397</b>	<b>3,770</b>
B-9	11/11/2020	4'	<b>2.5</b>	16	11.2	82.4	<b>112.1</b>	686	<b>28,400</b>	<b>6,270</b>	<b>35,356</b>	<b>1,990</b>
B-10	11/11/2020	4'	<0.0250	0.667	2.44	22.7	<b>25.8</b>	<b>241</b>	<b>10,100</b>	<b>2,310</b>	<b>12,651</b>	<b>1,130</b>
B-11	11/11/2020	4'	<0.0250	<.0250	<.0250	<.0250	<0.0250	<200	49	<50.0	49	<b>362</b>
B-12	11/11/2020	4'	<0.0250	0.311	0.893	8.84	10.0	<200	<b>4,390</b>	<b>773</b>	<b>5,163</b>	<b>1,250</b>
B-13	11/11/2020	4'	<0.0250	0.323	0.944	7.2	<b>8.5</b>	<200	<b>8,570</b>	<b>2,330</b>	<b>10,900</b>	<b>921</b>
B-14	11/11/2020	4'	<0.0250	3.91	4.34	33.1	<b>41.4</b>	<b>376</b>	<b>10,100</b>	<b>1,670</b>	<b>12,146</b>	<b>225</b>
B-15	11/11/2020	4'	<0.0250	<.0250	<.0250	0.113	<b>0.1</b>	<200	<b>484</b>	<b>174</b>	<b>658</b>	<b>891</b>
B-16	11/11/2020	4'	<0.0250	<.0250	<.0250	<.0250	<0.0250	<200	<b>203</b>	<b>80</b>	<b>283</b>	<b>94</b>
B-17	11/11/2020	4'	<0.0250	<.0250	<.0250	<.0250	<0.0250	<200	<25.0	<50.0	<275	<b>67</b>
B-18	11/11/2020	4'	<0.0250	<.0250	<.0250	<.0250	<0.0250	<200	<25.0	<50.0	<275	<b>60</b>
B-19	11/11/2020	4'	<0.0250	<.0250	<.0250	<.0250	<0.0250	<200	<b>32</b>	<50.0	<b>32</b>	<b>31</b>
B-20	11/11/2020	4'	<0.0250	<.0250	<.0250	<.0250	<0.0250	<200	<b>193</b>	<b>84</b>	<b>277</b>	<b>272</b>
<b>2021 Assessment Samples</b>												
TP1-4	6/22/21	4	<0.096	<b>3.4</b>	<b>4.0</b>	<b>29</b>	<b>36.4</b>	<b>910</b>	<b>3,700</b>	<b>1,000</b>	<b>5,610</b>	<b>86</b>
TP1-8	6/22/21	8	<0.019	<0.038	<0.038	<0.077	<0.077	<3.8	<9.9	<49	<49	<60
TP1-12	6/22/21	12	<0.018	<0.036	<0.036	<0.072	<0.072	<3.6	<9.6	<48	<48	<60
TP1-13	6/22/21	13	<0.091	<0.18	<0.18	<0.36	<0.36	<18	<10	<50	<50	<60

**Table 1**  
**Summary of Soil Analytical Data**  
**Abby BLF State #1**  
**EOG Resources**  
**Lea County, New Mexico**

Sample ID	Sample Date	Depth (feet bgs)	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	TPH				Chloride
			(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	GRO(C6-C10)	DRO(C10-C28)	MRO (C28-C35)	Total GRO/DRO/MRO	(mg/Kg)
			Table 1 Closure Criteria for Soils 51-100 feet Depth to Groundwater 19.15.29 NMAC									
			10	---	---	---	50	1,000	---	2,500	10,000	
TP2-4	6/22/21	4	15	68	31	230	344	4,100	23,000	6,600	33,700	470
TP2-10	6/22/21	10	7.4	51	20	140	218.4	3,800	7,900	1,800	13,500	150
TP2-15	6/22/21	15	0.046	0.20	0.086	0.67	1.002	23	310	89	422	240
TP2-18	6/22/21	18	<0.022	<0.044	<0.044	<0.088	<0.088	<4.4	190	73	263	260
TP3-4	6/22/21	4	4.6	63	28	180	275.6	3,700	12,000	2,900	18,600	<60
TP3-8	6/22/21	8	0.41	6.3	3.2	26	35.91	760	3,000	800	4,560	140
TP3-12	6/22/21	12	<0.093	0.33	0.29	2.1	2.72	100	540	170	810	68
TP4-S	6/22/21	Surface	<0.017	<0.034	<0.034	<0.069	<0.069	<3.4	12	<49	12	<59
TP4-2	6/22/21	2	<0.019	<0.037	<0.037	<0.074	<0.074	<3.7	<9.3	<46	<46	<60
TP5-S	6/22/21	Surface	<0.020	<0.040	<0.040	<0.080	<0.080	<4.0	290	380	670	<60
TP5-2	6/22/21	2	<0.018	<0.036	<0.036	<0.072	<0.072	<3.6	<10	<50	<50	<60
TP6-S	6/22/21	Surface	<0.020	<0.040	<0.040	<0.080	<0.080	<4.0	<9.5	<48	<48	<60
TP6-2	6/22/21	2	<0.018	<0.036	<0.036	<0.071	<0.071	<3.6	<9.7	<48	<48	<59
TP7-S	6/22/21	Surface	<0.017	<0.033	<0.033	<0.067	<0.067	<3.3	36	58	94	<60
TP7-2	6/22/21	2	<0.019	<0.038	<0.038	<0.076	<0.076	<3.8	<9.1	<45	<45	88

1. Values reported in mg/kg

2. &lt; = Value Less than Reporting Limit (RL)

3. Bold Indicates Analyte Detected

4. BTEX analyses by EPA Method SW 8021B.

5. TPH analyses by EPA Method SW 8015 Mod.

6. GRO/DRO/MRO = Gasoline/Diesel/Motor Oil

7. Yellow shaded cells indicate analytical samples that exceed the NMAC 19.15.29.12 Table 1 Closure Criteria for the site.

8. Peach shaded cells indicate analytical samples that exceed the NMAC 19.15.29.13 Table 1 Closure Criteria for the site (Surface to 4 Feet Below Grade).


 Sample Point Excavated

**Table 1**  
**Summary of Soil Analytical Data Abby**  
**BLF State #1**  
**EOG Resources**  
**Lea County, New Mexico**

**Area A**

Sample ID	Sample Date	Depth (ft bgs)	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	Total Petroleum Hydrocarbons (TPH)					Chloride
								GRO (C6-C10)	DRO (C10-C28)	GRO+DRO	MRO (C28-C35)	Total GRO/DRO/MRO	
Table I Closure Criteria for Soil 51-100 ft Depth to Groundwater 19.15.29 NMAC			10	---	---	---	50	---	---	1,000	---	2,500	10,000
Bottom Hole Confirmation Samples													
BHA-1	7/29/2022	2	<0.024	<0.049	<0.049	<0.098	<0.098	<4.9	<14	<14	<46	<46	<60
BHA-2	7/29/2022	2	<0.024	<0.049	<0.049	<0.098	<0.098	<4.9	29	29	<42	29	<60
BHA-3	7/29/2022	2	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	<15	<15	<49	<49	100
BHA-4*	7/29/2022	2	<0.025	<0.050	<0.050	<0.099	<0.099	<5.0	<15	<15	<49	<49	340
BHA-4A	8/4/2022	2	<0.024	<0.049	<0.049	<0.098	<0.098	<4.9	<14	<14	<47	<47	130
BHA-5*	7/29/2022	2	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<14	<14	<45	<45	110
BHA-5A	8/4/2022	2	<0.025	<0.049	<0.049	<0.099	<0.099	<4.9	<15	<15	<49	<49	160
BHA-6*	7/29/2022	2	<0.024	<0.047	<0.047	<0.095	<0.095	<4.7	<15	<15	<49	<49	130
BHA-6A	8/4/2022	2	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	<15	<15	<50	<50	82
BHA-7A	8/4/2022	2	<0.024	<0.049	<0.049	<0.098	<0.098	<4.9	190	190	49	239	<50
BHA-7B	8/23/2022	7	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	11.2	11.2	<10.0	11.2	48.0

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.

 Sample Point Excavated

6. GRO/DRO/MRO = Gasoline/Diesel/Motor Oil

7. Yellow shaded cells indicate analytical samples that exceed the NMAC 19.15.29.12 Table 1 Closure Criteria for the site.

8. Peach shaded cells indicate analytical samples that exceed the NMAC 19.15.29.13 Table 1 Closure Criteria for the site (Surface to 4 Feet Below Grade).

9. J - the target analytes was positively identified below the quantitation limit and above the detection limit.

10. \* = sample locations not included on Figure 3 due to incorrect sampling methodology: >200 sq ft composite sample.

**Table 1**  
**Summary of Soil Analytical Data Abby**  
**BLF State #1**  
**EOG Resources**  
**Lea County, New Mexico**

**Area B**

Sample ID	Sample Date	Depth (ft bgs)	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	Total Petroleum Hydrocarbons (TPH)					Chloride
								GRO (C6-C10)	DRO (C10-C28)	GRO+DRO	MRO (C28-C35)	Total GRO/DRO/MRO	
Table I Closure Criteria for Soil 51-100 ft Depth to Groundwater 19.15.29 NMAC			10	---	---	---	50	---	---	1,000	---	2,500	10,000
Bottom Hole Confirmation Samples													
BHB-1	8/2/2022	7	<0.024	<0.049	<0.049	<0.097	<0.097	<4.9	<14	<14	<45	<45	<60
BHB-2	8/2/2022	7	<0.12	<0.24	<0.24	<0.49	<0.49	<24	210	210	57	267	64
BHB-3	8/2/2022	7	<0.023	<0.046	<0.046	<0.093	<0.093	<4.6	<14	<14	<45	<45	330
BHB-4	8/2/2022	7	<0.12	<0.24	<0.24	<0.49	<0.49	<24	120	120	<46	120	130
BHB-5	8/4/2022	7	<0.025	<0.049	<0.049	<0.099	<0.099	<4.9	<14	<14	<48	<48	<60
BHB-6	8/4/2022	7	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<15	<15	<50	<50	<60
BHB-7	8/4/2022	7	<0.025	<0.050	<0.050	<0.099	<0.099	<5.0	<15	<15	<49	<49	110
BHB-8	8/4/2022	7	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	190	190	51	241	97

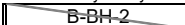
1. Values reported in mg/kg

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.

 Sample Point Excavated

6. GRO/DRO/MRO = Gasoline/Diesel/Motor Oil

7. Yellow shaded cells indicate analytical samples that exceed the NMAC 19.15.29.12 Table 1 Closure Criteria for the site.

8. Peach shaded cells indicate analytical samples that exceed the NMAC 19.15.29.13 Table 1 Closure Criteria for the site (Surface to 4 Feet Below Grade).

9. J - the target analytes was positively identified below the quantitation limit and above the detection limit.

**Table 1**  
**Summary of Soil Analytical Data Abby**  
**BLF State #1**  
**EOG Resources**  
**Lea County, New Mexico**

**Area C**

Sample ID	Sample Date	Depth (ft bgs)	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	Total Petroleum Hydrocarbons (TPH)					Chloride
								GRO (C6-C10)	DRO (C10-C28)	GRO+DRO	MRO (C28-C35)	Total GRO/DRO/MRO	
Table I Closure Criteria for Soil 51-100 ft Depth to Groundwater 19.15.29 NMAC			10	---	---	---	50	---	---	1,000	---	2,500	10,000
Bottom Hole Confirmation Samples													
BHC-1	8/2/2022	16	<0.12	<0.24	<0.24	<0.48	<0.48	<24	<15	<24	<49	<49	240
BHC-2	8/2/2022	12	<0.023	<0.047	<0.047	<0.094	<0.094	<4.7	<14	<14	<47	<47	70
BHC-3	8/2/2022	12	<0.12	<0.24	<0.24	<0.49	<0.49	<24	<13	<24	<44	<44	210
BHC-4	8/2/2022	12	<0.025	<0.049	<0.049	<0.099	<0.099	<4.9	<13	<13	<43	<43	<60
BHC-5	8/4/2022	12	<0.025	<0.050	<0.050	<0.10	<0.10	<5.0	280	280	80	360	120
BHC-6	8/4/2022	12	<0.025	<0.050	<0.050	<0.099	<0.099	<5.0	72	72	<49	72	<60
BHC-7	8/4/2022	12	<0.025	<0.050	<0.050	<0.099	<0.099	<5.0	100	100	<46	<46	100
BHC-8	8/4/2022	12	<0.023	<0.046	<0.046	<0.093	<0.093	<4.6	<14	<14	<45	<45	160

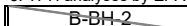
1. Values reported in mg/kg

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.

 Sample Point Excavated

6. GRO/DRO/MRO = Gasoline/Diesel/Motor Oil

7. Yellow shaded cells indicate analytical samples that exceed the NMAC 19.15.29.12 Table 1 Closure Criteria for the site.

8. Peach shaded cells indicate analytical samples that exceed the NMAC 19.15.29.13 Table 1 Closure Criteria for the site (Surface to 4 Feet Below Grade).

9. J - the target analytes was positively identified below the quantitation limit and above the detection limit.

**Table 1**  
**Summary of Soil Analytical Data Abby**  
**BLF State #1**  
**EOG Resources**  
**Lea County, New Mexico**

**Area D**

Sample ID	Sample Date	Depth (ft bgs)	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	Total Petroleum Hydrocarbons (TPH)					Chloride
								GRO (C6-C10)	DRO (C10-C28)	GRO+DRO	MRO (C28-C35)	Total GRO/DRO/MRO	
Table I Closure Criteria for Soil 51-100 ft Depth to Groundwater 19.15.29 NMAC			10	---	---	---	50	---	---	1,000	---	2,500	10,000
Bottom Hole Confirmation Samples													
BHD-1	8/3/2022	12	<0.12	4.7	5.6	43	53.3	770	4,900	5,670	910	6,580	160
BHD-1A	8/17/2022	24	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	20.4	20.4	<10.0	20.4	320
BHD-2	8/2/2022	8	<0.023	<0.047	<0.047	<0.093	<0.093	<4.7	<15	<15	<50	<50	<60
BHD-3	8/2/2022	8	<0.025	<0.049	<0.049	<0.098	<0.098	<4.9	<15	<15	<49	<49	<60
BHD-4	8/2/2022	8	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	<15	<15	<50	<50	<60
BHD-5	8/4/2022	12	<0.023	<0.046	<0.046	<0.092	<0.092	<4.6	<15	<15	<49	<49	<60
BHD-6	8/4/2022	8	<0.024	<0.047	<0.047	<0.095	<0.095	<4.7	<14	<14	<47	<47	<60
BHD-7	8/4/2022	12	<0.025	<0.050	<0.050	<0.099	<0.099	<5.0	<14	<14	<46	<46	<60
BHD-8	8/4/2022	8	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	<15	<15	<49	<49	<60

1. Values reported in mg/kg

2. < = Value Less than Reporting Limit (RL)

3. Bold Indicates Analyte Detected

4. BTEX analyses by EPA Method SW 8021B.

5. TPH analyses by EPA Method SW 8015 Mod.

**B-BH-2** Sample Point Excavated

6. GRO/DRO/MRO = Gasoline/Diesel/Motor Oil

**7. Yellow shaded cells indicate analytical samples that exceed the NMAC 19.15.29.12 Table 1 Closure Criteria for the site.**

**8. Peach shaded cells indicate analytical samples that exceed the NMAC 19.15.29.13 Table 1 Closure Criteria for the site (Surface to 4 Feet Below Grade).**

9. J - the target analytes was positively identified below the quantitation limit and above the detection limit.



**Table 1**  
**Summary of Soil Analytical Data Abby**  
**BLF State #1**  
**EOG Resources**  
**Lea County, New Mexico**

**Sidewall samples**

Sample ID	Sample Date	Depth (ft bgs)	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	Total Petroleum Hydrocarbons (TPH)					Chloride
								GRO (C6-C10)	DRO (C10-C28)	GRO+DRO	MRO (C28-C35)	Total GRO/DRO/MRO	
Table I Closure Criteria for Soil 51-100 ft Depth to Groundwater 19.15.29 NMAC			10	---	---	---	50	---	---	1,000	---	2,500	10,000
Sidewall Confirmation Samples													
SWA-1	8/3/2022	0-2	<0.023	<0.047	<0.047	<0.094	<0.094	<4.7	<14	<14	<45	<45	<60
SWA-2	8/3/2022	0-2	<0.025	<0.050	<0.050	<0.099	<0.099	<5.0	<14	<14	<46	<46	70
SWA-3	8/3/2022	0-2	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	<15	<15	<49	<49	160
SWB-1	8/3/2022	0-7	<0.023	<0.047	<0.047	<0.094	<0.094	<4.7	<15	<15	<49	<49	64
SWB-2	8/3/2022	0-7	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	270	270	70	340	<59
SWC-1	8/3/2022	0-16	<0.12	<0.25	0.68	4.2	4.88	140	1,400	1,540	380	1,840	120
SWC-1A	8/17/2022	0-16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
SWC-2	8/3/2022	0-12	<0.025	<0.050	<0.050	0.27	0.27	21	620	641	180	821	68
SWC-3	8/3/2022	0-12	<0.025	<0.050	<0.050	<0.10	<0.10	<5.0	290	290	94	384	<61
SWC-4	8/3/2022	0-12	<0.025	<0.050	<0.050	<0.10	<0.10	<5.0	<14	<14	<46	<46	<60
SWC-5	8/4/2022	12-16	<0.12	0.28	0.93	9.2	10.41	230	3,300	3,530	660	4,190	120
SWC-5A	8/23/2022	12-16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	16.2	16.2	<10.0	16.2	560
SWD-1	8/3/2022	0-8	<0.025	<0.049	<0.049	<0.098	<0.098	<4.9	95	95	<45	95	<60
SWD-2	8/3/2022	0-8	<0.025	<0.050	<0.050	<0.10	<0.10	<5.0	<14	<14	<46	<46	<60
SWD-3	8/3/2022	0-8	<0.025	<0.049	<0.049	<0.099	<0.099	<4.9	<14	<14	<47	<47	<60
SWD-4	8/3/2022	0-8	<0.025	<0.049	<0.049	<0.099	<0.099	<4.9	<13	<13	<44	<44	<60
SWD-5	8/3/2022	0-8	<0.025	<0.050	<0.050	<0.099	<0.099	<5.0	<15	<15	<49	<49	<60
SWD-6	8/23/2022	12-24	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	832
SWD-7	8/23/2022	12-24	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	416
SWAB-1	8/4/2022	2-7	<0.024	<0.049	<0.049	<0.097	<0.097	<4.9	110	110	63	173	120
SWAB-1A	8/22/2022	2-7	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SWAB-2	8/4/2022	2-7	<0.023	<0.047	<0.047	<0.093	<0.093	<4.7	980	980	340	1,240	68
SWAB-2A	8/22/2022	2-7	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SWBC-1	8/4/2022	7-16	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	44	44	<48	<48	920
SWBC-2	8/4/2022	7-12	<0.12	<0.24	<0.24	<0.49	<0.49	<24	400	400	110	510	580
SWCD-1	8/4/2022	6-12	<0.025	<0.049	<0.049	<0.099	<0.099	<4.9	<14	<14	<47	<47	<60
SWCD-2	8/4/2022	8-12	<0.024	<0.047	<0.047	<0.094	<0.094	<4.7	<15	<15	<49	<49	<60

1. Values reported in mg/kg

2. &lt; = Value Less than Reporting Limit (RL)

3. Bold Indicates Analyte Detected

4. BTEX analyses by EPA Method SW 8021B.

5. TPH analyses by EPA Method SW 8015 Mod.

B-BH-2 Sample Point Excavated

6. GRO/DRO/MRO = Gasoline/Diesel/Motor Oil

7. Yellow shaded cells indicate analytical samples that exceed the NMAC 19.15.29.12 Table 1 Closure Criteria for the site.

8. Peach shaded cells indicate analytical samples that exceed the NMAC 19.15.29.13 Table 1 Closure Criteria for the site (Surface to 4 Feet Below Grade).

9. J - the target analytes was positively identified below the quantitation limit and above the detection limit.

**Table 2**  
**Daily Disposal Summary**  
**11220612 Abby BLF State #1**  
**EOG Resources**  
**Lea County, New Mexico**

<b>Date of Disposal</b>	<b>Cubic Yards Disposed</b>
6/22/2021	120
7/16/2021	480
7/19/2021	140
8/04/2022	240
8/05/2022	100
8/08/2022	240
<b>Project Total</b>	<b>1,320</b>

# Attachment A


## Site Characterization Documentation

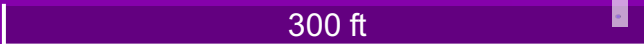
# Abby ALF State #1

Karst Potential Map

## Legend

-  Abby BLF State #1
-  High
-  Low
-  Medium

 Abby BLF State #1





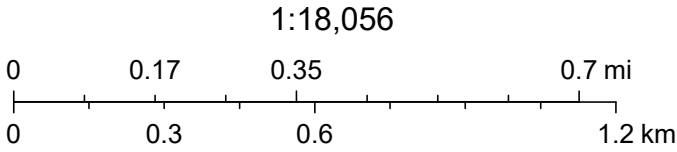
# OSE POD Locations Map - Abby BLF State #1



6/21/2022, 9:23:54 AM

GIS WATERS PODs

- Pending
- OSE District Boundary
- SiteBoundaries



Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, U.S. Department of Energy Office of Legacy Management





Amarillo, TX - Artesia, NM  
Midland, TX - Oklahoma City, OK  
San Antonio, TX - Fort Collins, CO

### BORING LOG

Boring Number: <u>ATW #1</u>	Job Number: <u>700438.265.01</u>	Driller/Co.: <u>Talon/LPE</u>
Site Name: <u>Edgar Avey BLR Stak #1</u>	LPST # <u>N/A</u>	Bit Size: <u>5 7/8"</u>
Location: <u>33.542237,</u>	Weather: <u>Sunny</u>	Rig Type: <u>Reichle II</u>
<u>-103.555846</u>	Sample Retrieval Method: <u>Grab</u>	Drilling Method: <u>Air Rotary</u>
Date: <u>7/20/2021</u>		

Time	Sample Number	Sample Interval (ft)	Sample Recovery (ft)	USCS	Sample Material/Comments (include composition, moisture, hardness, grain size, color)	ODOR	PID (ppm)
	1	0-5'	N/A	N/A	Sand w/ Gravel, brown	N/A	
	2	5-10'			SAA		
	3	10-15'			SAA		
	4	15-20'			SAA		
	5	20-25'			Sandstone w/ Sand, brown		
	6	25-30'			SAA		
	7	30-35'			SAA		
	8	35-40'			Sand w/ Gravel, brown		
	9	40-45'			SAA		
	10	45-50'			SAA		
	11	50-57'			SAA		

\* Borehole dry when drilled; Water measured @ 54.81 ft. bgs after 72 hours.





# STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: EOG Abby BLF State #1 Release Site

HOLE DESIGNATION: Abby Temp Well #1

NUMBER: 11220612

DATE COMPLETED: 20 July 2021

CLIENT: EOG Resources, INC.

DRILLING METHOD: Air Rotary

LOCATION: N-10-09S-33E, Lea County, NM 33.542237, -103.555846

FIELD PERSONNEL: Lee M./Zach C.

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH m BGS	MONITOR INSTALLATION	SAMPLE				
				NUMBER	INTERVAL	REC (%)	mS/cm	
5	SAND, fine/medium, with sandstone, brown, dry							
5.00	SAND, with caliche, dry	5.00						
10								
15								
20								
23.00	SAND, fine/medium, with consolidated sandstone throughout, dry	23.00						
25								
30.00	SAND, with partially consolidated sandstone and caliche	30.00						
35								
40								
45.00	CLAYEY SAND, with caliche stone interbedded, brown, dry	45.00						
50								
55								
57.40	END OF BOREHOLE @ 57.40ft BGS	57.40						
60								
65								
70								
75								

**WELL DETAILS**

Screened interval:

47.40 to 57.40ft BGS

Length: 10ft

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

File: \\GHDNET\GHD\USALBUQUERQUE\PROJECTS\66211220612\WORKSHARE\FIELD\GINT LOG\11220612 LOGS.GPJ Library File: 11220612 GHD\_ENVIRO\_V04.GLB Report: OVERBURDEN LOG Date: 26/7/21

# Abby BLF State #1

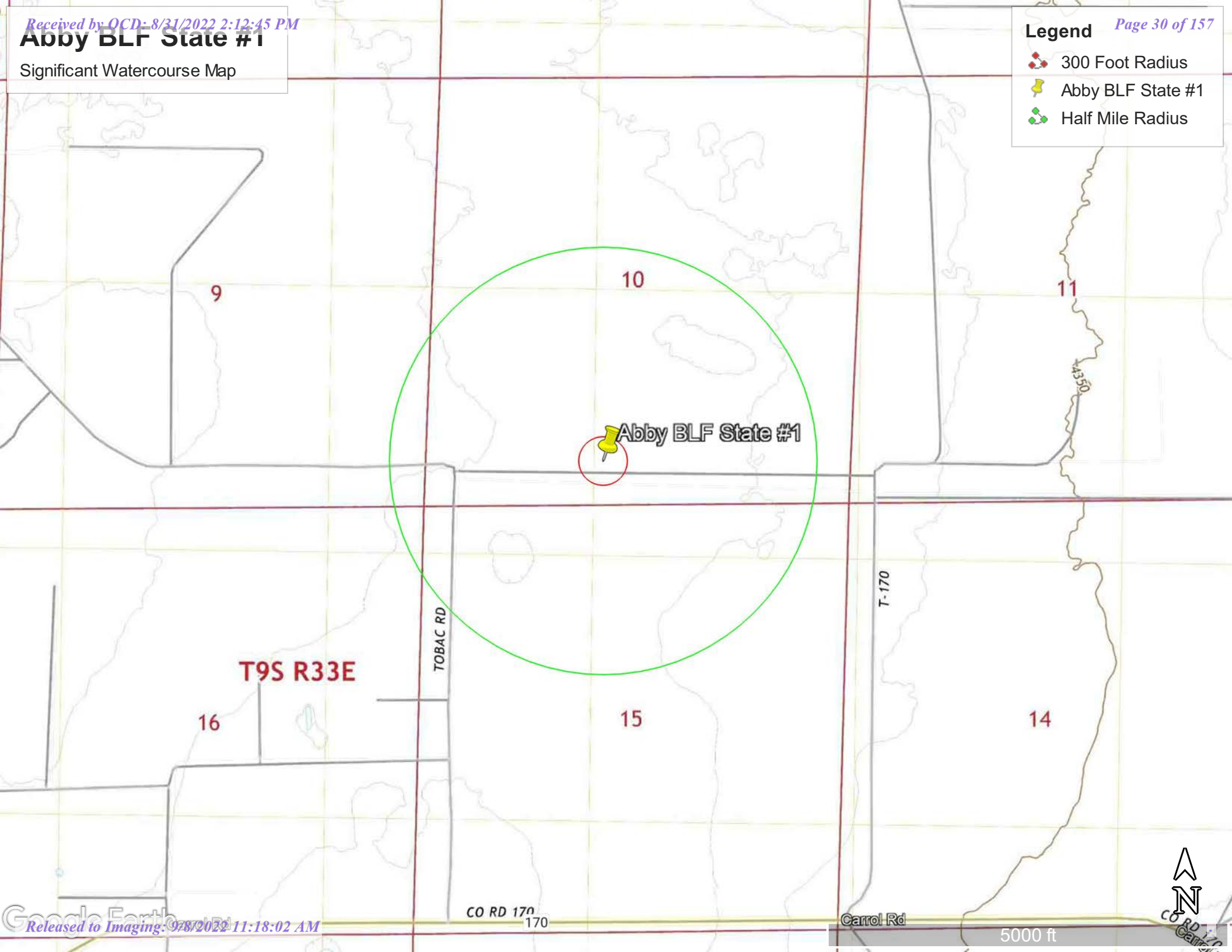
Significant Watercourse Map

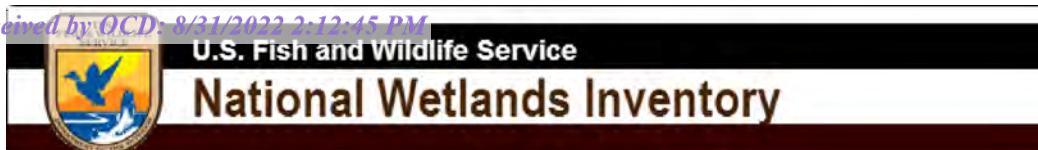
Legend

300 Foot Radius

Abby BLF State #1

Half Mile Radius










## Abby BLF State #1



July 2, 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



103°33'40"W 33°32'48"N



0 250 500 1,000 1,500 2,000 Feet 1:6,000 103°33'3"W 33°32'18"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
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 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 6/21/2022 at 10:19 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

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



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

August 11, 2022

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

RE: Abby BLF State 1

OrderNo.: 2208156

Dear Tom Larson:

Hall Environmental Analysis Laboratory received 6 sample(s) on 8/3/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109



## Analytical Report

Lab Order 2208156

Date Reported: 8/11/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHA1

Project: Abby BLF State 1

Collection Date: 7/29/2022 10:30:00 AM

Lab ID: 2208156-001

Matrix: SOIL

Received Date: 8/3/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JTT
Chloride	ND	60		mg/Kg	20	8/5/2022 11:27:26 PM	69302
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: SB
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	8/8/2022 8:49:07 PM	69267
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/8/2022 8:49:07 PM	69267
Surr: DNOP	83.4	21-129		%Rec	1	8/8/2022 8:49:07 PM	69267
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/6/2022 2:57:00 AM	69246
Surr: BFB	86.5	37.7-212		%Rec	1	8/6/2022 2:57:00 AM	69246
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	8/6/2022 2:57:00 AM	69246
Toluene	ND	0.049		mg/Kg	1	8/6/2022 2:57:00 AM	69246
Ethylbenzene	ND	0.049		mg/Kg	1	8/6/2022 2:57:00 AM	69246
Xylenes, Total	ND	0.098		mg/Kg	1	8/6/2022 2:57:00 AM	69246
Surr: 4-Bromofluorobenzene	81.7	70-130		%Rec	1	8/6/2022 2:57:00 AM	69246

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

<b>Qualifiers:</b>	*	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		

Page 1 of 13

## Analytical Report

Lab Order 2208156

Date Reported: 8/11/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHA2

Project: Abby BLF State 1

Collection Date: 7/29/2022 10:35:00 AM

Lab ID: 2208156-002

Matrix: SOIL

Received Date: 8/3/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JTT
Chloride	ND	60		mg/Kg	20	8/6/2022 12:04:40 AM	69302
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: DGH
Diesel Range Organics (DRO)	29	13		mg/Kg	1	8/5/2022 7:49:00 PM	69267
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	8/5/2022 7:49:00 PM	69267
Surr: DNOP	27.9	21-129		%Rec	1	8/5/2022 7:49:00 PM	69267
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/6/2022 3:17:00 AM	69246
Surr: BFB	91.6	37.7-212		%Rec	1	8/6/2022 3:17:00 AM	69246
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	8/6/2022 3:17:00 AM	69246
Toluene	ND	0.049		mg/Kg	1	8/6/2022 3:17:00 AM	69246
Ethylbenzene	ND	0.049		mg/Kg	1	8/6/2022 3:17:00 AM	69246
Xylenes, Total	ND	0.098		mg/Kg	1	8/6/2022 3:17:00 AM	69246
Surr: 4-Bromofluorobenzene	84.4	70-130		%Rec	1	8/6/2022 3:17:00 AM	69246

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

<b>Qualifiers:</b>	*	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		

Page 2 of 13

## Analytical Report

Lab Order 2208156

Date Reported: 8/11/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHA3

Project: Abby BLF State 1

Collection Date: 7/29/2022 10:40:00 AM

Lab ID: 2208156-003

Matrix: SOIL

Received Date: 8/3/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JTT
Chloride	100	60		mg/Kg	20	8/6/2022 12:41:54 AM	69302
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	8/5/2022 8:02:41 PM	69267
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/5/2022 8:02:41 PM	69267
Surr: DNOP	30.4	21-129		%Rec	1	8/5/2022 8:02:41 PM	69267
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/6/2022 3:37:00 AM	69246
Surr: BFB	90.1	37.7-212		%Rec	1	8/6/2022 3:37:00 AM	69246
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	8/6/2022 3:37:00 AM	69246
Toluene	ND	0.048		mg/Kg	1	8/6/2022 3:37:00 AM	69246
Ethylbenzene	ND	0.048		mg/Kg	1	8/6/2022 3:37:00 AM	69246
Xylenes, Total	ND	0.097		mg/Kg	1	8/6/2022 3:37:00 AM	69246
Surr: 4-Bromofluorobenzene	83.7	70-130		%Rec	1	8/6/2022 3:37:00 AM	69246

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

<b>Qualifiers:</b>	*	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		

Page 3 of 13

## Analytical Report

Lab Order 2208156

Date Reported: 8/11/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHA4

Project: Abby BLF State 1

Collection Date: 7/29/2022 10:45:00 AM

Lab ID: 2208156-004

Matrix: SOIL

Received Date: 8/3/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JTT
Chloride	340	60		mg/Kg	20	8/6/2022 12:54:18 AM	69302
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	8/5/2022 8:16:30 PM	69267
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/5/2022 8:16:30 PM	69267
Surr: DNOP	32.7	21-129		%Rec	1	8/5/2022 8:16:30 PM	69267
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/6/2022 3:57:00 AM	69246
Surr: BFB	86.9	37.7-212		%Rec	1	8/6/2022 3:57:00 AM	69246
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	8/6/2022 3:57:00 AM	69246
Toluene	ND	0.050		mg/Kg	1	8/6/2022 3:57:00 AM	69246
Ethylbenzene	ND	0.050		mg/Kg	1	8/6/2022 3:57:00 AM	69246
Xylenes, Total	ND	0.099		mg/Kg	1	8/6/2022 3:57:00 AM	69246
Surr: 4-Bromofluorobenzene	79.2	70-130		%Rec	1	8/6/2022 3:57:00 AM	69246

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

<b>Qualifiers:</b>	*	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 2208156

Date Reported: 8/11/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHA5

Project: Abby BLF State 1

Collection Date: 7/29/2022 10:50:00 AM

Lab ID: 2208156-005

Matrix: SOIL

Received Date: 8/3/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JTT
Chloride	110	60		mg/Kg	20	8/8/2022 10:14:52 AM	69313
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	8/5/2022 11:02:12 AM	69271
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/5/2022 11:02:12 AM	69271
Surr: DNOP	96.4	21-129		%Rec	1	8/5/2022 11:02:12 AM	69271
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: BRM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/5/2022 8:40:15 PM	69266
Surr: BFB	98.2	37.7-212		%Rec	1	8/5/2022 8:40:15 PM	69266
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: BRM
Benzene	ND	0.024		mg/Kg	1	8/5/2022 8:40:15 PM	69266
Toluene	ND	0.048		mg/Kg	1	8/5/2022 8:40:15 PM	69266
Ethylbenzene	ND	0.048		mg/Kg	1	8/5/2022 8:40:15 PM	69266
Xylenes, Total	ND	0.096		mg/Kg	1	8/5/2022 8:40:15 PM	69266
Surr: 4-Bromofluorobenzene	96.4	70-130		%Rec	1	8/5/2022 8:40:15 PM	69266

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

<b>Qualifiers:</b>	*	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 2208156

Date Reported: 8/11/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHA6

Project: Abby BLF State 1

Collection Date: 7/29/2022 10:55:00 AM

Lab ID: 2208156-006

Matrix: SOIL

Received Date: 8/3/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JTT
Chloride	130	60		mg/Kg	20	8/8/2022 10:27:16 AM	69313
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	8/5/2022 11:43:23 AM	69271
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/5/2022 11:43:23 AM	69271
Surr: DNOP	67.1	21-129		%Rec	1	8/5/2022 11:43:23 AM	69271
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: BRM
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/5/2022 9:51:17 PM	69266
Surr: BFB	101	37.7-212		%Rec	1	8/5/2022 9:51:17 PM	69266
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: BRM
Benzene	ND	0.024		mg/Kg	1	8/5/2022 9:51:17 PM	69266
Toluene	ND	0.047		mg/Kg	1	8/5/2022 9:51:17 PM	69266
Ethylbenzene	ND	0.047		mg/Kg	1	8/5/2022 9:51:17 PM	69266
Xylenes, Total	ND	0.095		mg/Kg	1	8/5/2022 9:51:17 PM	69266
Surr: 4-Bromofluorobenzene	99.3	70-130		%Rec	1	8/5/2022 9:51:17 PM	69266

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

<b>Qualifiers:</b>	*	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#: 2208156

11-Aug-22

**Client:** GHD Midland  
**Project:** Abby BLF State 1

Sample ID: <b>MB-69302</b>	SampType: <b>mblk</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>69302</b>		RunNo: <b>90078</b>							
Prep Date: <b>8/5/2022</b>	Analysis Date: <b>8/5/2022</b>		SeqNo: <b>3211166</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-69302</b>	SampType: <b>lcs</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>69302</b>		RunNo: <b>90078</b>							
Prep Date: <b>8/5/2022</b>	Analysis Date: <b>8/5/2022</b>		SeqNo: <b>3211167</b>		Units: <b>mg/Kg</b>					
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: <b>MB-69313</b>	SampType: <b>mblk</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>69313</b>		RunNo: <b>90109</b>							
Prep Date: <b>8/8/2022</b>	Analysis Date: <b>8/8/2022</b>		SeqNo: <b>3212358</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-69313</b>	SampType: <b>lcs</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>69313</b>		RunNo: <b>90109</b>							
Prep Date: <b>8/8/2022</b>	Analysis Date: <b>8/8/2022</b>		SeqNo: <b>3212359</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.9	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

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

WO#: 2208156

11-Aug-22

**Client:** GHD Midland  
**Project:** Abby BLF State 1

Sample ID: <b>MB-69271</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>69271</b>	RunNo: <b>90075</b>								
Prep Date: <b>8/4/2022</b>	Analysis Date: <b>8/5/2022</b>	SeqNo: <b>3210924</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.4		10.00		83.7	21	129			

Sample ID: <b>LCS-69271</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>69271</b>	RunNo: <b>90075</b>								
Prep Date: <b>8/4/2022</b>	Analysis Date: <b>8/5/2022</b>	SeqNo: <b>3210925</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	15	50.00	0	89.3	64.4	127			
Surr: DNOP	3.9		5.000		78.9	21	129			

Sample ID: <b>2208156-005AMS</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>BHA5</b>	Batch ID: <b>69271</b>	RunNo: <b>90075</b>								
Prep Date: <b>8/4/2022</b>	Analysis Date: <b>8/5/2022</b>	SeqNo: <b>3210927</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	39	14	46.00	0	84.3	36.1	154			
Surr: DNOP	3.0		4.600		65.7	21	129			

Sample ID: <b>2208156-005AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>BHA5</b>	Batch ID: <b>69271</b>	RunNo: <b>90075</b>								
Prep Date: <b>8/4/2022</b>	Analysis Date: <b>8/5/2022</b>	SeqNo: <b>3210928</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	29	14	45.66	0	64.3	36.1	154	27.6	33.9	
Surr: DNOP	2.1		4.566		45.2	21	129	0	0	

Sample ID: <b>MB-69267</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>69267</b>	RunNo: <b>90075</b>								
Prep Date: <b>8/4/2022</b>	Analysis Date: <b>8/5/2022</b>	SeqNo: <b>3210945</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	7.2		10.00		71.9	21	129			

**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#: 2208156

11-Aug-22

**Client:** GHD Midland  
**Project:** Abby BLF State 1

Sample ID: <b>LCS-69267</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>69267</b>		RunNo: <b>90075</b>							
Prep Date: <b>8/4/2022</b>	Analysis Date: <b>8/5/2022</b>		SeqNo: <b>3210946</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	15	50.00	0	84.8	64.4	127			
Surr: DNOP	3.0		5.000		59.9	21	129			

Sample ID: <b>LCS-69340</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>69340</b>		RunNo: <b>90104</b>							
Prep Date: <b>8/8/2022</b>	Analysis Date: <b>8/9/2022</b>		SeqNo: <b>3212922</b>		Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.6		5.000		91.3	21	129			

Sample ID: <b>LCS-69347</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>69347</b>		RunNo: <b>90104</b>							
Prep Date: <b>8/9/2022</b>	Analysis Date: <b>8/9/2022</b>		SeqNo: <b>3212923</b>		Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.5		5.000		89.6	21	129			

Sample ID: <b>MB-69340</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>69340</b>		RunNo: <b>90104</b>							
Prep Date: <b>8/8/2022</b>	Analysis Date: <b>8/9/2022</b>		SeqNo: <b>3212924</b>		Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.8		10.00		98.4	21	129			

Sample ID: <b>MB-69347</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>69347</b>		RunNo: <b>90104</b>							
Prep Date: <b>8/9/2022</b>	Analysis Date: <b>8/9/2022</b>		SeqNo: <b>3212925</b>		Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.7		10.00		96.8	21	129			

**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#: 2208156

11-Aug-22

**Client:** GHD Midland  
**Project:** Abby BLF State 1

Sample ID: <b>ics-69246</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>69246</b>			RunNo: <b>90064</b>						
Prep Date: <b>8/3/2022</b>	Analysis Date: <b>8/5/2022</b>			SeqNo: <b>3209999</b>			Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	96.4	72.3	137			
Surr: BFB	1900		1000		191	37.7	212			

Sample ID: <b>mb-69246</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>PBS</b>	Batch ID: <b>69246</b>			RunNo: <b>90064</b>						
Prep Date: <b>8/3/2022</b>	Analysis Date: <b>8/5/2022</b>			SeqNo: <b>3210000</b>			Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	810		1000		80.5	37.7	212			

Sample ID: <b>2208156-005ams</b>	SampType: <b>MS</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>BHA5</b>	Batch ID: <b>69266</b>			RunNo: <b>90070</b>						
Prep Date: <b>8/4/2022</b>	Analysis Date: <b>8/5/2022</b>			SeqNo: <b>3210371</b>			Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	4.9	24.27	0	112	70	130			
Surr: BFB	2000		970.9		206	37.7	212			

Sample ID: <b>2208156-005amsd</b>	SampType: <b>MSD</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>BHA5</b>	Batch ID: <b>69266</b>			RunNo: <b>90070</b>						
Prep Date: <b>8/4/2022</b>	Analysis Date: <b>8/5/2022</b>			SeqNo: <b>3210372</b>			Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	4.8	24.04	0	112	70	130	0.216	20	
Surr: BFB	2000		961.5		210	37.7	212	0	0	

Sample ID: <b>ics-69266</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>69266</b>			RunNo: <b>90070</b>						
Prep Date: <b>8/4/2022</b>	Analysis Date: <b>8/5/2022</b>			SeqNo: <b>3210414</b>			Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	110	72.3	137			
Surr: BFB	2200		1000		215	37.7	212			S

Sample ID: <b>mb-69266</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>PBS</b>	Batch ID: <b>69266</b>			RunNo: <b>90070</b>						
Prep Date: <b>8/4/2022</b>	Analysis Date: <b>8/5/2022</b>			SeqNo: <b>3210416</b>			Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

**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#: 2208156  
11-Aug-22

Client: GHD Midland  
Project: Abby BLF State 1

Sample ID: mb-69266	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 69266	RunNo: 90070								
Prep Date: 8/4/2022	Analysis Date: 8/5/2022	SeqNo: 3210416		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		108	37.7	212			

- Qualifiers:
- \* Value exceeds Maximum Contaminant Level.
  - D Sample Diluted Due to Matrix
  - H Holding times for preparation or analysis exceeded
  - ND Not Detected at the Reporting Limit
  - PQL Practical 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#: 2208156

11-Aug-22

**Client:** GHD Midland  
**Project:** Abby BLF State 1

Sample ID: <b>ics-69246</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>69246</b>	RunNo: <b>90064</b>								
Prep Date: <b>8/3/2022</b>	Analysis Date: <b>8/5/2022</b>	SeqNo: <b>3210052</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.025	1.000	0	87.1	80	120			
Toluene	0.88	0.050	1.000	0	88.0	80	120			
Ethylbenzene	0.87	0.050	1.000	0	87.3	80	120			
Xylenes, Total	2.6	0.10	3.000	0	86.8	80	120			
Surr: 4-Bromofluorobenzene	0.79		1.000		78.6	70	130			

Sample ID: <b>mb-69246</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>69246</b>	RunNo: <b>90064</b>								
Prep Date: <b>8/3/2022</b>	Analysis Date: <b>8/5/2022</b>	SeqNo: <b>3210053</b> Units: <b>mg/Kg</b>								
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		77.2	70	130			

Sample ID: <b>2208156-006ams</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>BHA6</b>	Batch ID: <b>69266</b>	RunNo: <b>90070</b>								
Prep Date: <b>8/4/2022</b>	Analysis Date: <b>8/5/2022</b>	SeqNo: <b>3210422</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.024	0.9524	0	101	68.8	120			
Toluene	0.99	0.048	0.9524	0	104	73.6	124			
Ethylbenzene	1.0	0.048	0.9524	0	105	72.7	129			
Xylenes, Total	3.0	0.095	2.857	0	104	75.7	126			
Surr: 4-Bromofluorobenzene	0.95		0.9524		99.6	70	130			

Sample ID: <b>2208156-006amsd</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>BHA6</b>	Batch ID: <b>69266</b>	RunNo: <b>90070</b>								
Prep Date: <b>8/4/2022</b>	Analysis Date: <b>8/5/2022</b>	SeqNo: <b>3210423</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.024	0.9662	0	103	68.8	120	3.79	20	
Toluene	1.0	0.048	0.9662	0	107	73.6	124	3.81	20	
Ethylbenzene	1.0	0.048	0.9662	0	108	72.7	129	4.06	20	
Xylenes, Total	3.1	0.097	2.899	0	107	75.7	126	4.51	20	
Surr: 4-Bromofluorobenzene	0.97		0.9662		99.9	70	130	0	0	

**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#: 2208156

11-Aug-22

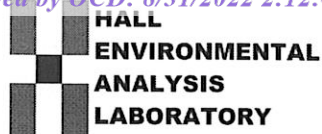
**Client:** GHD Midland  
**Project:** Abby BLF State 1

Sample ID: <b>LCS-69266</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>69266</b>	RunNo: <b>90070</b>								
Prep Date: <b>8/4/2022</b>	Analysis Date: <b>8/5/2022</b>	SeqNo: <b>3210464</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	1.000	0	97.6	80	120			
Toluene	1.0	0.050	1.000	0	101	80	120			
Ethylbenzene	1.0	0.050	1.000	0	99.8	80	120			
Xylenes, Total	3.0	0.10	3.000	0	100	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	70	130			

Sample ID: <b>mb-69266</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>69266</b>	RunNo: <b>90070</b>								
Prep Date: <b>8/4/2022</b>	Analysis Date: <b>8/5/2022</b>	SeqNo: <b>3210466</b>	Units: <b>mg/Kg</b>							
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			

**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: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: GHD Midland

Work Order Number: 2208156

RcptNo: 1

Received By: Juan Rojas 8/3/2022 7:15:00 AM

Completed By: Sean Livingston 8/3/2022 8:54:27 AM

Reviewed By: CMC 8/3/22

Juan Rojas

Sean Livingston

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  $6.0^{\circ}\text{C}$ ? 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: KPA 8:03:22

Special Handling (if applicable)

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

Person Notified: \_\_\_\_\_

Date: \_\_\_\_\_

By Whom: \_\_\_\_\_

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: \_\_\_\_\_

Client Instructions: \_\_\_\_\_

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.9	Good				
2	2.1	Good				

## Chain-of-Custody Record

Client: GHD

Mailing Address: 324 W. Main St. Suite 108

Artesia, NM 88210

Phone #: (505)377-4218

email or Fax#: j.t.murray@ghd.com

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)Accreditation: ☐ Az Compliance☐ NELAC ☐ Other☐ EDD (Type)

Turn-Around Time:

☒ Standard ☒ Rush 5 days

Project Name:

Abby BLF State #1

Project #:

11220612

Project Manager: JT Murray

Tom Larson

Sampler: Liam Giersdorf

On Ice: ☒ Yes ☐ No

# of Coolers: 2

Cooler Temp (including CF): 59-0-59 (°C)

21-0-21

HEAL No.

2208156

Container Type and #

Jar

001

002

003

004

005

006

Preservative Type

Jar

001

002

003

004

005

006

TPH:8015D(GRO / DRO / MRO)

X

X

X

X

X

X

X

X

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8081 Pesticides/8082 PCB's

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EDB (Method 504.1)

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Cl, F, Br, NO<sub>3</sub>, NO<sub>2</sub>, PO<sub>4</sub>, SO<sub>4</sub>

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8270 (Semi-VOA)

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Total Coliform (Present/Absent)

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X

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X

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X

Remarks: Please email chase\_settle@egresources.com  
 tom.larson@ghd.com; liam.giersdorf@ghd.com;  
 matthew.laughlin@ghd.com; amber-griffin@egresources.com;  
 along w/ JT Murray above. Bill to Chase Settle, EG



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

August 15, 2022

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

RE: Abby BLF State 1

OrderNo.: 2208247

Dear Tom Larson:

Hall Environmental Analysis Laboratory received 11 sample(s) on 8/4/2022 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://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 horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109



## Analytical Report

Lab Order 2208247

Date Reported: 8/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHB-1

Project: Abby BLF State 1

Collection Date: 8/2/2022 1:00:00 PM

Lab ID: 2208247-001

Matrix: SOIL

Received Date: 8/4/2022 7:04:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JTT
Chloride	ND	60		mg/Kg	20	8/8/2022 12:43:45 PM	69313
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	8/5/2022 1:34:35 PM	69271
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/5/2022 1:34:35 PM	69271
Surr: DNOP	45.3	21-129		%Rec	1	8/5/2022 1:34:35 PM	69271
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: BRM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/6/2022 4:33:23 AM	69266
Surr: BFB	98.6	37.7-212		%Rec	1	8/6/2022 4:33:23 AM	69266
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: BRM
Benzene	ND	0.024		mg/Kg	1	8/6/2022 4:33:23 AM	69266
Toluene	ND	0.049		mg/Kg	1	8/6/2022 4:33:23 AM	69266
Ethylbenzene	ND	0.049		mg/Kg	1	8/6/2022 4:33:23 AM	69266
Xylenes, Total	ND	0.097		mg/Kg	1	8/6/2022 4:33:23 AM	69266
Surr: 4-Bromofluorobenzene	95.9	70-130		%Rec	1	8/6/2022 4:33:23 AM	69266

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

<b>Qualifiers:</b>	*	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		

Page 1 of 18

## Analytical Report

Lab Order 2208247

Date Reported: 8/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHB-2

Project: Abby BLF State 1

Collection Date: 8/2/2022 1:05:00 PM

Lab ID: 2208247-002

Matrix: SOIL

Received Date: 8/4/2022 7:04:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JTT
Chloride	64	60		mg/Kg	20	8/8/2022 1:20:58 PM	69313
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: DGH
Diesel Range Organics (DRO)	210	14		mg/Kg	1	8/5/2022 1:48:27 PM	69271
Motor Oil Range Organics (MRO)	57	47		mg/Kg	1	8/5/2022 1:48:27 PM	69271
Surr: DNOP	60.0	21-129		%Rec	1	8/5/2022 1:48:27 PM	69271
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: BRM
Gasoline Range Organics (GRO)	ND	24		mg/Kg	5	8/6/2022 4:57:08 AM	69266
Surr: BFB	99.2	37.7-212		%Rec	5	8/6/2022 4:57:08 AM	69266
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: BRM
Benzene	ND	0.12		mg/Kg	5	8/6/2022 4:57:08 AM	69266
Toluene	ND	0.24		mg/Kg	5	8/6/2022 4:57:08 AM	69266
Ethylbenzene	ND	0.24		mg/Kg	5	8/6/2022 4:57:08 AM	69266
Xylenes, Total	ND	0.49		mg/Kg	5	8/6/2022 4:57:08 AM	69266
Surr: 4-Bromofluorobenzene	94.7	70-130		%Rec	5	8/6/2022 4:57:08 AM	69266

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

<b>Qualifiers:</b>	*	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 2208247

Date Reported: 8/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHB-3

Project: Abby BLF State 1

Collection Date: 8/2/2022 1:10:00 PM

Lab ID: 2208247-003

Matrix: SOIL

Received Date: 8/4/2022 7:04:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JTT
Chloride	330	60		mg/Kg	20	8/8/2022 1:33:22 PM	69313
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	8/5/2022 2:02:24 PM	69271
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/5/2022 2:02:24 PM	69271
Surr: DNOP	62.5	21-129		%Rec	1	8/5/2022 2:02:24 PM	69271
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: BRM
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/6/2022 5:20:52 AM	69266
Surr: BFB	97.4	37.7-212		%Rec	1	8/6/2022 5:20:52 AM	69266
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: BRM
Benzene	ND	0.023		mg/Kg	1	8/6/2022 5:20:52 AM	69266
Toluene	ND	0.046		mg/Kg	1	8/6/2022 5:20:52 AM	69266
Ethylbenzene	ND	0.046		mg/Kg	1	8/6/2022 5:20:52 AM	69266
Xylenes, Total	ND	0.093		mg/Kg	1	8/6/2022 5:20:52 AM	69266
Surr: 4-Bromofluorobenzene	93.8	70-130		%Rec	1	8/6/2022 5:20:52 AM	69266

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

<b>Qualifiers:</b>	*	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 2208247

Date Reported: 8/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHB-4

Project: Abby BLF State 1

Collection Date: 8/2/2022 1:15:00 PM

Lab ID: 2208247-004

Matrix: SOIL

Received Date: 8/4/2022 7:04:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JTT
Chloride	130	60		mg/Kg	20	8/8/2022 1:45:46 PM	69313
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: DGH
Diesel Range Organics (DRO)	120	14		mg/Kg	1	8/5/2022 2:16:16 PM	69271
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/5/2022 2:16:16 PM	69271
Surr: DNOP	70.3	21-129		%Rec	1	8/5/2022 2:16:16 PM	69271
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: BRM
Gasoline Range Organics (GRO)	ND	24		mg/Kg	5	8/6/2022 5:44:37 AM	69266
Surr: BFB	99.1	37.7-212		%Rec	5	8/6/2022 5:44:37 AM	69266
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: BRM
Benzene	ND	0.12		mg/Kg	5	8/6/2022 5:44:37 AM	69266
Toluene	ND	0.24		mg/Kg	5	8/6/2022 5:44:37 AM	69266
Ethylbenzene	ND	0.24		mg/Kg	5	8/6/2022 5:44:37 AM	69266
Xylenes, Total	ND	0.49		mg/Kg	5	8/6/2022 5:44:37 AM	69266
Surr: 4-Bromofluorobenzene	95.4	70-130		%Rec	5	8/6/2022 5:44:37 AM	69266

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

<b>Qualifiers:</b>	*	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 2208247

Date Reported: 8/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHC-1

Project: Abby BLF State 1

Collection Date: 8/2/2022 12:00:00 PM

Lab ID: 2208247-005

Matrix: SOIL

Received Date: 8/4/2022 7:04:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JTT
Chloride	240	60		mg/Kg	20	8/8/2022 1:58:11 PM	69313
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	8/5/2022 2:30:03 PM	69271
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/5/2022 2:30:03 PM	69271
Surr: DNOP	61.5	21-129		%Rec	1	8/5/2022 2:30:03 PM	69271
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: BRM
Gasoline Range Organics (GRO)	ND	24		mg/Kg	5	8/6/2022 6:08:18 AM	69266
Surr: BFB	102	37.7-212		%Rec	5	8/6/2022 6:08:18 AM	69266
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: BRM
Benzene	ND	0.12		mg/Kg	5	8/6/2022 6:08:18 AM	69266
Toluene	ND	0.24		mg/Kg	5	8/6/2022 6:08:18 AM	69266
Ethylbenzene	ND	0.24		mg/Kg	5	8/6/2022 6:08:18 AM	69266
Xylenes, Total	ND	0.48		mg/Kg	5	8/6/2022 6:08:18 AM	69266
Surr: 4-Bromofluorobenzene	97.7	70-130		%Rec	5	8/6/2022 6:08:18 AM	69266

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

<b>Qualifiers:</b>	*	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 2208247

Date Reported: 8/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHC-2

Project: Abby BLF State 1

Collection Date: 8/2/2022 11:05:00 AM

Lab ID: 2208247-006

Matrix: SOIL

Received Date: 8/4/2022 7:04:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JTT
Chloride	70	60		mg/Kg	20	8/8/2022 2:10:35 PM	69313
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	8/5/2022 2:43:51 PM	69271
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/5/2022 2:43:51 PM	69271
Surr: DNOP	66.7	21-129		%Rec	1	8/5/2022 2:43:51 PM	69271
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: BRM
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/6/2022 6:31:59 AM	69266
Surr: BFB	102	37.7-212		%Rec	1	8/6/2022 6:31:59 AM	69266
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: BRM
Benzene	ND	0.023		mg/Kg	1	8/6/2022 6:31:59 AM	69266
Toluene	ND	0.047		mg/Kg	1	8/6/2022 6:31:59 AM	69266
Ethylbenzene	ND	0.047		mg/Kg	1	8/6/2022 6:31:59 AM	69266
Xylenes, Total	ND	0.094		mg/Kg	1	8/6/2022 6:31:59 AM	69266
Surr: 4-Bromofluorobenzene	98.6	70-130		%Rec	1	8/6/2022 6:31:59 AM	69266

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

<b>Qualifiers:</b>	*	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 2208247

Date Reported: 8/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHC-3

Project: Abby BLF State 1

Collection Date: 8/2/2022 11:10:00 AM

Lab ID: 2208247-007

Matrix: SOIL

Received Date: 8/4/2022 7:04:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JTT
Chloride	210	60		mg/Kg	20	8/8/2022 2:47:48 PM	69313
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: DGH
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	8/5/2022 2:57:43 PM	69271
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	8/5/2022 2:57:43 PM	69271
Surr: DNOP	60.8	21-129		%Rec	1	8/5/2022 2:57:43 PM	69271
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: BRM
Gasoline Range Organics (GRO)	ND	24		mg/Kg	5	8/6/2022 6:55:41 AM	69266
Surr: BFB	101	37.7-212		%Rec	5	8/6/2022 6:55:41 AM	69266
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: BRM
Benzene	ND	0.12		mg/Kg	5	8/6/2022 6:55:41 AM	69266
Toluene	ND	0.24		mg/Kg	5	8/6/2022 6:55:41 AM	69266
Ethylbenzene	ND	0.24		mg/Kg	5	8/6/2022 6:55:41 AM	69266
Xylenes, Total	ND	0.49		mg/Kg	5	8/6/2022 6:55:41 AM	69266
Surr: 4-Bromofluorobenzene	97.7	70-130		%Rec	5	8/6/2022 6:55:41 AM	69266

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

<b>Qualifiers:</b>	*	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 2208247

Date Reported: 8/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHC-4

Project: Abby BLF State 1

Collection Date: 8/2/2022 11:15:00 AM

Lab ID: 2208247-008

Matrix: SOIL

Received Date: 8/4/2022 7:04:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JTT
Chloride	ND	60		mg/Kg	20	8/8/2022 3:00:12 PM	69313
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: DGH
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	8/5/2022 3:11:47 PM	69271
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	8/5/2022 3:11:47 PM	69271
Surr: DNOP	66.1	21-129		%Rec	1	8/5/2022 3:11:47 PM	69271
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: BRM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/6/2022 7:19:23 AM	69266
Surr: BFB	101	37.7-212		%Rec	1	8/6/2022 7:19:23 AM	69266
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: BRM
Benzene	ND	0.025		mg/Kg	1	8/6/2022 7:19:23 AM	69266
Toluene	ND	0.049		mg/Kg	1	8/6/2022 7:19:23 AM	69266
Ethylbenzene	ND	0.049		mg/Kg	1	8/6/2022 7:19:23 AM	69266
Xylenes, Total	ND	0.099		mg/Kg	1	8/6/2022 7:19:23 AM	69266
Surr: 4-Bromofluorobenzene	98.2	70-130		%Rec	1	8/6/2022 7:19:23 AM	69266

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

<b>Qualifiers:</b>	*	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 2208247

Date Reported: 8/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHD-2

Project: Abby BLF State 1

Collection Date: 8/2/2022 2:05:00 PM

Lab ID: 2208247-009

Matrix: SOIL

Received Date: 8/4/2022 7:04:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JTT
Chloride	ND	60		mg/Kg	20	8/8/2022 3:12:37 PM	69313
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	8/8/2022 3:16:19 PM	69285
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/8/2022 3:16:19 PM	69285
Surr: DNOP	96.0	21-129		%Rec	1	8/8/2022 3:16:19 PM	69285
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: BRM
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/6/2022 8:53:56 AM	69269
Surr: BFB	103	37.7-212		%Rec	1	8/6/2022 8:53:56 AM	69269
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: BRM
Benzene	ND	0.023		mg/Kg	1	8/6/2022 8:53:56 AM	69269
Toluene	ND	0.047		mg/Kg	1	8/6/2022 8:53:56 AM	69269
Ethylbenzene	ND	0.047		mg/Kg	1	8/6/2022 8:53:56 AM	69269
Xylenes, Total	ND	0.093		mg/Kg	1	8/6/2022 8:53:56 AM	69269
Surr: 4-Bromofluorobenzene	98.2	70-130		%Rec	1	8/6/2022 8:53:56 AM	69269

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

<b>Qualifiers:</b>	*	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 2208247

Date Reported: 8/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHD-3

Project: Abby BLF State 1

Collection Date: 8/2/2022 2:10:00 PM

Lab ID: 2208247-010

Matrix: SOIL

Received Date: 8/4/2022 7:04:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JTT
Chloride	ND	60		mg/Kg	20	8/8/2022 3:25:01 PM	69313
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	8/8/2022 3:57:52 PM	69285
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/8/2022 3:57:52 PM	69285
Surr: DNOP	94.2	21-129		%Rec	1	8/8/2022 3:57:52 PM	69285
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: BRM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/6/2022 10:05:05 AM	69269
Surr: BFB	102	37.7-212		%Rec	1	8/6/2022 10:05:05 AM	69269
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: BRM
Benzene	ND	0.025		mg/Kg	1	8/6/2022 10:05:05 AM	69269
Toluene	ND	0.049		mg/Kg	1	8/6/2022 10:05:05 AM	69269
Ethylbenzene	ND	0.049		mg/Kg	1	8/6/2022 10:05:05 AM	69269
Xylenes, Total	ND	0.098		mg/Kg	1	8/6/2022 10:05:05 AM	69269
Surr: 4-Bromofluorobenzene	98.6	70-130		%Rec	1	8/6/2022 10:05:05 AM	69269

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

<b>Qualifiers:</b>	*	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 2208247

Date Reported: 8/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHD-4

Project: Abby BLF State 1

Collection Date: 8/2/2022 2:15:00 PM

Lab ID: 2208247-011

Matrix: SOIL

Received Date: 8/4/2022 7:04:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JTT
Chloride	ND	60		mg/Kg	20	8/8/2022 3:37:25 PM	69313
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	8/8/2022 4:11:44 PM	69285
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/8/2022 4:11:44 PM	69285
Surr: DNOP	99.1	21-129		%Rec	1	8/8/2022 4:11:44 PM	69285
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: BRM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/6/2022 12:03:09 PM	69269
Surr: BFB	103	37.7-212		%Rec	1	8/6/2022 12:03:09 PM	69269
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: BRM
Benzene	ND	0.024		mg/Kg	1	8/6/2022 12:03:09 PM	69269
Toluene	ND	0.048		mg/Kg	1	8/6/2022 12:03:09 PM	69269
Ethylbenzene	ND	0.048		mg/Kg	1	8/6/2022 12:03:09 PM	69269
Xylenes, Total	ND	0.097		mg/Kg	1	8/6/2022 12:03:09 PM	69269
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	8/6/2022 12:03:09 PM	69269

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

<b>Qualifiers:</b>	*	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#: 2208247

15-Aug-22

**Client:** GHD Midland  
**Project:** Abby BLF State 1

Sample ID: <b>MB-69313</b>	SampType: <b>mblk</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>69313</b>	RunNo: <b>90109</b>								
Prep Date: <b>8/8/2022</b>	Analysis Date: <b>8/8/2022</b>	SeqNo: <b>3212358</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-69313</b>	SampType: <b>lcs</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>69313</b>	RunNo: <b>90109</b>								
Prep Date: <b>8/8/2022</b>	Analysis Date: <b>8/8/2022</b>	SeqNo: <b>3212359</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.9	90	110			

**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#: 2208247

15-Aug-22

**Client:** GHD Midland  
**Project:** Abby BLF State 1

Sample ID: <b>MB-69271</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>69271</b>	RunNo: <b>90075</b>								
Prep Date: <b>8/4/2022</b>	Analysis Date: <b>8/5/2022</b>	SeqNo: <b>3210924</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.4		10.00		83.7	21	129			

Sample ID: <b>LCS-69271</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>69271</b>	RunNo: <b>90075</b>								
Prep Date: <b>8/4/2022</b>	Analysis Date: <b>8/5/2022</b>	SeqNo: <b>3210925</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	15	50.00	0	89.3	64.4	127			
Surr: DNOP	3.9		5.000		78.9	21	129			

Sample ID: <b>MB-69285</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>69285</b>	RunNo: <b>90121</b>								
Prep Date: <b>8/5/2022</b>	Analysis Date: <b>8/8/2022</b>	SeqNo: <b>3212781</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.4		10.00		94.1	21	129			

Sample ID: <b>LCS-69285</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>69285</b>	RunNo: <b>90121</b>								
Prep Date: <b>8/5/2022</b>	Analysis Date: <b>8/8/2022</b>	SeqNo: <b>3212782</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	15	50.00	0	82.2	64.4	127			
Surr: DNOP	4.7		5.000		93.1	21	129			

Sample ID: <b>2208247-009AMS</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>BHD-2</b>	Batch ID: <b>69285</b>	RunNo: <b>90121</b>								
Prep Date: <b>8/5/2022</b>	Analysis Date: <b>8/8/2022</b>	SeqNo: <b>3212784</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	15	48.40	0	87.7	36.1	154			
Surr: DNOP	4.5		4.840		93.7	21	129			

**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#: 2208247

15-Aug-22

**Client:** GHD Midland  
**Project:** Abby BLF State 1

Sample ID: <b>2208247-009AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>BHD-2</b>	Batch ID: <b>69285</b>	RunNo: <b>90121</b>								
Prep Date: <b>8/5/2022</b>	Analysis Date: <b>8/8/2022</b>	SeqNo: <b>3212785</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	39	14	45.25	0	86.4	36.1	154	8.20	33.9	
Surr: DNOP	4.1		4.525		91.3	21	129	0	0	

Sample ID: <b>LCS-69340</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>69340</b>	RunNo: <b>90104</b>								
Prep Date: <b>8/8/2022</b>	Analysis Date: <b>8/9/2022</b>	SeqNo: <b>3212922</b> Units: <b>%Rec</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.6		5.000		91.3	21	129			

Sample ID: <b>MB-69340</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>69340</b>	RunNo: <b>90104</b>								
Prep Date: <b>8/8/2022</b>	Analysis Date: <b>8/9/2022</b>	SeqNo: <b>3212924</b> Units: <b>%Rec</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.8		10.00		98.4	21	129			

**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#: 2208247

15-Aug-22

**Client:** GHD Midland  
**Project:** Abby BLF State 1

Sample ID: 2208247-009ams	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: BHD-2	Batch ID: 69269	RunNo: 90070								
Prep Date: 8/4/2022	Analysis Date: 8/6/2022	SeqNo: 3210393 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	4.7	23.28	0	124	70	130			
Surr: BFB	2100		931.1		221	37.7	212			S

Sample ID: 2208247-009amsd	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: BHD-2	Batch ID: 69269	RunNo: 90070								
Prep Date: 8/4/2022	Analysis Date: 8/6/2022	SeqNo: 3210394 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.6	23.19	0	113	70	130	10.1	20	
Surr: BFB	2000		927.6		212	37.7	212	0	0	

Sample ID: lcs-69266	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 69266	RunNo: 90070								
Prep Date: 8/4/2022	Analysis Date: 8/5/2022	SeqNo: 3210414 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	110	72.3	137			
Surr: BFB	2200		1000		215	37.7	212			S

Sample ID: lcs-69269	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 69269	RunNo: 90070								
Prep Date: 8/4/2022	Analysis Date: 8/6/2022	SeqNo: 3210415 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	72.3	137			
Surr: BFB	2000		1000		200	37.7	212			

Sample ID: mb-69266	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 69266	RunNo: 90070								
Prep Date: 8/4/2022	Analysis Date: 8/5/2022	SeqNo: 3210416 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		108	37.7	212			

Sample ID: mb-69269	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 69269	RunNo: 90070								
Prep Date: 8/4/2022	Analysis Date: 8/6/2022	SeqNo: 3210417 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

**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#: 2208247

15-Aug-22

Client: GHD Midland  
Project: Abby BLF State 1

Sample ID: mb-69269	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 69269	RunNo: 90070								
Prep Date: 8/4/2022	Analysis Date: 8/6/2022	SeqNo: 3210417		Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		103	37.7	212			

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		

Page 16 of 18

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

WO#: 2208247

15-Aug-22

**Client:** GHD Midland  
**Project:** Abby BLF State 1

Sample ID: 2208247-010ams	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: BHD-3	Batch ID: 69269	RunNo: 90070								
Prep Date: 8/4/2022	Analysis Date: 8/6/2022	SeqNo: 3210444 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.024	0.9737	0	108	68.8	120			
Toluene	1.1	0.049	0.9737	0	113	73.6	124			
Ethylbenzene	1.1	0.049	0.9737	0	115	72.7	129			
Xylenes, Total	3.3	0.097	2.921	0	114	75.7	126			
Surr: 4-Bromofluorobenzene	0.99		0.9737		102	70	130			

Sample ID: 2208247-010amsd	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: BHD-3	Batch ID: 69269	RunNo: 90070								
Prep Date: 8/4/2022	Analysis Date: 8/6/2022	SeqNo: 3210445 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.024	0.9775	0	113	68.8	120	4.28	20	
Toluene	1.1	0.049	0.9775	0	117	73.6	124	4.16	20	
Ethylbenzene	1.2	0.049	0.9775	0	120	72.7	129	4.64	20	
Xylenes, Total	3.5	0.098	2.933	0	120	75.7	126	5.21	20	
Surr: 4-Bromofluorobenzene	0.99		0.9775		101	70	130	0	0	

Sample ID: LCS-69266	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 69266	RunNo: 90070								
Prep Date: 8/4/2022	Analysis Date: 8/5/2022	SeqNo: 3210464 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	1.000	0	97.6	80	120			
Toluene	1.0	0.050	1.000	0	101	80	120			
Ethylbenzene	1.0	0.050	1.000	0	99.8	80	120			
Xylenes, Total	3.0	0.10	3.000	0	100	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	70	130			

Sample ID: LCS-69269	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 69269	RunNo: 90070								
Prep Date: 8/4/2022	Analysis Date: 8/6/2022	SeqNo: 3210465 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	96.0	80	120			
Toluene	0.99	0.050	1.000	0	99.1	80	120			
Ethylbenzene	0.99	0.050	1.000	0	98.6	80	120			
Xylenes, Total	3.0	0.10	3.000	0	98.6	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	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#: 2208247

15-Aug-22

**Client:** GHD Midland  
**Project:** Abby BLF State 1

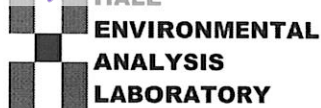
Sample ID: <b>mb-69266</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>69266</b>	RunNo: <b>90070</b>								
Prep Date: <b>8/4/2022</b>	Analysis Date: <b>8/5/2022</b>	SeqNo: <b>3210466</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	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: <b>mb-69269</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>69269</b>	RunNo: <b>90070</b>								
Prep Date: <b>8/4/2022</b>	Analysis Date: <b>8/6/2022</b>	SeqNo: <b>3210467</b>	Units: <b>mg/Kg</b>							
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	0.99		1.000		99.1	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		





## Sample Log-In Check List

Client Name: GHD Midland

Work Order Number: 2208247

RcptNo: 1

Received By: Juan Rojas

8/4/2022 7:04:00 AM

*Juan Rojas*

Completed By: Sean Livingston

8/4/2022 8:17:50 AM

*Sean Livingston*

Reviewed By:

*KPC**8.04.22***Chain of Custody**

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

**Log In**

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? 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:

(&lt;2 or &gt;12 unless noted)

Adjusted?

Checked by: *JR 8/4/22***Special Handling (if applicable)**

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

Person Notified:

Date:

By Whom:

Via:

☐ eMail☐ Phone☐ Fax☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

**17. Cooler Information**

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.1	Good				
2	0.5	Good				

## Chain-of-Custody Record

Client: GHD

Mailing Address: 324 W. Main St. Suite 108

Artesia, NM 88210

Phone #: (505) 377-4218

email or Fax#: jt.murray@ghd.com

QA/QC Package:

☐ Standard☐ Level 4 (Full Validation)Accreditation: ☐ Az Compliance☐ NELAC ☐ Other☐ EDD (Type)

Turn-Around Time:

☒ Standard☒ Rush 5 Day

Project Name:

Abby BLF-Site #1

Project #:

11220612

Project Manager: JT Murray

Tom Larson

Sampler: Liam Giersdorf

On Ice: ☒ Yes ☐ No

# of Coolers: 2

Cooler Temp (including CFI): 0.97 + 0.2 = 1.1 (°C)

Container Type and #

Preservative Type

HEAL No.

2209247

001

002

003

004

005

006

007

008

009

010

011

Date: 08/31/2022

Time: 0830

Relinquished by: Liam Giersdorf

Date: 08/31/2022

Time: 1900

Relinquished by: Murray

Received by:

Murray

Date:

8/31/22

Time:

800

Received by:

Murray

Date:

8/31/22

Time:

800

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Murray

Date:

8/31/22



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

August 16, 2022

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

RE: Abby BLF State 1

OrderNo.: 2208344

Dear Tom Larson:

Hall Environmental Analysis Laboratory received 15 sample(s) on 8/5/2022 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://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 horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109



## Analytical Report

Lab Order 2208344

Date Reported: 8/16/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHD1

Project: Abby BLF State 1

Collection Date: 8/3/2022 12:00:00 PM

Lab ID: 2208344-001

Matrix: SOIL

Received Date: 8/5/2022 6:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JMT</b>
Chloride	160	60		mg/Kg	20	8/9/2022 12:30:32 PM	69351
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>SB</b>
Diesel Range Organics (DRO)	4900	140		mg/Kg	10	8/9/2022 10:38:01 PM	69318
Motor Oil Range Organics (MRO)	910	460		mg/Kg	10	8/9/2022 10:38:01 PM	69318
Surr: DNOP	0	21-129	S	%Rec	10	8/9/2022 10:38:01 PM	69318
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	770	23		mg/Kg	5	8/7/2022 10:20:00 AM	69288
Surr: BFB	360	37.7-212	S	%Rec	5	8/7/2022 10:20:00 AM	69288
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>CCM</b>
Benzene	ND	0.12		mg/Kg	5	8/7/2022 10:20:00 AM	69288
Toluene	4.7	0.23		mg/Kg	5	8/7/2022 10:20:00 AM	69288
Ethylbenzene	5.6	0.23		mg/Kg	5	8/7/2022 10:20:00 AM	69288
Xylenes, Total	43	0.47		mg/Kg	5	8/7/2022 10:20:00 AM	69288
Surr: 4-Bromofluorobenzene	153	70-130	S	%Rec	5	8/7/2022 10:20:00 AM	69288

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

<b>Qualifiers:</b>	*	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 2208344

Date Reported: 8/16/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWA1

Project: Abby BLF State 1

Collection Date: 8/3/2022 11:00:00 AM

Lab ID: 2208344-002

Matrix: SOIL

Received Date: 8/5/2022 6:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	8/9/2022 12:42:57 PM	69351
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	8/9/2022 3:05:24 PM	69318
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/9/2022 3:05:24 PM	69318
Surr: DNOP	68.7	21-129		%Rec	1	8/9/2022 3:05:24 PM	69318
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/7/2022 10:40:00 AM	69288
Surr: BFB	116	37.7-212		%Rec	1	8/7/2022 10:40:00 AM	69288
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>CCM</b>
Benzene	ND	0.023		mg/Kg	1	8/7/2022 10:40:00 AM	69288
Toluene	ND	0.047		mg/Kg	1	8/7/2022 10:40:00 AM	69288
Ethylbenzene	ND	0.047		mg/Kg	1	8/7/2022 10:40:00 AM	69288
Xylenes, Total	ND	0.094		mg/Kg	1	8/7/2022 10:40:00 AM	69288
Surr: 4-Bromofluorobenzene	85.4	70-130		%Rec	1	8/7/2022 10:40:00 AM	69288

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

<b>Qualifiers:</b>	*	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		

Page 2 of 22



## Analytical Report

Lab Order 2208344

Date Reported: 8/16/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWA2

Project: Abby BLF State 1

Collection Date: 8/3/2022 11:05:00 AM

Lab ID: 2208344-003

Matrix: SOIL

Received Date: 8/5/2022 6:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	70	60		mg/Kg	20	8/9/2022 1:44:59 PM	69351
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	8/9/2022 3:19:34 PM	69318
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/9/2022 3:19:34 PM	69318
Surr: DNOP	52.2	21-129		%Rec	1	8/9/2022 3:19:34 PM	69318
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/7/2022 11:00:00 AM	69288
Surr: BFB	88.8	37.7-212		%Rec	1	8/7/2022 11:00:00 AM	69288
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	8/7/2022 11:00:00 AM	69288
Toluene	ND	0.050		mg/Kg	1	8/7/2022 11:00:00 AM	69288
Ethylbenzene	ND	0.050		mg/Kg	1	8/7/2022 11:00:00 AM	69288
Xylenes, Total	ND	0.099		mg/Kg	1	8/7/2022 11:00:00 AM	69288
Surr: 4-Bromofluorobenzene	82.2	70-130		%Rec	1	8/7/2022 11:00:00 AM	69288

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

<b>Qualifiers:</b>	*	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 2208344

Date Reported: 8/16/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWA3

Project: Abby BLF State 1

Collection Date: 8/3/2022 1:10:00 AM

Lab ID: 2208344-004

Matrix: SOIL

Received Date: 8/5/2022 6:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	160	60		mg/Kg	20	8/9/2022 1:57:23 PM	69351
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	8/9/2022 3:33:32 PM	69318
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/9/2022 3:33:32 PM	69318
Surr: DNOP	58.8	21-129		%Rec	1	8/9/2022 3:33:32 PM	69318
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/7/2022 11:20:00 AM	69288
Surr: BFB	85.1	37.7-212		%Rec	1	8/7/2022 11:20:00 AM	69288
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	8/7/2022 11:20:00 AM	69288
Toluene	ND	0.048		mg/Kg	1	8/7/2022 11:20:00 AM	69288
Ethylbenzene	ND	0.048		mg/Kg	1	8/7/2022 11:20:00 AM	69288
Xylenes, Total	ND	0.097		mg/Kg	1	8/7/2022 11:20:00 AM	69288
Surr: 4-Bromofluorobenzene	77.2	70-130		%Rec	1	8/7/2022 11:20:00 AM	69288

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

<b>Qualifiers:</b>	*	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 2208344

Date Reported: 8/16/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWB1

Project: Abby BLF State 1

Collection Date: 8/3/2022 11:30:00 AM

Lab ID: 2208344-005

Matrix: SOIL

Received Date: 8/5/2022 6:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	64	60		mg/Kg	20	8/9/2022 2:34:36 PM	69351
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	8/9/2022 3:47:16 PM	69318
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/9/2022 3:47:16 PM	69318
Surr: DNOP	56.5	21-129		%Rec	1	8/9/2022 3:47:16 PM	69318
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/7/2022 11:39:00 AM	69288
Surr: BFB	91.1	37.7-212		%Rec	1	8/7/2022 11:39:00 AM	69288
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: CCM
Benzene	ND	0.023		mg/Kg	1	8/7/2022 11:39:00 AM	69288
Toluene	ND	0.047		mg/Kg	1	8/7/2022 11:39:00 AM	69288
Ethylbenzene	ND	0.047		mg/Kg	1	8/7/2022 11:39:00 AM	69288
Xylenes, Total	ND	0.094		mg/Kg	1	8/7/2022 11:39:00 AM	69288
Surr: 4-Bromofluorobenzene	79.6	70-130		%Rec	1	8/7/2022 11:39:00 AM	69288

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

<b>Qualifiers:</b>	*	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 2208344

Date Reported: 8/16/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWB2

Project: Abby BLF State 1

Collection Date: 8/3/2022 11:35:00 AM

Lab ID: 2208344-006

Matrix: SOIL

Received Date: 8/5/2022 6:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	ND	59		mg/Kg	20	8/9/2022 2:47:01 PM	69351
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: DGH
Diesel Range Organics (DRO)	270	14		mg/Kg	1	8/9/2022 4:01:21 PM	69318
Motor Oil Range Organics (MRO)	70	48		mg/Kg	1	8/9/2022 4:01:21 PM	69318
Surr: DNOP	63.5	21-129		%Rec	1	8/9/2022 4:01:21 PM	69318
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/7/2022 11:59:00 AM	69288
Surr: BFB	104	37.7-212		%Rec	1	8/7/2022 11:59:00 AM	69288
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	8/7/2022 11:59:00 AM	69288
Toluene	ND	0.048		mg/Kg	1	8/7/2022 11:59:00 AM	69288
Ethylbenzene	ND	0.048		mg/Kg	1	8/7/2022 11:59:00 AM	69288
Xylenes, Total	ND	0.096		mg/Kg	1	8/7/2022 11:59:00 AM	69288
Surr: 4-Bromofluorobenzene	84.9	70-130		%Rec	1	8/7/2022 11:59:00 AM	69288

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

<b>Qualifiers:</b>	*	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 2208344

Date Reported: 8/16/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWC1

Project: Abby BLF State 1

Collection Date: 8/3/2022 1:00:00 PM

Lab ID: 2208344-007

Matrix: SOIL

Received Date: 8/5/2022 6:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	120	61		mg/Kg	20	8/9/2022 2:59:26 PM	69351
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: DGH
Diesel Range Organics (DRO)	1400	75		mg/Kg	5	8/10/2022 4:44:30 PM	69329
Motor Oil Range Organics (MRO)	300	250		mg/Kg	5	8/10/2022 4:44:30 PM	69329
Surr: DNOP	95.7	21-129		%Rec	5	8/10/2022 4:44:30 PM	69329
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: BRM
Gasoline Range Organics (GRO)	140	25		mg/Kg	5	8/8/2022 10:45:00 AM	69292
Surr: BFB	183	37.7-212		%Rec	5	8/8/2022 10:45:00 AM	69292
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: BRM
Benzene	ND	0.12		mg/Kg	5	8/8/2022 10:45:00 AM	69292
Toluene	ND	0.25		mg/Kg	5	8/8/2022 10:45:00 AM	69292
Ethylbenzene	0.68	0.25		mg/Kg	5	8/8/2022 10:45:00 AM	69292
Xylenes, Total	4.2	0.50		mg/Kg	5	8/8/2022 10:45:00 AM	69292
Surr: 4-Bromofluorobenzene	121	70-130		%Rec	5	8/8/2022 10:45:00 AM	69292

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

<b>Qualifiers:</b>	*	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 2208344

Date Reported: 8/16/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWC2

Project: Abby BLF State 1

Collection Date: 8/3/2022 1:05:00 PM

Lab ID: 2208344-008

Matrix: SOIL

Received Date: 8/5/2022 6:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JMT</b>
Chloride	68	60		mg/Kg	20	8/9/2022 3:11:51 PM	69351
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	620	15		mg/Kg	1	8/9/2022 7:13:08 PM	69329
Motor Oil Range Organics (MRO)	180	49		mg/Kg	1	8/9/2022 7:13:08 PM	69329
Surr: DNOP	68.3	21-129		%Rec	1	8/9/2022 7:13:08 PM	69329
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	21	5.0		mg/Kg	1	8/8/2022 11:44:00 AM	69292
Surr: BFB	153	37.7-212		%Rec	1	8/8/2022 11:44:00 AM	69292
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	0.025		mg/Kg	1	8/8/2022 11:44:00 AM	69292
Toluene	ND	0.050		mg/Kg	1	8/8/2022 11:44:00 AM	69292
Ethylbenzene	ND	0.050		mg/Kg	1	8/8/2022 11:44:00 AM	69292
Xylenes, Total	0.27	0.10		mg/Kg	1	8/8/2022 11:44:00 AM	69292
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	8/8/2022 11:44:00 AM	69292

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

<b>Qualifiers:</b>	*	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 2208344

Date Reported: 8/16/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWC3

Project: Abby BLF State 1

Collection Date: 8/3/2022 1:10:00 PM

Lab ID: 2208344-009

Matrix: SOIL

Received Date: 8/5/2022 6:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	ND	61		mg/Kg	20	8/9/2022 3:49:03 PM	69351
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: DGH
Diesel Range Organics (DRO)	290	13		mg/Kg	1	8/9/2022 7:44:27 PM	69329
Motor Oil Range Organics (MRO)	94	44		mg/Kg	1	8/9/2022 7:44:27 PM	69329
Surr: DNOP	65.1	21-129		%Rec	1	8/9/2022 7:44:27 PM	69329
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: BRM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/8/2022 12:44:00 PM	69292
Surr: BFB	114	37.7-212		%Rec	1	8/8/2022 12:44:00 PM	69292
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: BRM
Benzene	ND	0.025		mg/Kg	1	8/8/2022 12:44:00 PM	69292
Toluene	ND	0.050		mg/Kg	1	8/8/2022 12:44:00 PM	69292
Ethylbenzene	ND	0.050		mg/Kg	1	8/8/2022 12:44:00 PM	69292
Xylenes, Total	ND	0.10		mg/Kg	1	8/8/2022 12:44:00 PM	69292
Surr: 4-Bromofluorobenzene	85.1	70-130		%Rec	1	8/8/2022 12:44:00 PM	69292

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

<b>Qualifiers:</b>	*	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 2208344

Date Reported: 8/16/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWC4

Project: Abby BLF State 1

Collection Date: 8/3/2022 1:15:00 PM

Lab ID: 2208344-010

Matrix: SOIL

Received Date: 8/5/2022 6:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	ND	60		mg/Kg	20	8/9/2022 4:01:28 PM	69351
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	8/9/2022 7:59:58 PM	69329
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/9/2022 7:59:58 PM	69329
Surr: DNOP	73.7	21-129		%Rec	1	8/9/2022 7:59:58 PM	69329
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: BRM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/8/2022 1:03:00 PM	69292
Surr: BFB	92.1	37.7-212		%Rec	1	8/8/2022 1:03:00 PM	69292
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: BRM
Benzene	ND	0.025		mg/Kg	1	8/8/2022 1:03:00 PM	69292
Toluene	ND	0.050		mg/Kg	1	8/8/2022 1:03:00 PM	69292
Ethylbenzene	ND	0.050		mg/Kg	1	8/8/2022 1:03:00 PM	69292
Xylenes, Total	ND	0.10		mg/Kg	1	8/8/2022 1:03:00 PM	69292
Surr: 4-Bromofluorobenzene	81.8	70-130		%Rec	1	8/8/2022 1:03:00 PM	69292

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

<b>Qualifiers:</b>	*	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 2208344

Date Reported: 8/16/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWD1

Project: Abby BLF State 1

Collection Date: 8/3/2022 1:20:00 PM

Lab ID: 2208344-011

Matrix: SOIL

Received Date: 8/5/2022 6:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	ND	60		mg/Kg	20	8/9/2022 4:13:52 PM	69351
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: DGH
Diesel Range Organics (DRO)	95	14		mg/Kg	1	8/9/2022 8:15:18 PM	69329
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/9/2022 8:15:18 PM	69329
Surr: DNOP	67.9	21-129		%Rec	1	8/9/2022 8:15:18 PM	69329
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: BRM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/8/2022 1:23:00 PM	69292
Surr: BFB	87.4	37.7-212		%Rec	1	8/8/2022 1:23:00 PM	69292
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: BRM
Benzene	ND	0.025		mg/Kg	1	8/8/2022 1:23:00 PM	69292
Toluene	ND	0.049		mg/Kg	1	8/8/2022 1:23:00 PM	69292
Ethylbenzene	ND	0.049		mg/Kg	1	8/8/2022 1:23:00 PM	69292
Xylenes, Total	ND	0.098		mg/Kg	1	8/8/2022 1:23:00 PM	69292
Surr: 4-Bromofluorobenzene	79.7	70-130		%Rec	1	8/8/2022 1:23:00 PM	69292

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

<b>Qualifiers:</b>	*	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 2208344

Date Reported: 8/16/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWD2

Project: Abby BLF State 1

Collection Date: 8/3/2022 1:25:00 PM

Lab ID: 2208344-012

Matrix: SOIL

Received Date: 8/5/2022 6:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	ND	60		mg/Kg	20	8/9/2022 4:26:16 PM	69351
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	8/9/2022 8:30:34 PM	69329
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/9/2022 8:30:34 PM	69329
Surr: DNOP	77.1	21-129		%Rec	1	8/9/2022 8:30:34 PM	69329
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: BRM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/8/2022 1:43:00 PM	69292
Surr: BFB	92.3	37.7-212		%Rec	1	8/8/2022 1:43:00 PM	69292
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: BRM
Benzene	ND	0.025		mg/Kg	1	8/8/2022 1:43:00 PM	69292
Toluene	ND	0.050		mg/Kg	1	8/8/2022 1:43:00 PM	69292
Ethylbenzene	ND	0.050		mg/Kg	1	8/8/2022 1:43:00 PM	69292
Xylenes, Total	ND	0.10		mg/Kg	1	8/8/2022 1:43:00 PM	69292
Surr: 4-Bromofluorobenzene	81.9	70-130		%Rec	1	8/8/2022 1:43:00 PM	69292

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

<b>Qualifiers:</b>	*	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 2208344

Date Reported: 8/16/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWD3

Project: Abby BLF State 1

Collection Date: 8/3/2022 1:30:00 PM

Lab ID: 2208344-013

Matrix: SOIL

Received Date: 8/5/2022 6:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	ND	60		mg/Kg	20	8/9/2022 4:38:40 PM	69351
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	8/9/2022 8:45:44 PM	69329
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/9/2022 8:45:44 PM	69329
Surr: DNOP	72.8	21-129		%Rec	1	8/9/2022 8:45:44 PM	69329
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: BRM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/8/2022 2:03:00 PM	69292
Surr: BFB	86.0	37.7-212		%Rec	1	8/8/2022 2:03:00 PM	69292
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: BRM
Benzene	ND	0.025		mg/Kg	1	8/8/2022 2:03:00 PM	69292
Toluene	ND	0.049		mg/Kg	1	8/8/2022 2:03:00 PM	69292
Ethylbenzene	ND	0.049		mg/Kg	1	8/8/2022 2:03:00 PM	69292
Xylenes, Total	ND	0.099		mg/Kg	1	8/8/2022 2:03:00 PM	69292
Surr: 4-Bromofluorobenzene	79.4	70-130		%Rec	1	8/8/2022 2:03:00 PM	69292

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

<b>Qualifiers:</b>	*	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 2208344

Date Reported: 8/16/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWD4

Project: Abby BLF State 1

Collection Date: 8/3/2022 1:35:00 PM

Lab ID: 2208344-014

Matrix: SOIL

Received Date: 8/5/2022 6:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	ND	60		mg/Kg	20	8/9/2022 4:51:04 PM	69351
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: DGH
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	8/9/2022 9:01:03 PM	69329
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	8/9/2022 9:01:03 PM	69329
Surr: DNOP	82.1	21-129		%Rec	1	8/9/2022 9:01:03 PM	69329
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: BRM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/8/2022 2:23:00 PM	69292
Surr: BFB	87.8	37.7-212		%Rec	1	8/8/2022 2:23:00 PM	69292
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: BRM
Benzene	ND	0.025		mg/Kg	1	8/8/2022 2:23:00 PM	69292
Toluene	ND	0.049		mg/Kg	1	8/8/2022 2:23:00 PM	69292
Ethylbenzene	ND	0.049		mg/Kg	1	8/8/2022 2:23:00 PM	69292
Xylenes, Total	ND	0.099		mg/Kg	1	8/8/2022 2:23:00 PM	69292
Surr: 4-Bromofluorobenzene	80.0	70-130		%Rec	1	8/8/2022 2:23:00 PM	69292

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

<b>Qualifiers:</b>	*	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 2208344

Date Reported: 8/16/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWD5

Project: Abby BLF State 1

Collection Date: 8/3/2022 1:40:00 PM

Lab ID: 2208344-015

Matrix: SOIL

Received Date: 8/5/2022 6:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JTT
Chloride	ND	60		mg/Kg	20	8/11/2022 8:16:33 PM	69384
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	8/9/2022 9:16:06 PM	69329
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/9/2022 9:16:06 PM	69329
Surr: DNOP	82.9	21-129		%Rec	1	8/9/2022 9:16:06 PM	69329
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: BRM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/8/2022 2:42:00 PM	69292
Surr: BFB	89.1	37.7-212		%Rec	1	8/8/2022 2:42:00 PM	69292
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: BRM
Benzene	ND	0.025		mg/Kg	1	8/8/2022 2:42:00 PM	69292
Toluene	ND	0.050		mg/Kg	1	8/8/2022 2:42:00 PM	69292
Ethylbenzene	ND	0.050		mg/Kg	1	8/8/2022 2:42:00 PM	69292
Xylenes, Total	ND	0.099		mg/Kg	1	8/8/2022 2:42:00 PM	69292
Surr: 4-Bromofluorobenzene	80.7	70-130		%Rec	1	8/8/2022 2:42:00 PM	69292

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

<b>Qualifiers:</b>	*	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#: 2208344

16-Aug-22

**Client:** GHD Midland  
**Project:** Abby BLF State 1

Sample ID: <b>MB-69351</b>	SampType: <b>mblk</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>69351</b>	RunNo: <b>90140</b>								
Prep Date: <b>8/9/2022</b>	Analysis Date: <b>8/9/2022</b>	SeqNo: <b>3213881</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-69351</b>	SampType: <b>lcs</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>69351</b>	RunNo: <b>90140</b>								
Prep Date: <b>8/9/2022</b>	Analysis Date: <b>8/9/2022</b>	SeqNo: <b>3213882</b>	Units: <b>mg/Kg</b>							
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: <b>MB-69384</b>	SampType: <b>mblk</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>69384</b>	RunNo: <b>90187</b>								
Prep Date: <b>8/10/2022</b>	Analysis Date: <b>8/11/2022</b>	SeqNo: <b>3217870</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-69384</b>	SampType: <b>lcs</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>69384</b>	RunNo: <b>90187</b>								
Prep Date: <b>8/10/2022</b>	Analysis Date: <b>8/11/2022</b>	SeqNo: <b>3217871</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	98.7	90	110			

**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#: 2208344

16-Aug-22

**Client:** GHD Midland  
**Project:** Abby BLF State 1

Sample ID: <b>LCS-69340</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>69340</b>	RunNo: <b>90104</b>								
Prep Date: <b>8/8/2022</b>	Analysis Date: <b>8/9/2022</b>	SeqNo: <b>3212922</b> Units: <b>%Rec</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.6		5.000		91.3	21	129			

Sample ID: <b>MB-69340</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>69340</b>	RunNo: <b>90104</b>								
Prep Date: <b>8/8/2022</b>	Analysis Date: <b>8/9/2022</b>	SeqNo: <b>3212924</b> Units: <b>%Rec</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.8		10.00		98.4	21	129			

Sample ID: <b>MB-69318</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>69318</b>	RunNo: <b>90146</b>								
Prep Date: <b>8/8/2022</b>	Analysis Date: <b>8/9/2022</b>	SeqNo: <b>3214187</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.4		10.00		83.6	21	129			

Sample ID: <b>LCS-69318</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>69318</b>	RunNo: <b>90146</b>								
Prep Date: <b>8/8/2022</b>	Analysis Date: <b>8/9/2022</b>	SeqNo: <b>3214188</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	15	50.00	0	89.7	64.4	127			
Surr: DNOP	4.5		5.000		90.7	21	129			

Sample ID: <b>MB-69329</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>69329</b>	RunNo: <b>90146</b>								
Prep Date: <b>8/8/2022</b>	Analysis Date: <b>8/9/2022</b>	SeqNo: <b>3214211</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	6.7		10.00		66.6	21	129			

Sample ID: <b>LCS-69329</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>69329</b>	RunNo: <b>90146</b>								
Prep Date: <b>8/8/2022</b>	Analysis Date: <b>8/9/2022</b>	SeqNo: <b>3214212</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

**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#: 2208344

16-Aug-22

**Client:** GHD Midland  
**Project:** Abby BLF State 1

Sample ID: <b>LCS-69329</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>69329</b>			RunNo: <b>90146</b>						
Prep Date: <b>8/8/2022</b>	Analysis Date: <b>8/9/2022</b>			SeqNo: <b>3214212</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	38	15	50.00	0	76.4	64.4	127			
Surr: DNOP	2.7		5.000		54.0	21	129			

Sample ID: <b>MB-69330</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>PBS</b>	Batch ID: <b>69330</b>			RunNo: <b>90146</b>						
Prep Date: <b>8/8/2022</b>	Analysis Date: <b>8/10/2022</b>			SeqNo: <b>3214248</b>		Units: <b>%Rec</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	7.9		10.00		79.0	21	129			

Sample ID: <b>LCS-69330</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>69330</b>			RunNo: <b>90146</b>						
Prep Date: <b>8/8/2022</b>	Analysis Date: <b>8/10/2022</b>			SeqNo: <b>3214249</b>		Units: <b>%Rec</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	3.7		5.000		74.3	21	129			

Sample ID: <b>2208344-007AMS</b>	SampType: <b>MS</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>SWC1</b>	Batch ID: <b>69329</b>			RunNo: <b>90146</b>						
Prep Date: <b>8/8/2022</b>	Analysis Date: <b>8/10/2022</b>			SeqNo: <b>3216080</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	1800	70	46.77	1387	910	36.1	154			S
Surr: DNOP	4.3		4.677		92.6	21	129			

Sample ID: <b>2208344-007AMSD</b>	SampType: <b>MSD</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>SWC1</b>	Batch ID: <b>69329</b>			RunNo: <b>90146</b>						
Prep Date: <b>8/8/2022</b>	Analysis Date: <b>8/10/2022</b>			SeqNo: <b>3216081</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2000	67	44.96	1387	1260	36.1	154	7.58	33.9	S
Surr: DNOP	4.3		4.496		95.8	21	129	0	0	

**Qualifiers:**

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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#: 2208344

16-Aug-22

**Client:** GHD Midland  
**Project:** Abby BLF State 1

Sample ID: <b>Ics-69288</b>	SampType: <b>LCS</b>				TestCode: <b>EPA Method 8015D: Gasoline Range</b>					
Client ID: <b>LCSS</b>	Batch ID: <b>69288</b>				RunNo: <b>90068</b>					
Prep Date: <b>8/5/2022</b>	Analysis Date: <b>8/7/2022</b>				SeqNo: <b>3210148</b>		Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	108	72.3	137			
Surr: BFB	2000		1000		202	37.7	212			

Sample ID: <b>MB-69288</b>	SampType: <b>MBLK</b>				TestCode: <b>EPA Method 8015D: Gasoline Range</b>					
Client ID: <b>PBS</b>	Batch ID: <b>69288</b>				RunNo: <b>90068</b>					
Prep Date: <b>8/5/2022</b>	Analysis Date: <b>8/7/2022</b>				SeqNo: <b>3211133</b>		Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	890		1000		88.5	37.7	212			

Sample ID: <b>Ics-69292</b>	SampType: <b>LCS</b>				TestCode: <b>EPA Method 8015D: Gasoline Range</b>					
Client ID: <b>LCSS</b>	Batch ID: <b>69292</b>				RunNo: <b>90091</b>					
Prep Date: <b>8/5/2022</b>	Analysis Date: <b>8/8/2022</b>				SeqNo: <b>3211733</b>		Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	109	72.3	137			
Surr: BFB	2000		1000		201	37.7	212			

Sample ID: <b>mb-69292</b>	SampType: <b>MBLK</b>				TestCode: <b>EPA Method 8015D: Gasoline Range</b>					
Client ID: <b>PBS</b>	Batch ID: <b>69292</b>				RunNo: <b>90091</b>					
Prep Date: <b>8/5/2022</b>	Analysis Date: <b>8/8/2022</b>				SeqNo: <b>3211734</b>		Units: <b>mg/Kg</b>			
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		87.7	37.7	212			

Sample ID: <b>2208344-007ams</b>	SampType: <b>MS</b>				TestCode: <b>EPA Method 8015D: Gasoline Range</b>					
Client ID: <b>SWC1</b>	Batch ID: <b>69292</b>				RunNo: <b>90091</b>					
Prep Date: <b>8/5/2022</b>	Analysis Date: <b>8/8/2022</b>				SeqNo: <b>3211736</b>		Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	210	25	122.9	144.0	57.2	70	130			S
Surr: BFB	11000		4916		234	37.7	212			S

Sample ID: <b>2208344-007amsd</b>	SampType: <b>MSD</b>				TestCode: <b>EPA Method 8015D: Gasoline Range</b>					
Client ID: <b>SWC1</b>	Batch ID: <b>69292</b>				RunNo: <b>90091</b>					
Prep Date: <b>8/5/2022</b>	Analysis Date: <b>8/8/2022</b>				SeqNo: <b>3211737</b>		Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

**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#: 2208344

16-Aug-22

**Client:** GHD Midland  
**Project:** Abby BLF State 1

Sample ID: <b>2208344-007amsd</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>SWC1</b>	Batch ID: <b>69292</b>		RunNo: <b>90091</b>							
Prep Date: <b>8/5/2022</b>	Analysis Date: <b>8/8/2022</b>		SeqNo: <b>3211737</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	240	25	124.5	144.0	74.2	70	130	9.78	20	
Surr: BFB	12000		4980		237	37.7	212	0	0	S

Sample ID: <b>lcs-69294</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>69294</b>		RunNo: <b>90091</b>							
Prep Date: <b>8/5/2022</b>	Analysis Date: <b>8/8/2022</b>		SeqNo: <b>3211757</b>		Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	2000		1000		198	37.7	212			

Sample ID: <b>mb-69294</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>69294</b>		RunNo: <b>90091</b>							
Prep Date: <b>8/5/2022</b>	Analysis Date: <b>8/8/2022</b>		SeqNo: <b>3211758</b>		Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	870		1000		86.9	37.7	212			

**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#: 2208344

16-Aug-22

**Client:** GHD Midland  
**Project:** Abby BLF State 1

Sample ID: <b>MB-69288</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>69288</b>	RunNo: <b>90068</b>								
Prep Date: <b>8/5/2022</b>	Analysis Date: <b>8/7/2022</b>	SeqNo: <b>3210201</b> Units: <b>mg/Kg</b>								
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	0.82		1.000		82.4	70	130			

Sample ID: <b>LCS-69288</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>69288</b>	RunNo: <b>90068</b>								
Prep Date: <b>8/5/2022</b>	Analysis Date: <b>8/7/2022</b>	SeqNo: <b>3210202</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	1.000	0	89.9	80	120			
Toluene	0.91	0.050	1.000	0	91.0	80	120			
Ethylbenzene	0.92	0.050	1.000	0	91.6	80	120			
Xylenes, Total	2.7	0.10	3.000	0	91.3	80	120			
Surr: 4-Bromofluorobenzene	0.85		1.000		84.5	70	130			

Sample ID: <b>lcs-69292</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>69292</b>	RunNo: <b>90091</b>								
Prep Date: <b>8/5/2022</b>	Analysis Date: <b>8/8/2022</b>	SeqNo: <b>3211781</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.025	1.000	0	87.0	80	120			
Toluene	0.88	0.050	1.000	0	87.8	80	120			
Ethylbenzene	0.88	0.050	1.000	0	88.0	80	120			
Xylenes, Total	2.6	0.10	3.000	0	87.3	80	120			
Surr: 4-Bromofluorobenzene	0.85		1.000		85.1	70	130			

Sample ID: <b>mb-69292</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>69292</b>	RunNo: <b>90091</b>								
Prep Date: <b>8/5/2022</b>	Analysis Date: <b>8/8/2022</b>	SeqNo: <b>3211782</b> Units: <b>mg/Kg</b>								
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	0.81		1.000		81.1	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#: 2208344

16-Aug-22

**Client:** GHD Midland  
**Project:** Abby BLF State 1

Sample ID: <b>2208344-008ams</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>SWC2</b>	Batch ID: <b>69292</b>		RunNo: <b>90091</b>							
Prep Date: <b>8/5/2022</b>	Analysis Date: <b>8/8/2022</b>		SeqNo: <b>3211785</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.79	0.025	0.9823	0	80.0	68.8	120			
Toluene	0.79	0.049	0.9823	0	80.7	73.6	124			
Ethylbenzene	0.83	0.049	0.9823	0.04546	79.5	72.7	129			
Xylenes, Total	2.5	0.098	2.947	0.2667	76.3	75.7	126			
Surr: 4-Bromofluorobenzene	0.95		0.9823		96.3	70	130			

Sample ID: <b>2208344-008amsd</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>SWC2</b>	Batch ID: <b>69292</b>		RunNo: <b>90091</b>							
Prep Date: <b>8/5/2022</b>	Analysis Date: <b>8/8/2022</b>		SeqNo: <b>3211786</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.76	0.025	0.9891	0	77.1	68.8	120	2.91	20	
Toluene	0.78	0.049	0.9891	0	78.6	73.6	124	1.93	20	
Ethylbenzene	0.81	0.049	0.9891	0.04546	77.0	72.7	129	2.38	20	
Xylenes, Total	2.4	0.099	2.967	0.2667	73.2	75.7	126	3.08	20	S
Surr: 4-Bromofluorobenzene	0.91		0.9891		92.4	70	130	0	0	

Sample ID: <b>lcs-69294</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>69294</b>		RunNo: <b>90091</b>							
Prep Date: <b>8/5/2022</b>	Analysis Date: <b>8/8/2022</b>		SeqNo: <b>3211805</b>		Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.78		1.000		77.8	70	130			

Sample ID: <b>mb-69294</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>69294</b>		RunNo: <b>90091</b>							
Prep Date: <b>8/5/2022</b>	Analysis Date: <b>8/8/2022</b>		SeqNo: <b>3211806</b>		Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.79		1.000		79.4	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: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: GHD Midland

Work Order Number: 2208344

RcptNo: 1

Received By: Juan Rojas

8/5/2022 6:05:00 AM

*Juan Rojas*

Completed By: Sean Livingston

8/5/2022 7:44:15 AM

*Sean Livingston*Reviewed By: *JN 8/5/22***Chain of Custody**

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

**Log In**

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? 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 8/5/22***Special Handling (if applicable)**

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

Person Notified: \_\_\_\_\_

Date: \_\_\_\_\_

By Whom: \_\_\_\_\_

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: \_\_\_\_\_

Client Instructions: \_\_\_\_\_

16. Additional remarks:

**17. Cooler Information**

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.3	Good				



## Chain-of-Custody Record

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

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)Accreditation: ☐ AZ Compliance☐ NELAC ☐ Other☐ EDD (Type)

Turn-Around Time:

☒ Standard☐ Rush 5 days

Project Name:

Abby BLF State #7

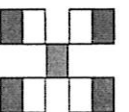
Project #:

11220612Project Manager: JT MurreyTom LarsonSampler: Liam GiersdorfOn Ice: ☒ Yes ☐ No# of Coolers: 1Cooler Temp (including CF): 23-00-23 (°C)

Container Type and #

Preservative Type

HEAL No.

Jar220734408031200So. 711001105BHD111101130SWA111351360SWA213051315SWA313201325SWB113601315SWB213051360SWC113151320SWC213601315SWC313201325SWC413601315SWD113201325SWD2**HALL ENVIRONMENTAL  
ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

BTEX / MTBE / TMB's (8021)

TPH:8015D(GRO / DRO / MRO)

8081 Pesticides/8082 PCB's

EDB (Method 504.1)

PAHs by 8310 or 8270SIMS

RCRA 8 Metals

Cl, F, Br, NO<sub>3</sub>, NO<sub>2</sub>, PO<sub>4</sub>, SO<sub>4</sub>

8260 (VOA)

8270 (Semi-VOA)

Total Coliform (Present/Absent)

001

002

003

004

005

006

007

008

009

010

011

012

Remarks: Please email chase\_settle@egresources.com

Tom. Larson @ghd.com; liam.giersdorf@ghd.com;

matthew.laughlin@ghd.com; amber-griffin@egresources.com

along w/ JT Murrey above. Bill to Chase Settle, EGS



## Chain-of-Custody Record

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

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)Accreditation: ☐ Az Compliance☐ NELAC ☐ Other☐ EDD (Type)

Turn-Around Time:

☒ Standard☒ Rush 5 days

Project Name:

Abby BLF State #1

Project #:

11220612Project Manager: JT MurreyTom LarsonSampler: Liam GiersdorfOn Ice: ☒ Yes ☐ No# of Coolers: 1Cooler Temp (including CR): 2.3-0.23 (°C)

Container Type and #

Preservative Type

HEAL No.

Date

Time

Matrix

Sample Name

Date

Time

Matrix

Sample Name

Date

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4901 Hawkins NE  
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TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

August 30, 2022

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

RE: Abby BLF State 1

OrderNo.: 2208419

Dear Tom Larson:

Hall Environmental Analysis Laboratory received 23 sample(s) on 8/6/2022 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued August 18, 2022.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. 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. All samples are reported as received unless otherwise indicated.

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".

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109



## Analytical Report

Lab Order 2208419

Date Reported: 8/30/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHA4A

Project: Abby BLF State 1

Collection Date: 8/4/2022 11:00:00 AM

Lab ID: 2208419-001

Matrix: SOIL

Received Date: 8/6/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	130	60		mg/Kg	20	8/12/2022 11:23:30 PM	69475
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: SB
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	8/12/2022 5:47:13 AM	69404
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/12/2022 5:47:13 AM	69404
Surr: DNOP	99.4	21-129		%Rec	1	8/12/2022 5:47:13 AM	69404
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: BRM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/11/2022 2:50:20 PM	69360
Surr: BFB	116	37.7-212		%Rec	1	8/11/2022 2:50:20 PM	69360
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: BRM
Benzene	ND	0.024		mg/Kg	1	8/11/2022 2:50:20 PM	69360
Toluene	ND	0.049		mg/Kg	1	8/11/2022 2:50:20 PM	69360
Ethylbenzene	ND	0.049		mg/Kg	1	8/11/2022 2:50:20 PM	69360
Xylenes, Total	ND	0.098		mg/Kg	1	8/11/2022 2:50:20 PM	69360
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	8/11/2022 2:50:20 PM	69360

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

<b>Qualifiers:</b>	*	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		

Page 1 of 30

## Analytical Report

Lab Order 2208419

Date Reported: 8/30/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHA5A

Project: Abby BLF State 1

Collection Date: 8/4/2022 11:05:00 AM

Lab ID: 2208419-002

Matrix: SOIL

Received Date: 8/6/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JMT</b>
Chloride	160	60		mg/Kg	20	8/12/2022 11:35:51 PM	69475
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	8/12/2022 6:11:11 AM	69404
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/12/2022 6:11:11 AM	69404
Surr: DNOP	120	21-129		%Rec	1	8/12/2022 6:11:11 AM	69404
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/11/2022 3:37:52 PM	69360
Surr: BFB	109	37.7-212		%Rec	1	8/11/2022 3:37:52 PM	69360
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	0.025		mg/Kg	1	8/11/2022 3:37:52 PM	69360
Toluene	ND	0.049		mg/Kg	1	8/11/2022 3:37:52 PM	69360
Ethylbenzene	ND	0.049		mg/Kg	1	8/11/2022 3:37:52 PM	69360
Xylenes, Total	ND	0.099		mg/Kg	1	8/11/2022 3:37:52 PM	69360
Surr: 4-Bromofluorobenzene	99.6	70-130		%Rec	1	8/11/2022 3:37:52 PM	69360

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

<b>Qualifiers:</b>	*	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		

Page 2 of 30

## Analytical Report

Lab Order 2208419

Date Reported: 8/30/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHA6A

Project: Abby BLF State 1

Collection Date: 8/4/2022 11:10:00 AM

Lab ID: 2208419-003

Matrix: SOIL

Received Date: 8/6/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JMT</b>
Chloride	82	60		mg/Kg	20	8/12/2022 11:48:12 PM	69475
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	8/12/2022 6:35:09 AM	69404
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/12/2022 6:35:09 AM	69404
Surr: DNOP	111	21-129		%Rec	1	8/12/2022 6:35:09 AM	69404
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/11/2022 4:01:32 PM	69360
Surr: BFB	110	37.7-212		%Rec	1	8/11/2022 4:01:32 PM	69360
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	0.024		mg/Kg	1	8/11/2022 4:01:32 PM	69360
Toluene	ND	0.048		mg/Kg	1	8/11/2022 4:01:32 PM	69360
Ethylbenzene	ND	0.048		mg/Kg	1	8/11/2022 4:01:32 PM	69360
Xylenes, Total	ND	0.097		mg/Kg	1	8/11/2022 4:01:32 PM	69360
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	8/11/2022 4:01:32 PM	69360

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

<b>Qualifiers:</b>	*	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 2208419

Date Reported: 8/30/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHA7A

Project: Abby BLF State 1

Collection Date: 8/4/2022 11:15:00 AM

Lab ID: 2208419-004

Matrix: SOIL

Received Date: 8/6/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JMT</b>
Chloride	ND	59		mg/Kg	20	8/13/2022 12:00:33 AM	69475
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>SB</b>
Diesel Range Organics (DRO)	190	14		mg/Kg	1	8/12/2022 6:59:01 AM	69404
Motor Oil Range Organics (MRO)	49	48		mg/Kg	1	8/12/2022 6:59:01 AM	69404
Surr: DNOP	107	21-129		%Rec	1	8/12/2022 6:59:01 AM	69404
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/11/2022 4:25:21 PM	69360
Surr: BFB	108	37.7-212		%Rec	1	8/11/2022 4:25:21 PM	69360
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	0.024		mg/Kg	1	8/11/2022 4:25:21 PM	69360
Toluene	ND	0.049		mg/Kg	1	8/11/2022 4:25:21 PM	69360
Ethylbenzene	ND	0.049		mg/Kg	1	8/11/2022 4:25:21 PM	69360
Xylenes, Total	ND	0.098		mg/Kg	1	8/11/2022 4:25:21 PM	69360
Surr: 4-Bromofluorobenzene	98.2	70-130		%Rec	1	8/11/2022 4:25:21 PM	69360

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

<b>Qualifiers:</b>	*	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 2208419

Date Reported: 8/30/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHB5

Project: Abby BLF State 1

Collection Date: 8/4/2022 12:00:00 PM

Lab ID: 2208419-005

Matrix: SOIL

Received Date: 8/6/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	8/13/2022 12:12:54 AM	69475
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	8/12/2022 7:22:41 AM	69404
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/12/2022 7:22:41 AM	69404
Surr: DNOP	110	21-129		%Rec	1	8/12/2022 7:22:41 AM	69404
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/11/2022 4:49:04 PM	69360
Surr: BFB	109	37.7-212		%Rec	1	8/11/2022 4:49:04 PM	69360
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	0.025		mg/Kg	1	8/11/2022 4:49:04 PM	69360
Toluene	ND	0.049		mg/Kg	1	8/11/2022 4:49:04 PM	69360
Ethylbenzene	ND	0.049		mg/Kg	1	8/11/2022 4:49:04 PM	69360
Xylenes, Total	ND	0.099		mg/Kg	1	8/11/2022 4:49:04 PM	69360
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	8/11/2022 4:49:04 PM	69360

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

<b>Qualifiers:</b>	*	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 2208419

Date Reported: 8/30/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHB6

Project: Abby BLF State 1

Collection Date: 8/4/2022 12:05:00 PM

Lab ID: 2208419-006

Matrix: SOIL

Received Date: 8/6/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	8/12/2022 10:10:13 PM	69478
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	8/12/2022 7:46:21 AM	69404
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/12/2022 7:46:21 AM	69404
Surr: DNOP	105	21-129		%Rec	1	8/12/2022 7:46:21 AM	69404
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/11/2022 5:12:45 PM	69360
Surr: BFB	110	37.7-212		%Rec	1	8/11/2022 5:12:45 PM	69360
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	0.024		mg/Kg	1	8/11/2022 5:12:45 PM	69360
Toluene	ND	0.048		mg/Kg	1	8/11/2022 5:12:45 PM	69360
Ethylbenzene	ND	0.048		mg/Kg	1	8/11/2022 5:12:45 PM	69360
Xylenes, Total	ND	0.096		mg/Kg	1	8/11/2022 5:12:45 PM	69360
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	8/11/2022 5:12:45 PM	69360

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

<b>Qualifiers:</b>	*	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 2208419

Date Reported: 8/30/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHB7

Project: Abby BLF State 1

Collection Date: 8/4/2022 12:10:00 PM

Lab ID: 2208419-007

Matrix: SOIL

Received Date: 8/6/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JMT</b>
Chloride	110	60		mg/Kg	20	8/12/2022 10:47:27 PM	69478
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	8/12/2022 8:10:07 AM	69404
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/12/2022 8:10:07 AM	69404
Surr: DNOP	106	21-129		%Rec	1	8/12/2022 8:10:07 AM	69404
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/11/2022 5:36:25 PM	69360
Surr: BFB	110	37.7-212		%Rec	1	8/11/2022 5:36:25 PM	69360
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	0.025		mg/Kg	1	8/11/2022 5:36:25 PM	69360
Toluene	ND	0.050		mg/Kg	1	8/11/2022 5:36:25 PM	69360
Ethylbenzene	ND	0.050		mg/Kg	1	8/11/2022 5:36:25 PM	69360
Xylenes, Total	ND	0.099		mg/Kg	1	8/11/2022 5:36:25 PM	69360
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	8/11/2022 5:36:25 PM	69360

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

<b>Qualifiers:</b>	*	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 2208419

Date Reported: 8/30/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHB8

Project: Abby BLF State 1

Collection Date: 8/4/2022 12:15:00 PM

Lab ID: 2208419-008

Matrix: SOIL

Received Date: 8/6/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JMT</b>
Chloride	97	60		mg/Kg	20	8/12/2022 10:59:51 PM	69478
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>SB</b>
Diesel Range Organics (DRO)	190	15		mg/Kg	1	8/12/2022 8:33:49 AM	69404
Motor Oil Range Organics (MRO)	51	50		mg/Kg	1	8/12/2022 8:33:49 AM	69404
Surr: DNOP	111	21-129		%Rec	1	8/12/2022 8:33:49 AM	69404
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/11/2022 6:00:05 PM	69360
Surr: BFB	125	37.7-212		%Rec	1	8/11/2022 6:00:05 PM	69360
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	0.024		mg/Kg	1	8/11/2022 6:00:05 PM	69360
Toluene	ND	0.048		mg/Kg	1	8/11/2022 6:00:05 PM	69360
Ethylbenzene	ND	0.048		mg/Kg	1	8/11/2022 6:00:05 PM	69360
Xylenes, Total	ND	0.097		mg/Kg	1	8/11/2022 6:00:05 PM	69360
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	8/11/2022 6:00:05 PM	69360

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

<b>Qualifiers:</b>	*	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 2208419

Date Reported: 8/30/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHC5

Project: Abby BLF State 1

Collection Date: 8/4/2022 2:00:00 PM

Lab ID: 2208419-009

Matrix: SOIL

Received Date: 8/6/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	120	60		mg/Kg	20	8/12/2022 11:37:04 PM	69478
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: SB
Diesel Range Organics (DRO)	280	14		mg/Kg	1	8/12/2022 8:57:34 AM	69404
Motor Oil Range Organics (MRO)	80	47		mg/Kg	1	8/12/2022 8:57:34 AM	69404
Surr: DNOP	109	21-129		%Rec	1	8/12/2022 8:57:34 AM	69404
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: BRM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/11/2022 6:23:49 PM	69360
Surr: BFB	134	37.7-212		%Rec	1	8/11/2022 6:23:49 PM	69360
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: BRM
Benzene	ND	0.025		mg/Kg	1	8/11/2022 6:23:49 PM	69360
Toluene	ND	0.050		mg/Kg	1	8/11/2022 6:23:49 PM	69360
Ethylbenzene	ND	0.050		mg/Kg	1	8/11/2022 6:23:49 PM	69360
Xylenes, Total	ND	0.10		mg/Kg	1	8/11/2022 6:23:49 PM	69360
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	8/11/2022 6:23:49 PM	69360

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

<b>Qualifiers:</b>	*	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 2208419

Date Reported: 8/30/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHC6

Project: Abby BLF State 1

Collection Date: 8/4/2022 2:05:00 PM

Lab ID: 2208419-010

Matrix: SOIL

Received Date: 8/6/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	8/12/2022 11:49:28 PM	69478
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>SB</b>
Diesel Range Organics (DRO)	72	15		mg/Kg	1	8/12/2022 9:21:24 AM	69404
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/12/2022 9:21:24 AM	69404
Surr: DNOP	102	21-129		%Rec	1	8/12/2022 9:21:24 AM	69404
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/11/2022 6:47:25 PM	69360
Surr: BFB	115	37.7-212		%Rec	1	8/11/2022 6:47:25 PM	69360
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	0.025		mg/Kg	1	8/11/2022 6:47:25 PM	69360
Toluene	ND	0.050		mg/Kg	1	8/11/2022 6:47:25 PM	69360
Ethylbenzene	ND	0.050		mg/Kg	1	8/11/2022 6:47:25 PM	69360
Xylenes, Total	ND	0.099		mg/Kg	1	8/11/2022 6:47:25 PM	69360
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	8/11/2022 6:47:25 PM	69360

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

<b>Qualifiers:</b>	*	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 2208419

Date Reported: 8/30/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHC7

Project: Abby BLF State 1

Collection Date: 8/4/2022 2:10:00 PM

Lab ID: 2208419-011

Matrix: SOIL

Received Date: 8/6/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CAS</b>
Chloride	100	59		mg/Kg	20	8/13/2022 6:00:17 PM	69482
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>SB</b>
Diesel Range Organics (DRO)	100	14		mg/Kg	1	8/13/2022 4:58:00 AM	69457
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/13/2022 4:58:00 AM	69457
Surr: DNOP	114	21-129		%Rec	1	8/13/2022 4:58:00 AM	69457
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/11/2022 7:11:01 PM	69360
Surr: BFB	127	37.7-212		%Rec	1	8/11/2022 7:11:01 PM	69360
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	0.025		mg/Kg	1	8/11/2022 7:11:01 PM	69360
Toluene	ND	0.050		mg/Kg	1	8/11/2022 7:11:01 PM	69360
Ethylbenzene	ND	0.050		mg/Kg	1	8/11/2022 7:11:01 PM	69360
Xylenes, Total	ND	0.099		mg/Kg	1	8/11/2022 7:11:01 PM	69360
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	8/11/2022 7:11:01 PM	69360

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

<b>Qualifiers:</b>	*	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 2208419

Date Reported: 8/30/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHC8

Project: Abby BLF State 1

Collection Date: 8/4/2022 2:15:00 PM

Lab ID: 2208419-012

Matrix: SOIL

Received Date: 8/6/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	160	60		mg/Kg	20	8/13/2022 12:01:52 AM	69478
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: SB
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	8/12/2022 5:21:38 PM	69422
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/12/2022 5:21:38 PM	69422
Surr: DNOP	94.5	21-129		%Rec	1	8/12/2022 5:21:38 PM	69422
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: BRM
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/11/2022 9:32:38 PM	69364
Surr: BFB	106	37.7-212		%Rec	1	8/11/2022 9:32:38 PM	69364
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: BRM
Benzene	ND	0.023		mg/Kg	1	8/11/2022 9:32:38 PM	69364
Toluene	ND	0.046		mg/Kg	1	8/11/2022 9:32:38 PM	69364
Ethylbenzene	ND	0.046		mg/Kg	1	8/11/2022 9:32:38 PM	69364
Xylenes, Total	ND	0.093		mg/Kg	1	8/11/2022 9:32:38 PM	69364
Surr: 4-Bromofluorobenzene	99.2	70-130		%Rec	1	8/11/2022 9:32:38 PM	69364

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

<b>Qualifiers:</b>	*	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 2208419

Date Reported: 8/30/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHD5

Project: Abby BLF State 1

Collection Date: 8/4/2022 2:30:00 PM

Lab ID: 2208419-013

Matrix: SOIL

Received Date: 8/6/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	8/13/2022 12:14:16 AM	69478
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	8/12/2022 6:35:08 PM	69422
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/12/2022 6:35:08 PM	69422
Surr: DNOP	112	21-129		%Rec	1	8/12/2022 6:35:08 PM	69422
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/11/2022 10:43:23 PM	69364
Surr: BFB	112	37.7-212		%Rec	1	8/11/2022 10:43:23 PM	69364
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	0.023		mg/Kg	1	8/11/2022 10:43:23 PM	69364
Toluene	ND	0.046		mg/Kg	1	8/11/2022 10:43:23 PM	69364
Ethylbenzene	ND	0.046		mg/Kg	1	8/11/2022 10:43:23 PM	69364
Xylenes, Total	ND	0.092		mg/Kg	1	8/11/2022 10:43:23 PM	69364
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	8/11/2022 10:43:23 PM	69364

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

<b>Qualifiers:</b>	*	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 2208419

Date Reported: 8/30/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHD6

Project: Abby BLF State 1

Collection Date: 8/4/2022 2:35:00 PM

Lab ID: 2208419-014

Matrix: SOIL

Received Date: 8/6/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	8/13/2022 12:26:40 AM	69478
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	8/12/2022 6:59:52 PM	69422
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/12/2022 6:59:52 PM	69422
Surr: DNOP	101	21-129		%Rec	1	8/12/2022 6:59:52 PM	69422
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/11/2022 11:54:07 PM	69364
Surr: BFB	109	37.7-212		%Rec	1	8/11/2022 11:54:07 PM	69364
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	0.024		mg/Kg	1	8/11/2022 11:54:07 PM	69364
Toluene	ND	0.047		mg/Kg	1	8/11/2022 11:54:07 PM	69364
Ethylbenzene	ND	0.047		mg/Kg	1	8/11/2022 11:54:07 PM	69364
Xylenes, Total	ND	0.095		mg/Kg	1	8/11/2022 11:54:07 PM	69364
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	8/11/2022 11:54:07 PM	69364

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

<b>Qualifiers:</b>	*	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 2208419

Date Reported: 8/30/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHD7

Project: Abby BLF State 1

Collection Date: 8/4/2022 2:40:00 PM

Lab ID: 2208419-015

Matrix: SOIL

Received Date: 8/6/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	ND	60		mg/Kg	20	8/13/2022 12:39:05 AM	69478
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: SB
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	8/12/2022 7:24:24 PM	69422
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/12/2022 7:24:24 PM	69422
Surr: DNOP	107	21-129		%Rec	1	8/12/2022 7:24:24 PM	69422
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: BRM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/12/2022 12:17:48 AM	69364
Surr: BFB	109	37.7-212		%Rec	1	8/12/2022 12:17:48 AM	69364
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: BRM
Benzene	ND	0.025		mg/Kg	1	8/12/2022 12:17:48 AM	69364
Toluene	ND	0.050		mg/Kg	1	8/12/2022 12:17:48 AM	69364
Ethylbenzene	ND	0.050		mg/Kg	1	8/12/2022 12:17:48 AM	69364
Xylenes, Total	ND	0.099		mg/Kg	1	8/12/2022 12:17:48 AM	69364
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	8/12/2022 12:17:48 AM	69364

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

<b>Qualifiers:</b>	*	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 2208419

Date Reported: 8/30/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHD8

Project: Abby BLF State 1

Collection Date: 8/4/2022 2:45:00 PM

Lab ID: 2208419-016

Matrix: SOIL

Received Date: 8/6/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	8/13/2022 12:51:29 AM	69478
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	8/12/2022 7:49:04 PM	69422
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/12/2022 7:49:04 PM	69422
Surr: DNOP	95.6	21-129		%Rec	1	8/12/2022 7:49:04 PM	69422
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/12/2022 12:41:24 AM	69364
Surr: BFB	109	37.7-212		%Rec	1	8/12/2022 12:41:24 AM	69364
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	0.024		mg/Kg	1	8/12/2022 12:41:24 AM	69364
Toluene	ND	0.048		mg/Kg	1	8/12/2022 12:41:24 AM	69364
Ethylbenzene	ND	0.048		mg/Kg	1	8/12/2022 12:41:24 AM	69364
Xylenes, Total	ND	0.097		mg/Kg	1	8/12/2022 12:41:24 AM	69364
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	8/12/2022 12:41:24 AM	69364

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

<b>Qualifiers:</b>	*	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 2208419

Date Reported: 8/30/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWAB1

Project: Abby BLF State 1

Collection Date: 8/4/2022 11:30:00 AM

Lab ID: 2208419-017

Matrix: SOIL

Received Date: 8/6/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JMT</b>
Chloride	120	59		mg/Kg	20	8/13/2022 1:03:53 AM	69478
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>SB</b>
Diesel Range Organics (DRO)	110	15		mg/Kg	1	8/12/2022 8:13:37 PM	69422
Motor Oil Range Organics (MRO)	63	49		mg/Kg	1	8/12/2022 8:13:37 PM	69422
Surr: DNOP	121	21-129		%Rec	1	8/12/2022 8:13:37 PM	69422
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/12/2022 1:05:01 AM	69364
Surr: BFB	108	37.7-212		%Rec	1	8/12/2022 1:05:01 AM	69364
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	0.024		mg/Kg	1	8/12/2022 1:05:01 AM	69364
Toluene	ND	0.049		mg/Kg	1	8/12/2022 1:05:01 AM	69364
Ethylbenzene	ND	0.049		mg/Kg	1	8/12/2022 1:05:01 AM	69364
Xylenes, Total	ND	0.097		mg/Kg	1	8/12/2022 1:05:01 AM	69364
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	8/12/2022 1:05:01 AM	69364

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

<b>Qualifiers:</b>	*	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 2208419

Date Reported: 8/30/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWAB2

Project: Abby BLF State 1

Collection Date: 8/4/2022 11:35:00 AM

Lab ID: 2208419-018

Matrix: SOIL

Received Date: 8/6/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	68	59		mg/Kg	20	8/13/2022 1:16:18 AM	69478
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: SB
Diesel Range Organics (DRO)	900	15		mg/Kg	1	8/12/2022 8:38:08 PM	69422
Motor Oil Range Organics (MRO)	340	50		mg/Kg	1	8/12/2022 8:38:08 PM	69422
Surr: DNOP	119	21-129		%Rec	1	8/12/2022 8:38:08 PM	69422
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: BRM
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/12/2022 1:28:39 AM	69364
Surr: BFB	108	37.7-212		%Rec	1	8/12/2022 1:28:39 AM	69364
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: BRM
Benzene	ND	0.023		mg/Kg	1	8/12/2022 1:28:39 AM	69364
Toluene	ND	0.047		mg/Kg	1	8/12/2022 1:28:39 AM	69364
Ethylbenzene	ND	0.047		mg/Kg	1	8/12/2022 1:28:39 AM	69364
Xylenes, Total	ND	0.093		mg/Kg	1	8/12/2022 1:28:39 AM	69364
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	8/12/2022 1:28:39 AM	69364

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

<b>Qualifiers:</b>	*	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 2208419

Date Reported: 8/30/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWBC1

Project: Abby BLF State 1

Collection Date: 8/4/2022 3:15:00 PM

Lab ID: 2208419-019

Matrix: SOIL

Received Date: 8/6/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JMT</b>
Chloride	920	60		mg/Kg	20	8/13/2022 1:28:42 AM	69478
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>SB</b>
Diesel Range Organics (DRO)	44	14		mg/Kg	1	8/12/2022 9:27:07 PM	69422
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/12/2022 9:27:07 PM	69422
Surr: DNOP	128	21-129		%Rec	1	8/12/2022 9:27:07 PM	69422
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/12/2022 1:52:14 AM	69364
Surr: BFB	106	37.7-212		%Rec	1	8/12/2022 1:52:14 AM	69364
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	0.024		mg/Kg	1	8/12/2022 1:52:14 AM	69364
Toluene	ND	0.048		mg/Kg	1	8/12/2022 1:52:14 AM	69364
Ethylbenzene	ND	0.048		mg/Kg	1	8/12/2022 1:52:14 AM	69364
Xylenes, Total	ND	0.097		mg/Kg	1	8/12/2022 1:52:14 AM	69364
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	8/12/2022 1:52:14 AM	69364

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

<b>Qualifiers:</b>	*	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 2208419

Date Reported: 8/30/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWBC2

Project: Abby BLF State 1

Collection Date: 8/4/2022 3:20:00 PM

Lab ID: 2208419-020

Matrix: SOIL

Received Date: 8/6/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	580	60		mg/Kg	20	8/13/2022 2:05:56 AM	69478
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: SB
Diesel Range Organics (DRO)	400	14		mg/Kg	1	8/12/2022 9:51:32 PM	69422
Motor Oil Range Organics (MRO)	110	48		mg/Kg	1	8/12/2022 9:51:32 PM	69422
Surr: DNOP	106	21-129		%Rec	1	8/12/2022 9:51:32 PM	69422
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: BRM
Gasoline Range Organics (GRO)	ND	24		mg/Kg	5	8/12/2022 2:15:58 AM	69364
Surr: BFB	116	37.7-212		%Rec	5	8/12/2022 2:15:58 AM	69364
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: BRM
Benzene	ND	0.12		mg/Kg	5	8/12/2022 2:15:58 AM	69364
Toluene	ND	0.24		mg/Kg	5	8/12/2022 2:15:58 AM	69364
Ethylbenzene	ND	0.24		mg/Kg	5	8/12/2022 2:15:58 AM	69364
Xylenes, Total	ND	0.49		mg/Kg	5	8/12/2022 2:15:58 AM	69364
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	5	8/12/2022 2:15:58 AM	69364

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

<b>Qualifiers:</b>	*	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 2208419

Date Reported: 8/30/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWC5

Project: Abby BLF State 1

Collection Date: 8/4/2022 3:00:00 PM

Lab ID: 2208419-021

Matrix: SOIL

Received Date: 8/6/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JMT</b>
Chloride	120	60		mg/Kg	20	8/13/2022 2:18:20 AM	69478
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>SB</b>
Diesel Range Organics (DRO)	3300	140		mg/Kg	10	8/15/2022 2:58:28 PM	69488
Motor Oil Range Organics (MRO)	660	450		mg/Kg	10	8/15/2022 2:58:28 PM	69488
Surr: DNOP	0	21-129	S	%Rec	10	8/15/2022 2:58:28 PM	69488
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	230	24		mg/Kg	5	8/12/2022 2:39:43 AM	69364
Surr: BFB	370	37.7-212	S	%Rec	5	8/12/2022 2:39:43 AM	69364
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	0.12		mg/Kg	5	8/12/2022 2:39:43 AM	69364
Toluene	0.28	0.24		mg/Kg	5	8/12/2022 2:39:43 AM	69364
Ethylbenzene	0.93	0.24		mg/Kg	5	8/12/2022 2:39:43 AM	69364
Xylenes, Total	9.2	0.48		mg/Kg	5	8/12/2022 2:39:43 AM	69364
Surr: 4-Bromofluorobenzene	118	70-130		%Rec	5	8/12/2022 2:39:43 AM	69364

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

<b>Qualifiers:</b>	*	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 2208419

Date Reported: 8/30/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWCD1

Project: Abby BLF State 1

Collection Date: 8/4/2022 3:05:00 PM

Lab ID: 2208419-022

Matrix: SOIL

Received Date: 8/6/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	8/13/2022 2:30:44 AM	69478
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	8/12/2022 10:16:12 PM	69422
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/12/2022 10:16:12 PM	69422
Surr: DNOP	99.1	21-129		%Rec	1	8/12/2022 10:16:12 PM	69422
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/12/2022 3:26:59 AM	69364
Surr: BFB	107	37.7-212		%Rec	1	8/12/2022 3:26:59 AM	69364
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	0.025		mg/Kg	1	8/12/2022 3:26:59 AM	69364
Toluene	ND	0.049		mg/Kg	1	8/12/2022 3:26:59 AM	69364
Ethylbenzene	ND	0.049		mg/Kg	1	8/12/2022 3:26:59 AM	69364
Xylenes, Total	ND	0.099		mg/Kg	1	8/12/2022 3:26:59 AM	69364
Surr: 4-Bromofluorobenzene	99.3	70-130		%Rec	1	8/12/2022 3:26:59 AM	69364

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

<b>Qualifiers:</b>	*	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 2208419

Date Reported: 8/30/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWCD2

Project: Abby BLF State 1

Collection Date: 8/4/2022 3:10:00 PM

Lab ID: 2208419-023

Matrix: SOIL

Received Date: 8/6/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	8/13/2022 2:43:08 AM	69478
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	8/12/2022 10:40:44 PM	69422
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/12/2022 10:40:44 PM	69422
Surr: DNOP	97.6	21-129		%Rec	1	8/12/2022 10:40:44 PM	69422
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/12/2022 3:50:33 AM	69364
Surr: BFB	108	37.7-212		%Rec	1	8/12/2022 3:50:33 AM	69364
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	0.024		mg/Kg	1	8/12/2022 3:50:33 AM	69364
Toluene	ND	0.047		mg/Kg	1	8/12/2022 3:50:33 AM	69364
Ethylbenzene	ND	0.047		mg/Kg	1	8/12/2022 3:50:33 AM	69364
Xylenes, Total	ND	0.094		mg/Kg	1	8/12/2022 3:50:33 AM	69364
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	8/12/2022 3:50:33 AM	69364

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

<b>Qualifiers:</b>	*	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#: 2208419

30-Aug-22

**Client:** GHD Midland  
**Project:** Abby BLF State 1

Sample ID: <b>MB-69478</b>	SampType: <b>mblk</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>69478</b>	RunNo: <b>90258</b>								
Prep Date: <b>8/12/2022</b>	Analysis Date: <b>8/12/2022</b>	SeqNo: <b>3219193</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-69478</b>	SampType: <b>lcs</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>69478</b>	RunNo: <b>90258</b>								
Prep Date: <b>8/12/2022</b>	Analysis Date: <b>8/12/2022</b>	SeqNo: <b>3219194</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.2	90	110			

Sample ID: <b>MB-69475</b>	SampType: <b>mblk</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>69475</b>	RunNo: <b>90236</b>								
Prep Date: <b>8/12/2022</b>	Analysis Date: <b>8/12/2022</b>	SeqNo: <b>3219316</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-69475</b>	SampType: <b>lcs</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>69475</b>	RunNo: <b>90236</b>								
Prep Date: <b>8/12/2022</b>	Analysis Date: <b>8/12/2022</b>	SeqNo: <b>3219317</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	98.7	90	110			

Sample ID: <b>MB-69482</b>	SampType: <b>mblk</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>69482</b>	RunNo: <b>90266</b>								
Prep Date: <b>8/13/2022</b>	Analysis Date: <b>8/13/2022</b>	SeqNo: <b>3219654</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-69482</b>	SampType: <b>lcs</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>69482</b>	RunNo: <b>90266</b>								
Prep Date: <b>8/13/2022</b>	Analysis Date: <b>8/13/2022</b>	SeqNo: <b>3219655</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.1	90	110			

**Qualifiers:**

*	Value exceeds Maximum Contaminant Level.	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#: 2208419

30-Aug-22

**Client:** GHD Midland  
**Project:** Abby BLF State 1

Sample ID: <b>LCS-69404</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>69404</b>			RunNo: <b>90218</b>						
Prep Date: <b>8/10/2022</b>	Analysis Date: <b>8/11/2022</b>			SeqNo: <b>3217777</b>			Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	15	50.00	0	86.6	64.4	127			
Surr: DNOP	4.5		5.000		89.7	21	129			

Sample ID: <b>MB-69404</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>PBS</b>	Batch ID: <b>69404</b>			RunNo: <b>90218</b>						
Prep Date: <b>8/10/2022</b>	Analysis Date: <b>8/11/2022</b>			SeqNo: <b>3217781</b>			Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.3		10.00		93.4	21	129			

Sample ID: <b>MB-69457</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>PBS</b>	Batch ID: <b>69457</b>			RunNo: <b>90218</b>						
Prep Date: <b>8/12/2022</b>	Analysis Date: <b>8/12/2022</b>			SeqNo: <b>3218061</b>			Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.7		10.00		97.3	21	129			

Sample ID: <b>LCS-69457</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>69457</b>			RunNo: <b>90218</b>						
Prep Date: <b>8/12/2022</b>	Analysis Date: <b>8/12/2022</b>			SeqNo: <b>3218062</b>			Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	15	50.00	0	96.7	64.4	127			
Surr: DNOP	4.7		5.000		94.3	21	129			

Sample ID: <b>2208419-012AMS</b>	SampType: <b>MS</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>BHC8</b>	Batch ID: <b>69422</b>			RunNo: <b>90247</b>						
Prep Date: <b>8/11/2022</b>	Analysis Date: <b>8/12/2022</b>			SeqNo: <b>3218502</b>			Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40	13	42.70	0	93.0	36.1	154			
Surr: DNOP	3.9		4.270		91.2	21	129			

**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#: 2208419

30-Aug-22

**Client:** GHD Midland  
**Project:** Abby BLF State 1

Sample ID: <b>2208419-012AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>BHC8</b>	Batch ID: <b>69422</b>	RunNo: <b>90247</b>								
Prep Date: <b>8/11/2022</b>	Analysis Date: <b>8/12/2022</b>	SeqNo: <b>3218503</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	13	44.13	0	105	36.1	154	15.2	33.9	
Surr: DNOP	4.6		4.413		104	21	129	0	0	

Sample ID: <b>LCS-69422</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>69422</b>	RunNo: <b>90247</b>								
Prep Date: <b>8/11/2022</b>	Analysis Date: <b>8/12/2022</b>	SeqNo: <b>3218543</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	15	50.00	0	89.6	64.4	127			
Surr: DNOP	3.5		5.000		69.9	21	129			

Sample ID: <b>MB-69422</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>69422</b>	RunNo: <b>90247</b>								
Prep Date: <b>8/11/2022</b>	Analysis Date: <b>8/12/2022</b>	SeqNo: <b>3218545</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	7.9		10.00		78.5	21	129			

Sample ID: <b>MB-69488</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>69488</b>	RunNo: <b>90269</b>								
Prep Date: <b>8/15/2022</b>	Analysis Date: <b>8/15/2022</b>	SeqNo: <b>3219899</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		99.8	21	129			

Sample ID: <b>LCS-69488</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>69488</b>	RunNo: <b>90269</b>								
Prep Date: <b>8/15/2022</b>	Analysis Date: <b>8/15/2022</b>	SeqNo: <b>3219900</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	15	50.00	0	93.9	64.4	127			
Surr: DNOP	4.3		5.000		86.4	21	129			

**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#: 2208419

30-Aug-22

**Client:** GHD Midland  
**Project:** Abby BLF State 1

Sample ID: <b>2208419-012ams</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>BHC8</b>	Batch ID: <b>69364</b>		RunNo: <b>90211</b>							
Prep Date: <b>8/9/2022</b>	Analysis Date: <b>8/11/2022</b>		SeqNo: <b>3217188</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	4.7	23.56	0	99.8	70	130			
Surr: BFB	2000		942.5		211	37.7	212			

Sample ID: <b>2208419-012amsd</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>BHC8</b>	Batch ID: <b>69364</b>		RunNo: <b>90211</b>							
Prep Date: <b>8/9/2022</b>	Analysis Date: <b>8/11/2022</b>		SeqNo: <b>3217189</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.7	23.43	0	98.6	70	130	1.73	20	
Surr: BFB	1900		937.2		206	37.7	212	0	0	

Sample ID: <b>lcs-69360</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>69360</b>		RunNo: <b>90211</b>							
Prep Date: <b>8/9/2022</b>	Analysis Date: <b>8/11/2022</b>		SeqNo: <b>3217209</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	106	72.3	137			
Surr: BFB	2100		1000		213	37.7	212			S

Sample ID: <b>lcs-69364</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>69364</b>		RunNo: <b>90211</b>							
Prep Date: <b>8/9/2022</b>	Analysis Date: <b>8/11/2022</b>		SeqNo: <b>3217210</b>		Units: <b>mg/Kg</b>					
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	72.3	137			
Surr: BFB	2100		1000		210	37.7	212			

Sample ID: <b>mb-69360</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>69360</b>		RunNo: <b>90211</b>							
Prep Date: <b>8/9/2022</b>	Analysis Date: <b>8/11/2022</b>		SeqNo: <b>3217211</b>		Units: <b>mg/Kg</b>					
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		112	37.7	212			

Sample ID: <b>mb-69364</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>69364</b>		RunNo: <b>90211</b>							
Prep Date: <b>8/9/2022</b>	Analysis Date: <b>8/11/2022</b>		SeqNo: <b>3217212</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

**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#: 2208419  
30-Aug-22

Client: GHD Midland  
Project: Abby BLF State 1

Sample ID: mb-69364	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 69364	RunNo: 90211								
Prep Date: 8/9/2022	Analysis Date: 8/11/2022	SeqNo: 3217212 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		108	37.7	212			

- Qualifiers:
- \* Value exceeds Maximum Contaminant Level.
  - D Sample Diluted Due to Matrix
  - H Holding times for preparation or analysis exceeded
  - ND Not Detected at the Reporting Limit
  - PQL Practical 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#: 2208419

30-Aug-22

**Client:** GHD Midland  
**Project:** Abby BLF State 1

Sample ID: <b>2208419-013ams</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>BHD5</b>	Batch ID: <b>69364</b>		RunNo: <b>90211</b>							
Prep Date: <b>8/9/2022</b>	Analysis Date: <b>8/11/2022</b>		SeqNo: <b>3217237</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.023	0.9268	0	91.9	68.8	120			
Toluene	0.90	0.046	0.9268	0	97.6	73.6	124			
Ethylbenzene	0.91	0.046	0.9268	0	98.5	72.7	129			
Xylenes, Total	2.7	0.093	2.780	0	97.5	75.7	126			
Surr: 4-Bromofluorobenzene	0.97		0.9268		104	70	130			

Sample ID: <b>2208419-013amsd</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>BHD5</b>	Batch ID: <b>69364</b>		RunNo: <b>90211</b>							
Prep Date: <b>8/9/2022</b>	Analysis Date: <b>8/11/2022</b>		SeqNo: <b>3217238</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.024	0.9625	0	90.2	68.8	120	1.92	20	
Toluene	0.92	0.048	0.9625	0	95.6	73.6	124	1.69	20	
Ethylbenzene	0.93	0.048	0.9625	0	96.6	72.7	129	1.80	20	
Xylenes, Total	2.8	0.096	2.887	0	95.3	75.7	126	1.49	20	
Surr: 4-Bromofluorobenzene	1.0		0.9625		104	70	130	0	0	

Sample ID: <b>LCS-69360</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>69360</b>		RunNo: <b>90211</b>							
Prep Date: <b>8/9/2022</b>	Analysis Date: <b>8/11/2022</b>		SeqNo: <b>3217257</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	95.2	80	120			
Toluene	1.0	0.050	1.000	0	99.5	80	120			
Ethylbenzene	1.0	0.050	1.000	0	100	80	120			
Xylenes, Total	3.0	0.10	3.000	0	99.1	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	70	130			

Sample ID: <b>LCS-69364</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>69364</b>		RunNo: <b>90211</b>							
Prep Date: <b>8/9/2022</b>	Analysis Date: <b>8/11/2022</b>		SeqNo: <b>3217258</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.025	1.000	0	88.8	80	120			
Toluene	0.94	0.050	1.000	0	93.8	80	120			
Ethylbenzene	0.94	0.050	1.000	0	93.8	80	120			
Xylenes, Total	2.8	0.10	3.000	0	93.1	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		107	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#: 2208419

30-Aug-22

**Client:** GHD Midland  
**Project:** Abby BLF State 1

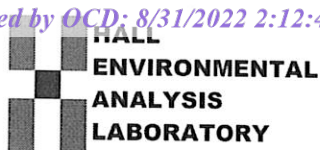
Sample ID: <b>mb-69360</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>69360</b>		RunNo: <b>90211</b>							
Prep Date: <b>8/9/2022</b>	Analysis Date: <b>8/11/2022</b>		SeqNo: <b>3217259</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	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: <b>mb-69364</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>69364</b>		RunNo: <b>90211</b>							
Prep Date: <b>8/9/2022</b>	Analysis Date: <b>8/11/2022</b>		SeqNo: <b>3217260</b>		Units: <b>mg/Kg</b>					
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			

**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: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: GHD Midland

Work Order Number: 2208419

RcptNo: 1

Received By: Tracy Casarrubias

8/6/2022 10:30:00 AM

Completed By: Tracy Casarrubias

8/6/2022 1:06:57 PM

Reviewed By:

JN 8/8/22

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? 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: KPC 8-08-022

Special Handling (if applicable)

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

Person Notified: \_\_\_\_\_

Date: \_\_\_\_\_

By Whom: \_\_\_\_\_

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: \_\_\_\_\_

Client Instructions: \_\_\_\_\_

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.7	Good	Yes			
2	4.5	Good	Yes			





## Chain-of-Custody Record

Client: GHD

Mailing Address: 324 W. Main St. Suite 108

Artesia, NM 88210

Phone #: (505) 377-4218

email or Fax#: jt.murray@ghd.com

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)Accreditation: ☐ Az Compliance☐ NELAC ☐ Other☐ EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

Abby BLF Site #1

Project #:

11220612

Project Manager: JT Murray

Tom Larson

Sampler: Liam Giersdorf

On Ice: ☒ Yes ☐ No

# of Coolers: 2

Cooler Temp (including CFI): 3.5 to 2 = 3.7 (°C)

Container Type and #

Preservative Type

HEAL No.

2208419

001 013

002 014

003 015

004 016

005 017

006 018

007 019

008 020

009 021

010 022

011 023

012

013

014

015

016

017

018

019

020

021

022

023

024

Received by: Via: Date Time

8/5/22 8:00

Received by: Via: Date Time

8/6/22 10:30

Relinquished by: Date: Time:

0805 0800

Relinquished by: Date: Time:

8/5/22 1900

## Analysis Request

BTX / MTBE / TMBs (8021)

TPH: 8015D (GRO / DRO / MRO)

8081 Pesticides/8082 PCBs

EDB (Method 504.1)

PAHs by 8310 or 8270SIMS

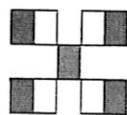
RCRA 8 Metals

Cl, F, Br, NO<sub>2</sub>, PO<sub>4</sub>, SO<sub>4</sub>

8260 (VOA)

8270 (Semi-VOA)

Total Coliform (Present/Absent)



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Remarks: Please email chase\_settle@egresources.com; tom.larson@ghd.com; liam.giersdorf@ghd.com; matthew.laughlin@ghd.com; amber.griffin@egresources.com along w/ JT Murray above. Bill to Chase Settle, GHD



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

---

August 19, 2022

JT MURREY

GHD SERVICES, INC.

6121 INDIAN SCHOOL RD, NE STE. 200

ALBUQUERQUE, NM 87110

RE: ABBY BFL STATE #1

Enclosed are the results of analyses for samples received by the laboratory on 08/18/22 9:45.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 08/18/2022  
 Reported: 08/19/2022  
 Project Name: ABBY BFL STATE #1  
 Project Number: 11220612  
 Project Location: EOG - TATUM, NM

Sampling Date: 08/17/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SWC 1A (H223778-01)**

BTEx 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/18/2022	ND	1.98	99.1	2.00	4.22	
Toluene*	<0.050	0.050	08/18/2022	ND	1.97	98.5	2.00	3.32	
Ethylbenzene*	<0.050	0.050	08/18/2022	ND	1.89	94.6	2.00	3.83	
Total Xylenes*	<0.150	0.150	08/18/2022	ND	5.86	97.6	6.00	3.75	
Total BTEx	<0.300	0.300	08/18/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	08/18/2022	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/18/2022	ND	228	114	200	1.52	
DRO >C10-C28*	<10.0	10.0	08/18/2022	ND	206	103	200	4.04	
EXT DRO >C28-C36	<10.0	10.0	08/18/2022	ND					

Surrogate: 1-Chlorooctane 80.4 % 43-149

Surrogate: 1-Chlorooctadecane 94.2 % 42.5-161

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 08/18/2022  
 Reported: 08/19/2022  
 Project Name: ABBY BFL STATE #1  
 Project Number: 11220612  
 Project Location: EOG - TATUM, NM

Sampling Date: 08/17/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: BHD 1A (H223778-02)**

BTEx 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/18/2022	ND	1.98	99.1	2.00	4.22	
Toluene*	<0.050	0.050	08/18/2022	ND	1.97	98.5	2.00	3.32	
Ethylbenzene*	<0.050	0.050	08/18/2022	ND	1.89	94.6	2.00	3.83	
Total Xylenes*	<0.150	0.150	08/18/2022	ND	5.86	97.6	6.00	3.75	
Total BTEx	<0.300	0.300	08/18/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	320	16.0	08/18/2022	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/18/2022	ND	228	114	200	1.52	
DRO >C10-C28*	20.4	10.0	08/18/2022	ND	206	103	200	4.04	
EXT DRO >C28-C36	<10.0	10.0	08/18/2022	ND					

Surrogate: 1-Chlorooctane 85.3 % 43-149

Surrogate: 1-Chlorooctadecane 102 % 42.5-161

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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### Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

---

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\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager





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

---

August 24, 2022

JT MURREY

GHD SERVICES, INC.

6121 INDIAN SCHOOL RD, NE STE. 200

ALBUQUERQUE, NM 87110

RE: ABBY BFL STATE #1

Enclosed are the results of analyses for samples received by the laboratory on 08/23/22 15:00.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 08/23/2022  
 Reported: 08/24/2022  
 Project Name: ABBY BFL STATE #1  
 Project Number: 11220612  
 Project Location: EOG - TATUM, NM

Sampling Date: 08/22/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SWAB 1A (H223856-01)**

BTX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/23/2022	ND	2.02	101	2.00	2.65	
Toluene*	<0.050	0.050	08/23/2022	ND	1.96	98.0	2.00	2.97	
Ethylbenzene*	<0.050	0.050	08/23/2022	ND	1.93	96.4	2.00	3.70	
Total Xylenes*	<0.150	0.150	08/23/2022	ND	5.96	99.3	6.00	3.90	
Total BTX	<0.300	0.300	08/23/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	08/24/2022	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/23/2022	ND	199	99.5	200	0.826	
DRO >C10-C28*	<10.0	10.0	08/23/2022	ND	212	106	200	0.983	
EXT DRO >C28-C36	<10.0	10.0	08/23/2022	ND					

Surrogate: 1-Chlorooctane 85.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 104 % 46.3-178

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 08/23/2022  
 Reported: 08/24/2022  
 Project Name: ABBY BFL STATE #1  
 Project Number: 11220612  
 Project Location: EOG - TATUM, NM

Sampling Date: 08/22/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SWAB 2A (H223856-02)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/23/2022	ND	2.02	101	2.00	2.65		
Toluene*	<0.050	0.050	08/23/2022	ND	1.96	98.0	2.00	2.97		
Ethylbenzene*	<0.050	0.050	08/23/2022	ND	1.93	96.4	2.00	3.70		
Total Xylenes*	<0.150	0.150	08/23/2022	ND	5.96	99.3	6.00	3.90		
Total BTEx	<0.300	0.300	08/23/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	08/24/2022	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/23/2022	ND	199	99.5	200	0.826	
DRO >C10-C28*	<10.0	10.0	08/23/2022	ND	212	106	200	0.983	
EXT DRO >C28-C36	<10.0	10.0	08/23/2022	ND					

Surrogate: 1-Chlorooctane 95.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 116 % 46.3-178

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 08/23/2022  
 Reported: 08/24/2022  
 Project Name: ABBY BFL STATE #1  
 Project Number: 11220612  
 Project Location: EOG - TATUM, NM

Sampling Date: 08/23/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SWD - 6 (H223856-03)**

BTX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/23/2022	ND	2.02	101	2.00	2.65		
Toluene*	<0.050	0.050	08/23/2022	ND	1.96	98.0	2.00	2.97		
Ethylbenzene*	<0.050	0.050	08/23/2022	ND	1.93	96.4	2.00	3.70		
Total Xylenes*	<0.150	0.150	08/23/2022	ND	5.96	99.3	6.00	3.90		
Total BTX	<0.300	0.300	08/23/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	832	16.0	08/24/2022	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/23/2022	ND	199	99.5	200	0.826	
DRO >C10-C28*	<10.0	10.0	08/23/2022	ND	212	106	200	0.983	
EXT DRO >C28-C36	<10.0	10.0	08/23/2022	ND					

Surrogate: 1-Chlorooctane 95.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 115 % 46.3-178

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

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

Received: 08/23/2022  
 Reported: 08/24/2022  
 Project Name: ABBY BFL STATE #1  
 Project Number: 11220612  
 Project Location: EOG - TATUM, NM

Sampling Date: 08/23/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SWC - 5 A (H223856-04)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/23/2022	ND	2.02	101	2.00	2.65		
Toluene*	<0.050	0.050	08/23/2022	ND	1.96	98.0	2.00	2.97		
Ethylbenzene*	<0.050	0.050	08/23/2022	ND	1.93	96.4	2.00	3.70		
Total Xylenes*	<0.150	0.150	08/23/2022	ND	5.96	99.3	6.00	3.90		
Total BTEX	<0.300	0.300	08/23/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	560	16.0	08/24/2022	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/23/2022	ND	199	99.5	200	0.826	
DRO >C10-C28*	16.2	10.0	08/23/2022	ND	212	106	200	0.983	
EXT DRO >C28-C36	<10.0	10.0	08/23/2022	ND					

Surrogate: 1-Chlorooctane 112 % 45.3-161

Surrogate: 1-Chlorooctadecane 135 % 46.3-178

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 08/23/2022  
 Reported: 08/24/2022  
 Project Name: ABBY BFL STATE #1  
 Project Number: 11220612  
 Project Location: EOG - TATUM, NM

Sampling Date: 08/23/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SWD - 7 (H223856-05)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/24/2022	ND	2.02	101	2.00	2.65		
Toluene*	<0.050	0.050	08/24/2022	ND	1.96	98.0	2.00	2.97		
Ethylbenzene*	<0.050	0.050	08/24/2022	ND	1.93	96.4	2.00	3.70		
Total Xylenes*	<0.150	0.150	08/24/2022	ND	5.96	99.3	6.00	3.90		
Total BTEX	<0.300	0.300	08/24/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	416	16.0	08/24/2022	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/23/2022	ND	199	99.5	200	0.826	
DRO >C10-C28*	<10.0	10.0	08/23/2022	ND	212	106	200	0.983	
EXT DRO >C28-C36	<10.0	10.0	08/23/2022	ND					

Surrogate: 1-Chlorooctane 88.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 107 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 08/23/2022  
 Reported: 08/24/2022  
 Project Name: ABBY BFL STATE #1  
 Project Number: 11220612  
 Project Location: EOG - TATUM, NM

Sampling Date: 08/23/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BHA 7 B (H223856-06)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/24/2022	ND	2.02	101	2.00	2.65		
Toluene*	<0.050	0.050	08/24/2022	ND	1.96	98.0	2.00	2.97		
Ethylbenzene*	<0.050	0.050	08/24/2022	ND	1.93	96.4	2.00	3.70		
Total Xylenes*	<0.150	0.150	08/24/2022	ND	5.96	99.3	6.00	3.90		
Total BTEx	<0.300	0.300	08/24/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	08/24/2022	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/23/2022	ND	199	99.5	200	0.826	
DRO >C10-C28*	11.2	10.0	08/23/2022	ND	212	106	200	0.983	
EXT DRO >C28-C36	<10.0	10.0	08/23/2022	ND					

Surrogate: 1-Chlorooctane 79.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 97.9 % 46.3-178

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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---

### Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

---

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\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



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

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

## Attachment **C** **Sampling Notifications**



## Becky Haskell

---

**From:** Amber Griffin <Amber\_Griffin@eogresources.com>  
**Sent:** Tuesday, July 26, 2022 11:45 AM  
**To:** Becky Haskell; Liam Giersdorf  
**Subject:** FW: Abby BLF State 1 (nRM2030932103) Sampling Notification

Thank you,  
Amber Griffin

---

**From:** Tina Huerta <Tina\_Huerta@eogresources.com>  
**Sent:** Monday, July 25, 2022 6:56 AM  
**To:** emnrd-ocd-district1spills@state.nm.us; Naranjo, Mark <MNaranjo@slo.state.nm.us>; rmann@slo.state.nm.us  
**Cc:** Artesia S&E Spill Remediation <Artesia\_S&E\_Spill\_Remediation@eogresources.com>; Artesia Regulatory <Artesia\_Regulatory@eogresources.com>  
**Subject:** Abby BLF State 1 (nRM2030932103) Sampling Notification

Good Morning,

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

Abby BLF State 1  
O-10-9S-33E  
Lea County, NM  
nRM2030932103

Sampling will begin at 10:00 a.m. on Friday, July 29, 2022.

Thank you,

*Tina Huerta*  
*Regulatory Specialist*  
*Direct: 575.748.4168*  
*Cell: 575.703.3121*  
*Email: [tina\\_huerta@eogresources.com](mailto:tina_huerta@eogresources.com)*



**Becky Haskell**

---

**From:** Amber Griffin <Amber\_Griffin@eogresources.com>  
**Sent:** Thursday, July 28, 2022 2:32 PM  
**To:** Becky Haskell; Liam Giersdorf  
**Subject:** FW: [EXTERNAL] Abby BLF State 1 (NRM2030932103) Sampling Notification

Thank you,  
Amber Griffin

---

**From:** Tina Huerta <Tina\_Huerta@eogresources.com>  
**Sent:** Thursday, July 28, 2022 11:41 AM  
**To:** Artesia S&E Spill Remediation <Artesia\_S&E\_Spill\_Remediation@eogresources.com>  
**Cc:** Artesia Regulatory <Artesia\_Regulatory@eogresources.com>  
**Subject:** FW: [EXTERNAL] Abby BLF State 1 (NRM2030932103) Sampling Notification

FYI

---

**From:** Nobui, Jennifer, EMNRD <[Jennifer.Nobui@state.nm.us](mailto:Jennifer.Nobui@state.nm.us)>  
**Sent:** Thursday, July 28, 2022 11:25 AM  
**To:** Tina Huerta <[Tina\\_Huerta@eogresources.com](mailto:Tina_Huerta@eogresources.com)>  
**Cc:** Bratcher, Mike, EMNRD <[mike.bratcher@state.nm.us](mailto:mike.bratcher@state.nm.us)>; Harimon, Jocelyn, EMNRD <[Jocelyn.Harimon@state.nm.us](mailto:Jocelyn.Harimon@state.nm.us)>; Hamlet, Robert, EMNRD <[Robert.Hamlet@state.nm.us](mailto:Robert.Hamlet@state.nm.us)>  
**Subject:** RE: [EXTERNAL] Abby BLF State 1 (NRM2030932103) Sampling Notification

**CAUTION:** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Tina

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

Thanks,  
Jennifer Nobui

---

**From:** Tina Huerta <[Tina\\_Huerta@eogresources.com](mailto:Tina_Huerta@eogresources.com)>  
**Sent:** Thursday, July 28, 2022 7:06 AM  
**To:** Naranjo, Mark <[MNaranjo@slo.state.nm.us](mailto:MNaranjo@slo.state.nm.us)>; [rmann@slo.state.nm.us](mailto:rmann@slo.state.nm.us); Nobui, Jennifer, EMNRD <[Jennifer.Nobui@state.nm.us](mailto:Jennifer.Nobui@state.nm.us)>; Harimon, Jocelyn, EMNRD <[Jocelyn.Harimon@state.nm.us](mailto:Jocelyn.Harimon@state.nm.us)>; Bratcher, Mike, EMNRD <[mike.bratcher@state.nm.us](mailto:mike.bratcher@state.nm.us)>; Hamlet, Robert, EMNRD <[Robert.Hamlet@state.nm.us](mailto:Robert.Hamlet@state.nm.us)>  
**Cc:** Artesia S&E Spill Remediation <[Artesia\\_S&E\\_Spill\\_Remediation@eogresources.com](mailto:Artesia_S&E_Spill_Remediation@eogresources.com)>; Artesia Regulatory <[Artesia\\_Regulatory@eogresources.com](mailto:Artesia_Regulatory@eogresources.com)>  
**Subject:** [EXTERNAL] Abby BLF State 1 (NRM2030932103) Sampling Notification

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

Good Morning,

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

Abby BLF State 1  
N-10-9S-33E  
Lea County, NM  
NRM2030932103

Sampling will begin at 10:00 a.m. on Monday, August 1, 2022 and continue through Friday, August 5, 2022.

Thank you,

Tina Huerta  
Regulatory Specialist  
Direct: 575.748.4168  
Cell: 575.703.3121  
Email: [tina\\_huerta@eogresources.com](mailto:tina_huerta@eogresources.com)



---

Thank you,  
Amber Griffin

**From:** Tina Huerta <[Tina\\_Huerta@eogresources.com](mailto:Tina_Huerta@eogresources.com)>  
**Sent:** Thursday, August 18, 2022 8:44 AM  
**To:** [emnrd-ocd-district1spills@state.nm.us](mailto:emnrd-ocd-district1spills@state.nm.us); [rmann@slo.state.nm.us](mailto:rmann@slo.state.nm.us); [mnaranjo@slo.state.nm.us](mailto:mnaranjo@slo.state.nm.us)  
**Cc:** Artesia S&E Spill Remediation <[Artesia\\_S&E\\_Spill\\_Remediation@eogresources.com](mailto:Artesia_S&E_Spill_Remediation@eogresources.com)>; Artesia Regulatory <[Artesia\\_Regulatory@eogresources.com](mailto:Artesia_Regulatory@eogresources.com)>  
**Subject:** Abby BLF State 1 (NRM2030932103) Sampling Notification

Good Morning,

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

Abby BLF State 1  
N-10-9S-33E  
Lea County, NM  
NRM2030932103

Sampling will begin at 10:00 a.m. on Monday, August 22, 2022 and continue through Friday, August 26, 2022.

Thank you,

*Tina Huerta*

Regulatory Specialist  
Direct: 575.748.4168  
Cell: 575.703.3121  
Email: [tina\\_huerta@eogresources.com](mailto:tina_huerta@eogresources.com)



**Artesia Division**

---

Thank you,  
Amber Griffin

**From:** Tina Huerta <[Tina\\_Huerta@eogresources.com](mailto:Tina_Huerta@eogresources.com)>  
**Sent:** Thursday, August 11, 2022 8:57 AM  
**To:** [emnrd-ocd-district1spills@state.nm.us](mailto:emnrd-ocd-district1spills@state.nm.us); [rmann@slo.state.nm.us](mailto:rmann@slo.state.nm.us); Naranjo, Mark <[MNaranjo@slo.state.nm.us](mailto:MNaranjo@slo.state.nm.us)>  
**Cc:** Artesia S&E Spill Remediation <[Artesia\\_S&E\\_Spill\\_Remediation@eogresources.com](mailto:Artesia_S&E_Spill_Remediation@eogresources.com)>; Artesia Regulatory <[Artesia\\_Regulatory@eogresources.com](mailto:Artesia_Regulatory@eogresources.com)>  
**Subject:** RE: Abby BLF State 1 (nRM2030932103) Sampling Notification

This sampling is Monday, August 15, 2022 and continue through Friday, August 19, 2022.

Sorry for any confusion.

Thank you.

**From:** Tina Huerta <[Tina\\_Huerta@eogresources.com](mailto:Tina_Huerta@eogresources.com)>  
**Sent:** Thursday, August 11, 2022 7:52 AM  
**To:** [emnrd-ocd-district1spills@state.nm.us](mailto:emnrd-ocd-district1spills@state.nm.us); [rmann@slo.state.nm.us](mailto:rmann@slo.state.nm.us); Naranjo, Mark <[MNaranjo@slo.state.nm.us](mailto:MNaranjo@slo.state.nm.us)>  
**Cc:** Artesia S&E Spill Remediation <[Artesia\\_S&E\\_Spill\\_Remediation@eogresources.com](mailto:Artesia_S&E_Spill_Remediation@eogresources.com)>; Artesia Regulatory <[Artesia\\_Regulatory@eogresources.com](mailto:Artesia_Regulatory@eogresources.com)>  
**Subject:** Abby BLF State 1 (nRM2030932103) Sampling Notification

Good Morning,

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

Abby BLF State 1  
N-10-9S-33E  
Lea County, NM  
nRM2030932103

Sampling will begin at 10:00 a.m. on Monday, August 15, 2022 and continue through Tuesday, August

19, 2022.

Thank you,

Tina Huerta  
Regulatory Specialist  
Direct: 575.748.4168  
Cell: 575.703.3121  
Email: [tina\\_huerta@eogresources.com](mailto:tina_huerta@eogresources.com)



---

Thank you,  
Amber Griffin

**From:** Tina Huerta <[Tina\\_Huerta@eogresources.com](mailto:Tina_Huerta@eogresources.com)>  
**Sent:** Thursday, August 4, 2022 7:08 AM  
**To:** [emnrd-ocd-district1spills@state.nm.us](mailto:emnrd-ocd-district1spills@state.nm.us); [rmann@slo.state.nm.us](mailto:rmann@slo.state.nm.us); Naranjo, Mark  
<[MNaranjo@slo.state.nm.us](mailto:MNaranjo@slo.state.nm.us)>  
**Cc:** Artesia S&E Spill Remediation <[Artesia\\_S&E\\_Spill\\_Remediation@eogresources.com](mailto:Artesia_S&E_Spill_Remediation@eogresources.com)>; Artesia  
Regulatory <[Artesia\\_Regulatory@eogresources.com](mailto:Artesia_Regulatory@eogresources.com)>  
**Subject:** Abby BLF State 1 (nRM2030932103) Sampling Notification

Good Morning,

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

Abby BLF State 1  
N-10-9S-33E  
Lea County, NM  
nRM2030932103

Sampling will begin at 10:00 a.m. on Monday, August 8, 2022 and continue through Friday, August 12, 2022.

Thank you,

Tina Huerta  
Regulatory Specialist  
Direct: 575.748.4168



Cell: 575.703.3121

Email: [tina\\_huerta@eogresources.com](mailto:tina_huerta@eogresources.com)

### Artesia Division

Site Name	Abby BLF State #1
Location	O-10-9S-33E; Lea County, NM
Incident ID	NRM2030932103
Source & Description of Activities	Excavation and Soil Sampling
Expected Duration for Activities	4 Weeks
Env Consultant	GHD
Contractor	BDS
C-138 Requested	Yes, Attached Below (Submitted)
Sampling Notification Required	Monday August 22 <sup>nd</sup> through 26 <sup>th</sup> at 1000 (08/22/22 through 08/26/22)
Core Rig Boring	No
Surface Owner	NMSLO

#### C-138 Abby BLF State #1 (Submitted)

Originating Site Name	Abby BLF State #1
Location	O-10-9S-33E; Lea County, NM
Source & Description	Impacted Soil - Crude Oil
Estimated Volume	2,900 Cubic Yards
Transporter	BDS
Name of Disposal Facility	Gandy Marley
Address Of Disposal Facility	US Highway 62 W, Carlsbad, NM

Site Name	Abby BLF State #1
Location	N-10-9S-33E; Lea County, NM
Incident ID	NRM2030932103
Source & Description of Activities	Excavation and Soil Sampling
Expected Duration for Activities	4 Weeks
Env Consultant	GHD
Contractor	BDS
C-138 Requested	Yes, Attached Below (Submitted)
	th th

Sampling Notification Required	Monday August 15 through 19 at 1000 (08/15/22 through 08/19/22)
Core Rig Boring	No
Surface Owner	NMSLO

**C-138 Abby BLF State #1 (Submitted)**

Originating Site Name	Abby BLF State #1
Location	N-10-9S-33E; Lea County, NM
Source & Description	Impacted Soil - Crude Oil
Estimated Volume	2,900 Cubic Yards
Transporter	BDS
Name of Disposal Facility	Gandy Marley
Address Of Disposal Facility	US Highway 62 W, Carlsbad, NM

Site Name	Abby BLF State #1
Location	O-10-9S-33E; Lea County, NM
Incident ID	NRM2030932103
Source & Description of Activities	Excavation and Soil Sampling
Expected Duration for Activities	4 Weeks
Env Consultant	GHD
Contractor	BDS
C-138 Requested	Yes, Attached Below (Submitted)
Sampling Notification Required	Monday August 8 <sup>th</sup> through 12 <sup>th</sup> at 1000 (08/08/22 through 08/12/22)
Core Rig Boring	No
Surface Owner	BLM

**C-138 Abby BLF State #1 (Submitted)**

Originating Site Name	Abby BLF State #1
Location	O-10-9S-33E; Lea County, NM
Source & Description	Impacted Soil - Crude Oil
Estimated Volume	2,900 Cubic Yards
Transporter	BDS
Name of Disposal Facility	Gandy Marley
Address Of Disposal Facility	US Highway 62 W, Carlsbad, NM

## Attachment **D** **Photographic Log**





## Site Photographs

EOG Abby BLF State #1 Release Site.

GHD | Report for EOG | 11220612





## Site Photographs

### EOG Abby BLF State #1 Release Site.

GHD | Report for EOG | 11220612

**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 139930

CONDITIONS

Operator: EOG RESOURCES INC P.O. Box 2267 Midland, TX 79702	OGRID: 7377
	Action Number: 139930
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Closure Report Approved.	9/8/2022