State of New Mexico
Oil Conservation Division

Incident ID	nAPP2210251385
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

☒ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☒ Extents of contamination must be fully delineated.

☒ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Nikki Mishler Title: Senior Environmental Representative

Signature: Nikki Mishler Date: 11/28/2022

email: Nikki.Mishler@cdevinc.com Telephone: 432-634-8722

OCD Only

Received by: _____ Date: _____

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

Signature: Jennifer Nobui Date: 11/28/2022

Page 1 of 434
Received by OCD: 10/31/2022 6:36:00 AM
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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	nAPP2210251385
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Application ID	

Release Notification

Responsible Party

Responsible Party: Centennial Resource Production, Inc	OGRID: 372165
Contact Name: Nikki Mishler	Contact Telephone: 432-634-8722
Contact email: Nikki.Mishler@cdevinc.com	Incident # nAPP2210251385
Contact mailing address: 500 W. Illinois Ave, Suite 500, Midland Texas 79705	

Location of Release Source

Latitude 32.3698_____ Longitude -103.408_____
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Merchant Livestock 30 State 2H	Site Type: Production Facility
Date Release Discovered: 04/12/2022	API# *(if applicable) 30-025-41676*

Unit Letter	Section	Township	Range	County
C	30	22S	35E	Lea

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private (*Name: Merchant Livestock*_____)

Nature and Volume of Release

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

☒ Crude Oil	Volume Released (bbls) 1	Volume Recovered (bbls) 1
☒ Produced Water	Volume Released (bbls) 118	Volume Recovered (bbls) 107
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release:
The release was due to a frac hit from nearby well activities which swamped out the vessels, traveled down the gas sales line and overfilled the open top tank.
Based on the approximate square footage of the impacted soil (18,200 sq. ft. on pad, 8,000 sq. ft. off pad), an estimated depth of impact ranging from 0.5' (production pad) to 1.5' (off pad), accounting for porosity and saturation % of the soil types (caliche and sand) and fluid recovery volumes; approximately 1 bbl of crude oil and 118 bbl of produced water was released.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2210251385
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Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? Yes
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? NOR Submission ID 97929 on 4/12/22 by Nikki Mishler	

Initial Response

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

☒ The source of the release has been stopped.
☒ The impacted area has been secured to protect human health and the environment.
☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not 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: Nikki Mishler Title: Sr. Environmental Representative

Signature: Nikki Mishler Date: 4/21/22

email: Nikki.Mishler@cdevinc.com Telephone: 432-634-8722

OCD Only

Received by: _____ Date: _____

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Page 3

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2210251385
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

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Page 4

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2210251385
District RP	
Facility ID	
Application ID	

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

Printed Name: Nikki Mishler Title: Sr. Envionmental Representative

Signature: Nikki Mishler Date: 6/30/22

email: Nikki.Mishler@cdevinc.com Telephone: 432-634-8722

OCD Only

Received by: _____ Date: _____

Received by OCD: 10/31/2022 6:36:00 AM

Released to Imaging: 11/28/2022 9:26:24 AM

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Page 5

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2210251385
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

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

Printed Name: Nikki Mishler
Title: Sr. Envionmental Representative

Signature: Nikki Mishler
Date: 6/30/22

email: Nikki.Mishler@cdevinc.com
Telephone: 432-634-8722

OCD Only

Received by: _____ Date: _____

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

Signature: Jennifer Nobui
Date: 08/30/2022

Received by OCD: 10/31/2022 6:36:00 AM
Released to Imaging: 11/28/2022 9:26:24 AM

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State of New Mexico
Oil Conservation Division

Incident ID	nAPP2210251385
District RP	
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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: Nikki Mishler Title: Sr. Environmental Representative

Signature: Nikki Mishler Date: 10/20/22

email: nikki.mishler@cdevinc.com Telephone: 432-364-8722

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

Received by OCD: 10/31/2022 6:36:00 AM

Released to Imaging: 11/28/2022 9:20:24 AM

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

Our ref: 12581651

October 26, 2022

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

Re: Site Closure Report
Merchant Livestock 30 State 2H Release Site
Centennial Resources Production, Inc.
Incident ID: nAPP2210251385
C-30-22S-35E, Lea County, New Mexico
Centennial Project #: CDEV ID 79516

To Whom It May Concern:

1. Introduction

GHD Services, Inc. (GHD), on behalf of Centennial Resources Production (CRP), submits this Closure Report to the New Mexico Oil Conservation Division (NMOCD) District 1 Office. This Report provides documentation of remedial activities and analyses in the affected area at the CRP Merchant Livestock 30 State 2H Release Site (Site). The Site is located in Unit Letter C Section 30 of Township 22 South and Range 35 East in Lea County, New Mexico. The GPS coordinates for the release site are 32.3698 N latitude and 103.408 W longitude. The surface owner of the land where the release occurred is the New Mexico State Land Office (NMSLO). Figure 1 depicts the Site location. The CRP production facility and other site details are depicted on Figure 2.

2. Background Information

Immediate notice was given to the OCD via NOR Submission, ID97929. A C-141 Release Notification for this release was submitted to the NMOCD on April 21, 2022. The C-141 stated that approximately one (1) barrel of crude oil and one hundred-eighteen (118) barrels of produced water were released. The release occurred as the result of a frac hit from nearby well activities which swamped out the vessels and traveled down the gas sales line, overfilling the open top tank. Approximately one (1) barrel of crude oil and one hundred-seven (107) barrels of produced water were recovered.

The release falls under the jurisdiction of the NMOCD District 1 Office in Hobbs, New Mexico. The NMOCD assigned the release with Incident Number nAPP2210251385. The Release Notification, Site Assessment/Characterization, Remediation, and Closure portions of Form C-141 are attached to the front of this report.

3. Groundwater and Site Characterization

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

The Site Characterization and Remediation Work Plan dated June 10, 2022 was approved by the NMOCD on August 30, 2022. Details of the Site Characterization documentation and previously completed Site assessment activities can be found in the aforementioned Site Characterization and Remediation Work Plan. The soil closure criteria are listed below:

General Site Characterization and Groundwater:

Site Characterization	Average Groundwater Depth (ft)
No Receptors Found	Unknown, treated as less than fifty (50) feet

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	600 mg/kg	100 mg/kg	---	50 mg/kg	10 mg/kg
Notes: --- = not defined					

4. Initial Soil Delineation Assessment Summary and Findings

On April 25 and 26, 2022, GHD and CRP's contractor SDR Enterprises (SDR), on behalf of CRP, installed twenty-six (26) test pits within the suspected impacted area. Samples were collected at varying depths from surface to five (5) feet below ground surface (bgs). Samples were submitted to Eurofins, located in Carlsbad, New Mexico and 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. Analytical results indicated nine (9) of the soil samples (TP2-S, TP6-2, TP7-2, TP8-S, TP8-2, TP11-2, TP12-S, TP12-2, and TP12-4) exhibited chloride concentrations above Table I Closure Criteria. Sample locations and analytical results are provided in the Site Characterization and Remediation Work Plan, dated June 10, 2022.

5. Excavation, Waste Management, and Confirmation Sampling

Excavation activities were performed by SDR, with oversight being provided by GHD from June 20 through September 13, 2022.

GHD and SDR mobilized to the Site on June 20, 2022, to excavate the affected soils. GHD collected forty-eight (48) bottom hole (BH-1 through BH-48) and seventeen (17) sidewall (SW-1 through SW-17) composite

confirmation samples. Bottom hole and sidewall confirmation samples collected represented areas no greater than two hundred (200) square feet. All soil samples were analyzed for BTEX by EPA Method 8021B, TPH by Method 8015B Modified, and chloride by EPA Method 300 by Eurofins in Carlsbad, New Mexico.

Analytical results indicated thirty-three (33) of the confirmation samples exhibited chloride concentrations above Table I Closure Criteria (BH-1, BH-2, BH-5 through BH-7, BH-11, BH-14, BH-15, BH-18, BH-25 through BH-27, BH-29, BH-32, BH-33, BH-35 through BH-38, BH-44 through BH-47, SW-3, SW-4 through SW-6, SW-9, SW-10, SW-13, and SW-15 through SW-17). SW-5 also exhibited a TPH concentration above Table I Closure Criteria.

Due to the samples exhibiting chloride/TPH concentrations above Table I Closure Criteria, GHD and SDR returned to the Site on July 20, 2022, to further excavate the affected areas, resample, and collect additional samples. The areas around BH-32, BH-33, and BH-35 through BH-37, were further excavated to two and one-half (2.5) feet bgs and resampled (BH-32A, BH-33A, and BH-35A through BH-37A). The areas around BH-1, BH-2, BH-5 through BH-7, and BH-11, were further excavated to three (3) feet bgs and resampled (BH-1A, BH-2A, BH-5A through BH-7A, and BH-11A). The areas around BH-14, BH-15, BH-18, and BH-26 through BH-29, were further excavated to three and one-half (3.5) feet bgs and resampled (BH-14A, BH-15A, BH-18A, and BH-26A through BH-29A). The areas around BH-38 and BH-45 through BH-47, were further excavated to four and one-half (4.5) feet bgs and resampled (BH-38A and BH-45A through BH-47A). The area around BH-44 was further excavated to six and one-half (6.5) feet bgs and resampled (BH-44A). The sidewalls where sidewall confirmation samples showed exceedances (SW-3 through SW-6, SW-9, SW-10, SW-13, and SW-17) were further excavated and resampled (SW-3A through SW-6A, SW-9A, SW-10A, SW-13A, and SW-17A). The sidewall locations where SW-15 and SW-16 were collected could not be excavated further due to active production equipment located in those areas. Those sidewall locations will be deferred, with NMOCD approval, until the production equipment can be removed during Site decommissioning. Sidewall sample locations SW-15 and SW-16 are highlighted on Figure 3. To confirm horizontal delineation of the affected soils two (2) test pits were advanced to the south of the production equipment and four (4) samples were collected (TP1-S, TP1-1, TP2-S, and TP2-1). One (1) additional bottom hole and two (2) additional sidewall confirmation samples were also collected (BH-49, SW-18, and SW-19). The confirmation samples were analyzed for BTEX by EPA Method 8021B, TPH by Method 8015B Modified, and chloride by EPA Method 300 by Eurofins in Carlsbad, New Mexico.

Analytical results indicated five (5) of the confirmation samples exhibited chloride concentrations above Table I Closure Criteria (BH-18A, BH-26A, BH-37A, SW-18, and SW-19).

Due to the samples exhibiting chloride concentrations above Table I Closure Criteria, GHD and SDR returned to the Site on August 25 and September 13, 2022, to further excavate the affected areas and resample. The area around BH-37A was further excavated to three (3) feet bgs and resampled (BH-37B). The areas around BH-18A and BH-26A were further excavated to four (4) feet bgs and resampled (BH-18B and BH-26B). The area around BH-25 was further excavated to five (5) feet bgs and resampled (BH-25A). The sidewalls where sidewall confirmation samples showed exceedances (SW-18 and SW-19) were further excavated and resampled (SW-18A and SW-19A). To address the TPH concentration above Table I Closure Criteria at the two (2) feet interval in the TP-25 location, it was over-excavated to three (3) feet bgs in a four (4) ft by four (4) ft area (≈50 sq ft) with sloping edges. One composite soil sample was collected from the sloping edges and bottom (TP-25-3). The confirmation samples were analyzed for BTEX by EPA Method 8021B, TPH by Method 8015B Modified, and chloride by EPA Method 300 by Eurofins in Carlsbad, New Mexico.

Analytical results indicated none of the confirmation samples exhibited benzene, BTEX, TPH, or chloride concentrations above Table I Closure Criteria. Figure 2 depicts the locations of the composite confirmation

samples. Analytical results are provided in Table 1 and in the Laboratory Analytical Reports provided in Attachment A.

Waste management activities were performed in coordination with CRP directives. GHD 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), OWL Landfill Services, LLC facility located at 2029 W. NM Highway 128, Jal, NM, 88252. Approximately 3,236 cubic yards of impacted soils were removed from the remedial excavation and disposed of. The approved C-138 and waste manifests are available upon request but are not attached due to the size of the file. A summary of soil disposal is included in Table 2. A photographic log is included as Attachment B. Sampling notifications are included as Attachment C.

6. nAPP2210251385 Closure Request

The excavation will be backfilled with non-impacted soil imported to the Site from a locally sourced caliche and topsoil pit. Site characterization, soil delineation, and remediation activities for Incident nAPP2210251385 have been performed in accordance with applicable NMOCD guidance and regulations. The sidewall locations where SW-15 and SW-16 were collected could not be excavated further due to active production equipment located in those areas, as shown on Figure 3. GHD, on behalf of CRP, requests deferral of those areas until the production equipment can be removed during Site decommissioning. Based upon supporting documentation provided in this report, GHD, on behalf of CRP, respectfully requests closure of nAPP2210251385.

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

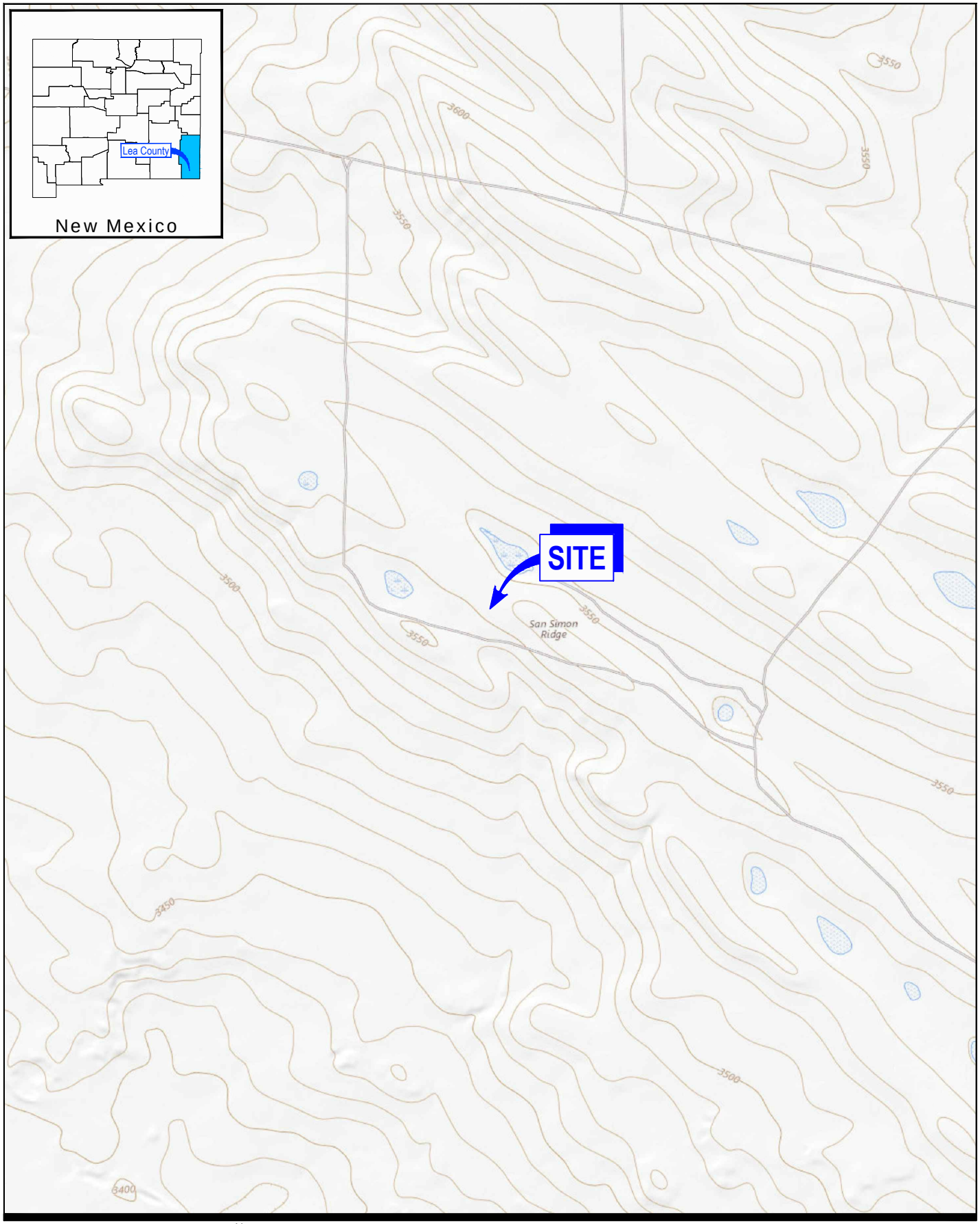
Nate Reece
Environmental Scientist

J.T. Murrey
Senior Project Manager

Encl. Figure 1 – Site Location Map
Figure 2 – Confirmation Sampling: Sample Locations Map
Figure 3 – Requested Deferral Locations
Table 1 – Summary of Soil Analytical Data
Table 2 – Daily Soil Disposal Summary
Attachment A – Laboratory Analytical Reports and Chain-of-Custody Documentation
Attachment B – Photographic Log
Attachment C – Sampling Notifications

cc: Nikki Mishler

Figures



0 1000 2000 ft

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

N

GHD

CENTENNIAL RESOURCES PRODUCTION
LEA COUNTY, NEW MEXICO
MERCHANT LIVESTOCK 30

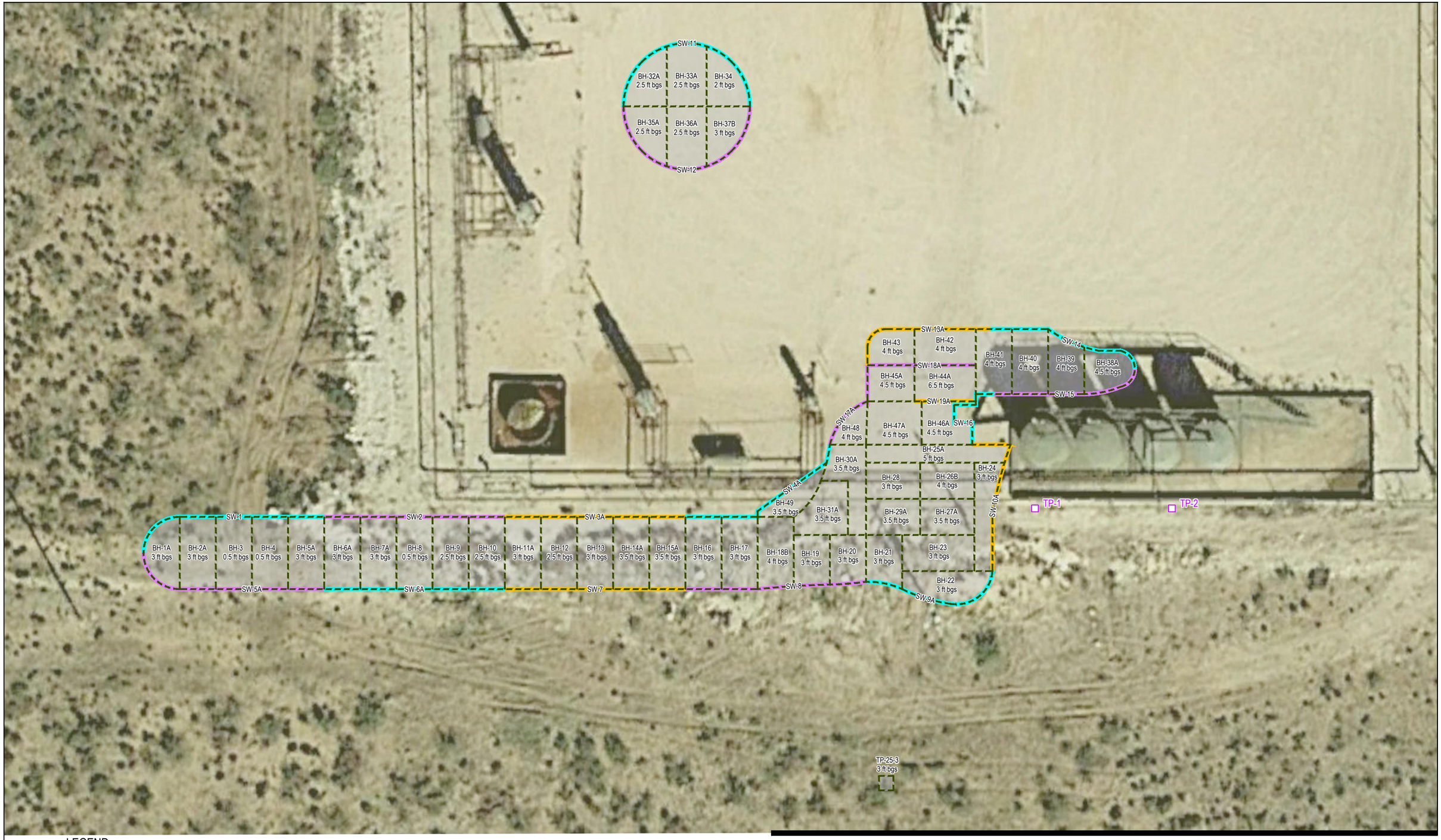
Project No. **12581651**
Date **May 2022**

SITE LOCATION MAP

FIGURE 1

Filename: \\ghdnet\ghd\US\Midland\Projects\562\12581651\Digital_Design\ACAD\Figures\RPT001\12581651-GHD-0000-RPT-EN-0101_DL-001.dwg

Data Source: USGS 7.5 Minute Quad "San Simon Sink and San Simon Ranch, New Mexico"
Lat/Long: 32.369538° North, 103.408025° West



LEGEND

- EXCAVATED AREA
- TEST PIT LOCATION
- 3 ft bgs — DEPTH OF SAMPLE
- BH-2A — RESAMPLE
- BH-1 — BOREHOLE
- INDICATES SIDE WALL COMPOSITE SAMPLE
- INDICATES SIDE WALL COMPOSITE SAMPLE
- INDICATES SIDE WALL COMPOSITE SAMPLE

0 12.5 25 ft

1" = 25 ft

Coordinate System:
NAD 1983 NEW MEXICO STATE PLANES, EAST ZONE, US FOOT

N

GHD

CENTENNIAL RESOURCES PRODUCTION
LEA COUNTY, NEW MEXICO
MERCHANT LIVESTOCK 30

CONFIRMATION SAMPLING:
SOIL ANALYTICAL RESULTS MAP

Project No. **12581651**
Date **October 2022**

FIGURE 2

Filename: \\ghdnetgha\US\Midland\Projects\58\12581651\Digital_Design\ACAD\Figures\PRE001\12581651-GHD-00-00-PRE-EN-D103_WA-001.dwg

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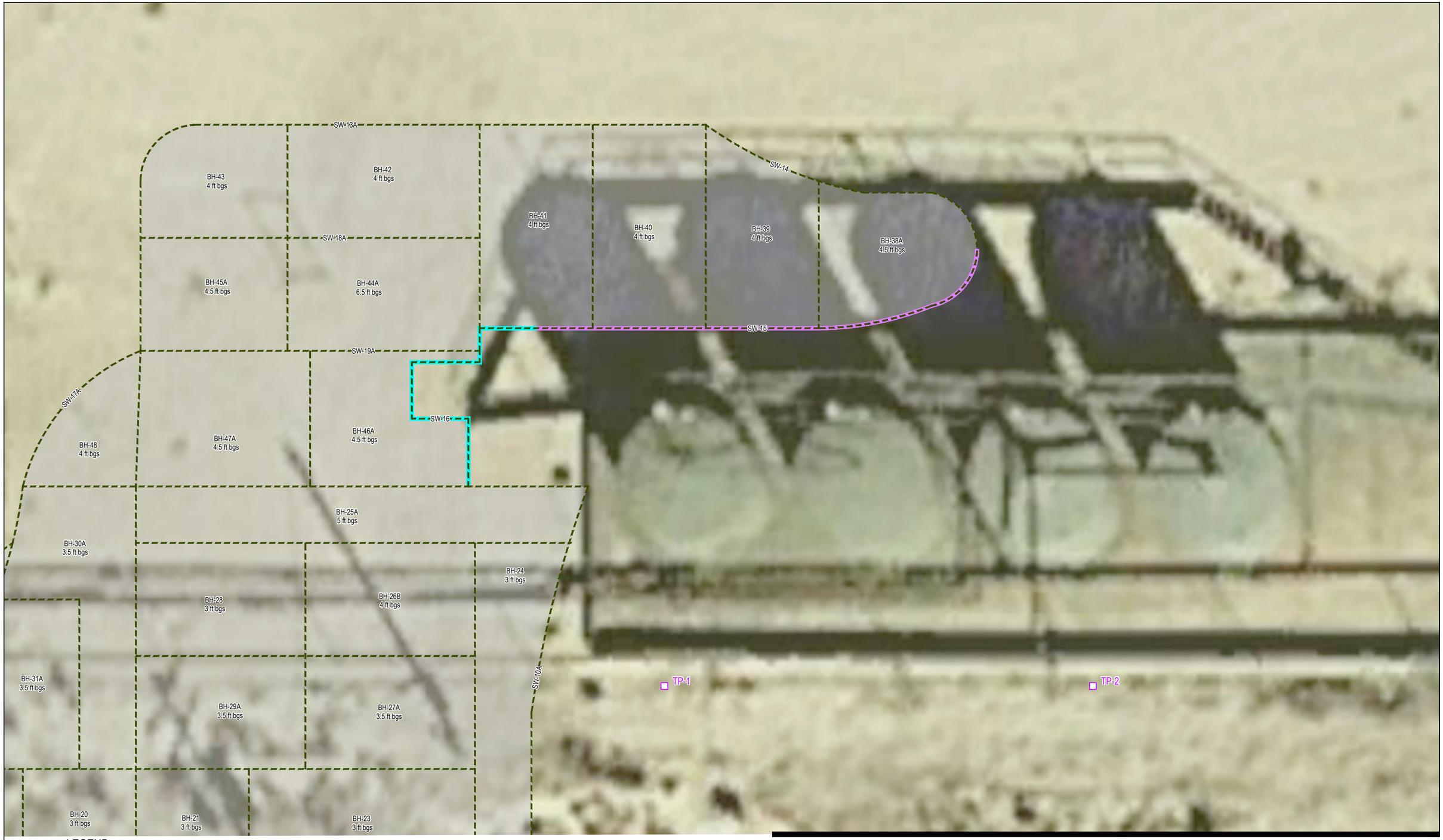
Lat/Long: 32.369538° North, 103.408025° West

Released to Imaging: 11/28/2022 9:20:24 AM



LEGEND

- EXCAVATED AREA
- TEST PIT LOCATION
- 3 ft bgs DEPTH OF SAMPLE
- BH-2A RESAMPLE
- BH-1 BOREHOLE
- INDICATES SIDE WALL COMPOSITE SAMPLE
- INDICATES SIDE WALL COMPOSITE SAMPLE
- INDICATES SIDE WALL COMPOSITE SAMPLE

NOTE: REQUESTED DEFERRAL AREA REPRESENTED BY SAMPLE LOCATIONS SW-15 AND SW-16.

0 4 8 ft

1" = 8 ft

Coordinate System:
NAD 1983 NEW MEXICO STATE
PLANES, EAST ZONE, US FOOT

N

GHD

CENTENNIAL RESOURCES PRODUCTION
LEA COUNTY, NEW MEXICO
MERCHANT LIVESTOCK 30

Project No. **12581651**
Date **October 2022**

REQUESTED DEFERRAL LOCATIONS

FIGURE 3

Filename: \\phdnefiphdfs\US\Midland\Projects\562\12581651\Digital_Design\ACAD\Figures\PRE001\12581651-GHD-00-00-PRE-EN-D104_WA-001.dwg

Data Source: Image © 2022 Google - Imagery Date: November 2, 2017
Lat/Long: 32.369538° North, 103.408025° West

Released to Imaging: 11/28/2022 9:20:24 AM

Tables

Table 1
Summary of Soil Analytical Data
Merchant Livestock 30 State 2H
Centennial Resources Production, Inc.
Lea County, New Mexico

Sample ID	Sample Date	Depth (ft bgs)	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	Total Petroleum Hydrocarbons (TPH)					Chloride
								GRO (C6-C10)	DRO (C10-C28)	GRO+DRO	MRO (C28-C35)	Total GRO/DRO/MRO	
Table I Closure Criteria for Soil <50 ft Depth to Groundwater 19.15.29 NMAC			10	---	---	---	50	---	---	---	---	100	600
Test Pit Confirmation Samples													
TP1-S	7/25/2022	Surface	<0.000384	<0.000455	<0.000564	<0.00101	<0.00101	**49.5**	<15.0	**49.5**	<15.0	**49.5**	**16.5**
TP1-1	7/25/2022	1	<0.000387	<0.000459	<0.000568	<0.00102	<0.00102	**47.7**	<15.0	**47.7**	<15.0	**47.7**	**35.8**
TP2-S	7/25/2022	Surface	<0.000389	<0.000461	<0.000571	<0.00102	<0.00102	**48.3**	<15.0	**48.3**	<15.0	**48.3**	**171**
TP2-1	7/25/2022	1	<0.000383	<0.000454	<0.000563	<0.00101	<0.00101	**49.0**	<15.0	**49.0**	<15.0	**49.0**	**227**
~~TP-25-S~~	~~4/26/2022~~	~~Surface~~	~~<0.00200~~	~~<0.00200~~	~~<0.00200~~	~~<0.00399~~	~~<0.00399~~	~~**15.6**~~	~~**24.4**~~	~~**40.0**~~	~~<49.9~~	~~**40.0**~~	~~**13.2**~~
~~TP-25-2~~	~~4/26/2022~~	~~2~~	~~<0.00198~~	~~<0.00198~~	~~<0.00198~~	~~<0.00397~~	~~<0.00397~~	~~**108**~~	~~**21.9**~~	~~**129.9**~~	~~<49.9~~	~~**129.9**~~	~~**11.4**~~
TP-25-3	9/13/2022	3	<0.00200	**0.000537**	<0.00200	<0.00399	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	**26.5**
Bottom Hole Confirmation Samples													
~~BH-1~~	~~6/20/2022~~	~~0.5~~	~~<0.000387~~	~~<0.000459~~	~~<0.000568~~	~~<0.00102~~	~~<0.00102~~	~~<14.9~~	~~<14.9~~	~~<14.9~~	~~<14.9~~	~~<14.9~~	~~1,070~~
BH-1A	7/27/2022	3	<0.000383	<0.000453	<0.000562	<0.00100	<0.00100	**15.0**	<15.0	**15.0**	<15.0	**15.0**	**65.0**
~~BH-2~~	~~6/20/2022~~	~~0.5~~	~~<0.000384~~	~~<0.000455~~	~~<0.000564~~	~~<0.00101~~	~~<0.00101~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~2,790~~
BH-2A	7/27/2022	3	<0.000383	<0.000454	<0.000563	<0.00101	<0.00101	**19.6**	<15.0	**19.6**	<15.0	**19.6**	**172**
BH-3	6/20/2022	0.5	<0.000381	<0.000451	<0.000559	<0.00100	<0.00100	<15.0	<15.0	<15.0	<15.0	<15.0	**0.516**
BH-4	6/20/2022	0.5	<0.000383	<0.000453	<0.000562	<0.00100	<0.00100	<15.0	<15.0	<15.0	<15.0	<15.0	**147**
~~BH-5~~	~~6/20/2022~~	~~0.5~~	~~<0.000382~~	~~<0.000452~~	~~<0.000561~~	~~<0.00100~~	~~<0.00100~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~1,030~~
BH-5A	7/27/2022	3	<0.000383	<0.000453	<0.000562	<0.00100	<0.00100	<15.0	<15.0	<15.0	<15.0	<15.0	**39.5**
~~BH-6~~	~~6/20/2022~~	~~0.5~~	~~<0.000386~~	~~<0.000457~~	~~<0.000566~~	~~<0.00101~~	~~<0.00101~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~1,080~~
BH-6A	7/27/2022	3	<0.000382	<0.000452	<0.000561	<0.00100	<0.00100	<15.0	**68.2**	**68.2**	<15.0	**68.2**	**74.1**
~~BH-7~~	~~6/20/2022~~	~~0.5~~	~~<0.000387~~	~~<0.000459~~	~~<0.000568~~	~~<0.00102~~	~~<0.00102~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~1,150~~
BH-7A	7/27/2022	3	<0.000387	<0.000459	<0.000568	<0.00102	<0.00102	<15.0	<15.0	<15.0	<15.0	<15.0	**235**
BH-8	6/20/2022	0.5	<0.000386	<0.000457	<0.000566	<0.00101	<0.00101	<15.0	**15.6**	**15.6**	<15.0	**15.6**	**83.2**
BH-9	6/20/2022	2.5	<0.000389	<0.000461	<0.000571	<0.00102	<0.00102	<15.0	<15.0	<15.0	<15.0	<15.0	**26.7**
BH-10	6/20/2022	2.5	<0.000384	<0.000455	<0.000564	<0.00101	<0.00101	<15.0	<15.0	<15.0	<15.0	<15.0	**304**
~~BH-11~~	~~6/20/2022~~	~~2.5~~	~~<0.000386~~	~~<0.000457~~	~~<0.000566~~	~~<0.00101~~	~~<0.00101~~	~~<15.0~~	~~**16.4**~~	~~**16.4**~~	~~<15.0~~	~~**16.4**~~	~~1,120~~
BH-11A	7/27/2022	3	<0.000386	<0.000457	<0.000566	<0.00101	<0.00101	**20.3**	<15.0	**20.3**	**19.6**	**39.9**	**88.0**
BH-12	6/20/2022	2.5	<0.000386	<0.000457	<0.000566	<0.00101	<0.00101	<15.0	<15.0	<15.0	<15.0	<15.0	**19.2**
BH-13	6/20/2022	3	<0.000389	<0.000461	<0.000571	<0.00102	<0.00102	<15.0	**15.3**	**15.3**	<15.0	**15.3**	**243**
~~BH-14~~	~~6/20/2022~~	~~3~~	~~<0.000384~~	~~<0.000455~~	~~<0.000564~~	~~<0.00101~~	~~<0.00101~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~2,360~~
BH-14A	7/27/2022	3	<0.000383	<0.000454	<0.000563	<0.00101	<0.00101	**21.2**	<15.0	**21.2**	**18.7**	**39.9**	**464**
~~BH-15~~	~~6/20/2022~~	~~3~~	~~<0.000383~~	~~<0.000453~~	~~<0.000562~~	~~<0.00100~~	~~<0.00100~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~1,990~~
BH-15A	7/27/2022	3	<0.000385	<0.000456	<0.000565	<0.00101	<0.00101	**25.7**	<15.0	**25.7**	**20.1**	**45.8**	**144**

Table 1
Summary of Soil Analytical Data
Merchant Livestock 30 State 2H
Centennial Resources Production, Inc.
Lea County, New Mexico

Sample ID	Sample Date	Depth (ft bgs)	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	Total Petroleum Hydrocarbons (TPH)					Chloride
								GRO (C6-C10)	DRO (C10-C28)	GRO+DRO	MRO (C28-C35)	Total GRO/DRO/MRO	
Table I Closure Criteria for Soil <50 ft Depth to Groundwater 19.15.29 NMAC			10	---	---	---	50	---	---	---	---	100	600
BH-16	6/20/2022	3	<0.000386	<0.000457	<0.000566	<0.00101	<0.00101	<15.0	<15.0	<15.0	<15.0	<15.0	298
BH-17	6/30/2022	3	<0.000389	**0.00202**	<0.000571	<0.00102	**0.00202**	<15.0	<15.0	<15.0	**17.7**	**17.7**	521
~~BH-18~~	~~6/30/2022~~	~~3~~	~~<0.000429~~	~~**0.00166**~~	~~<0.000629~~	~~<0.00112~~	~~**0.00166**~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~**16.8**~~	~~**16.8**~~	~~749~~
~~BH-18A~~	~~7/27/2022~~	~~3.5~~	~~<0.000383~~	~~<0.000453~~	~~<0.000562~~	~~<0.00100~~	~~<0.00100~~	~~**24.6**~~	~~<15.0~~	~~**24.6**~~	~~**21.1**~~	~~**45.7**~~	~~28,500~~
BH-18B	8/25/2022	4	<0.000381	<0.000451	<0.000559	<0.00100	<0.00100	**27.9**	<15.0	**27.9**	<15.0	**27.9**	212
BH-19	6/30/2022	3	<0.000383	**0.000546**	<0.000562	<0.00100	<0.00100	<15.0	<15.0	<15.0	**16.5**	**16.5**	572
BH-20	6/30/2022	3	<0.000387	**0.000562**	<0.000568	<0.00102	<0.00102	<15.0	<15.0	<15.0	**16.2**	**16.2**	442
BH-21	6/30/2022	3	<0.000383	**0.00106**	<0.000562	<0.00100	**0.00141**	**17.9**	<15.0	**17.9**	**23.3**	**41.2**	498
BH-22	7/1/2022	3	<0.000382	<0.000452	<0.000561	<0.00100	<0.00100	<14.9	<14.9	<14.9	**20.8**	**20.8**	104
BH-23	7/1/2022	3	<0.000387	<0.000458	<0.000567	<0.00101	<0.00101	<14.9	<14.9	<14.9	**19.5**	**19.5**	85
BH-24	7/1/2022	3	<0.000384	<0.000455	<0.000564	<0.00101	<0.00101	<15.0	<15.0	<15.0	**19.1**	**19.1**	100
~~BH-25~~	~~7/1/2022~~	~~3~~	~~<0.000383~~	~~<0.000453~~	~~<0.000562~~	~~<0.00100~~	~~<0.00100~~	~~**17.2**~~	~~<15.0~~	~~**17.2**~~	~~**20.4**~~	~~**37.6**~~	~~2,960~~
BHD-25A	9/13/2022	5	<0.00200	<0.00200	<0.00200	<0.00401	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	109
~~BH-26~~	~~7/1/2022~~	~~3~~	~~<0.000387~~	~~<0.000459~~	~~<0.000568~~	~~<0.00102~~	~~<0.00102~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~**22.1**~~	~~**22.1**~~	~~2,040~~
~~BH-26A~~	~~7/28/2022~~	~~3.5~~	~~<0.000387~~	~~<0.000458~~	~~<0.000567~~	~~<0.00101~~	~~<0.00101~~	~~**23.1**~~	~~<15.0~~	~~**23.1**~~	~~<15.0~~	~~**23.1**~~	~~805~~
BH-26B	8/25/2022	4	<0.000387	<0.000458	<0.000567	<0.00101	<0.00101	**33.3**	<15.0	**33.3**	<15.0	**33.3**	104
~~BH-27~~	~~7/1/2022~~	~~3~~	~~<0.000389~~	~~<0.000461~~	~~<0.000571~~	~~<0.00102~~	~~<0.00102~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~**24.1**~~	~~**24.1**~~	~~1,860~~
BH-27A	7/28/2022	3.5	**0.000518**	<0.000455	<0.000564	<0.00101	<0.00101	**26.9**	<15.0	**26.9**	<15.0	**26.9**	360
BH-28	7/1/2022	3	<0.000384	<0.000455	<0.000564	<0.00101	<0.00101	<14.9	<14.9	<14.9	**20.1**	**20.1**	437
~~BH-29~~	~~7/1/2022~~	~~3~~	~~<0.000383~~	~~<0.000453~~	~~<0.000562~~	~~<0.00100~~	~~<0.00100~~	~~**18.8**~~	~~<15.0~~	~~**18.8**~~	~~**19.1**~~	~~**37.9**~~	~~1,280~~
BH-29A	7/28/2022	3.5	<0.000384	<0.000455	<0.000564	<0.00101	<0.00101	**30.2**	<15.0	**30.2**	<15.0	**30.2**	263
BH-30A	7/28/2022	3.5	<0.000387	<0.000459	<0.000568	<0.00102	<0.00102	**22.2**	<15.0	**22.2**	<15.0	**22.2**	43.9
BH-31A	7/28/2022	3.5	<0.000389	<0.000461	<0.000571	<0.00102	<0.00102	**20.3**	<15.0	**20.3**	<15.0	**20.3**	56.7
~~BH-32~~	~~6/22/2022~~	~~2~~	~~<0.000385~~	~~<0.000456~~	~~<0.000565~~	~~<0.00101~~	~~<0.00101~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~**16.8**~~	~~**16.8**~~	~~2,340~~
BH-32A	7/20/2022	2.5	<0.000387	**0.000509**	<0.000567	<0.00101	<0.00101	**29.8**	**17.1**	**46.9**	**32.4**	**79.3**	79.4
~~BH-33~~	~~6/22/2022~~	~~2~~	~~<0.000385~~	~~<0.000456~~	~~<0.000565~~	~~<0.00101~~	~~<0.00101~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~**15.3**~~	~~**15.3**~~	~~821~~
BH-33A	7/20/2022	2.5	<0.000386	<0.000457	<0.000566	<0.00101	<0.00101	**20.6**	**22.6**	**43.2**	**29.8**	**73.0**	505
BH-34	6/22/2022	2	<0.000382	**0.000494**	<0.000561	**0.00109**	0.00158	<15.0	<15.0	<15.0	<15.0	<15.0	160
~~BH-35~~	~~6/22/2022~~	~~2~~	~~<0.000384~~	~~<0.000455~~	~~<0.000564~~	~~<0.00101~~	~~<0.00101~~	~~<14.9~~	~~<14.9~~	~~<14.9~~	~~<14.9~~	~~<14.9~~	~~773~~
BH-35A	7/20/2022	2.5	<0.000383	<0.000453	<0.000562	<0.00100	<0.00100	**16.2**	**17.9**	**34.1**	**25.8**	**59.9**	134
~~BH-36~~	~~6/22/2022~~	~~2~~	~~<0.000388~~	~~**0.000664**~~	~~<0.000570~~	~~<0.00102~~	~~**0.000664**~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~1,020~~
BH-36A	7/20/2022	2.5	<0.000382	<0.000452	<0.000561	<0.00100	<0.00100	**29.9**	**18.3**	**48.2**	**25.0**	**73.2**	160
~~BH-37~~	~~6/22/2022~~	~~2~~	~~<0.000387~~	~~<0.000458~~	~~<0.000567~~	~~<0.00101~~	~~<0.00101~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~3,290~~

Table 1
Summary of Soil Analytical Data
Merchant Livestock 30 State 2H
Centennial Resources Production, Inc.
Lea County, New Mexico

Sample ID	Sample Date	Depth (ft bgs)	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	Total Petroleum Hydrocarbons (TPH)					Chloride
								GRO (C6-C10)	DRO (C10-C28)	GRO+DRO	MRO (C28-C35)	Total GRO/DRO/MRO	
Table I Closure Criteria for Soil <50 ft Depth to Groundwater 19.15.29 NMAC			10	---	---	---	50	---	---	---	---	100	600
~~BH-37A~~	~~7/20/2022~~	~~2.5~~	~~<0.000384~~	~~<0.000455~~	~~<0.000564~~	~~<0.00101~~	~~<0.00101~~	~~19.3~~	~~20.3~~	~~39.6~~	~~23.2~~	~~62.8~~	~~643~~
BH-37B	8/25/2022	3	<0.000383	**0.000540**	<0.000562	<0.00100	<0.00100	**23.0**	<15.0	**23.0**	<15.0	**23.0**	**262**
~~BH-38~~	~~6/23/2022~~	~~4~~	~~<0.000387~~	~~**0.000656**~~	~~<0.000568~~	~~**0.00357**~~	~~**0.00423**~~	~~19.4~~	~~17.3~~	~~36.7~~	~~<15.0~~	~~36.7~~	~~906~~
BH-38A	7/21/2022	4.5	<0.000383	**0.00124**	<0.000562	<0.00100	**0.00124**	**20.3**	<15.0	**20.3**	**18.4**	**38.7**	**266**
BH-39	6/23/2022	4	<0.000384	<0.000455	<0.000564	<0.00101	<0.00101	**28.0**	**17.0**	**45.0**	<15.0	**45.0**	**577**
BH-40	6/23/2022	4	<0.000383	<0.000453	<0.000562	<0.00100	<0.00100	**15.6**	**17.4**	**33.0**	<15.0	**33.0**	**243**
BH-41	6/24/2022	4	**0.000814**	<0.000461	<0.000571	<0.00102	<0.00102	<15.0	<15.0	<15.0	<15.0	<15.0	**50.2**
BH-42	6/24/2022	4	<0.000385	<0.000456	<0.000565	<0.00101	<0.00101	<15.0	<15.0	<15.0	<15.0	<15.0	**492**
BH-43	6/24/2022	4	<0.000387	<0.000458	<0.000567	<0.00101	<0.00101	<15.0	<15.0	<15.0	<15.0	<15.0	**424**
~~BH-44~~	~~6/24/2022~~	~~4~~	~~<0.000381~~	~~**0.000485**~~	~~<0.000559~~	~~<0.00100~~	~~<0.00100~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~16.2~~	~~16.2~~	~~866~~
BH-44A	7/22/2022	6.5	<0.000383	**0.000553**	<0.000563	<0.00101	<0.00101	**48.5**	<15.0	**48.5**	<15.0	**48.5**	**552**
~~BH-45~~	~~6/24/2022~~	~~4~~	~~<0.000383~~	~~<0.000454~~	~~<0.000563~~	~~<0.00101~~	~~<0.00101~~	~~<14.9~~	~~<14.9~~	~~<14.9~~	~~<14.9~~	~~<14.9~~	~~1,170~~
BH-45A	7/21/2022	4.5	<0.000384	**0.000649**	<0.000564	<0.00101	<0.00101	**19.1**	<15.0	**19.1**	**15.6**	**34.7**	**179**
~~BH-46~~	~~6/24/2022~~	~~4~~	~~<0.000384~~	~~**0.000974**~~	~~<0.000564~~	~~<0.00101~~	~~<0.00101~~	~~29.7~~	~~<14.9~~	~~29.7~~	~~<14.9~~	~~29.7~~	~~1,900~~
BH-46A	7/21/2022	4.5	<0.000387	**0.00115**	<0.000568	<0.00102	**0.00115**	**18.3**	<15.0	**18.3**	**16.3**	**34.6**	**124**
~~BH-47~~	~~6/24/2022~~	~~4~~	~~<0.000384~~	~~<0.000455~~	~~<0.000564~~	~~<0.00101~~	~~<0.00101~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~836~~
BH-47A	7/21/2022	4.5	<0.000383	**0.000561**	<0.000562	<0.00100	<0.00100	**24.2**	<15.0	**24.2**	**15.6**	**39.8**	**45.8**
BH-48	6/24/2022	4	<0.000388	<0.000460	<0.000570	<0.00102	<0.00102	<15.0	<15.0	<15.0	<15.0	<15.0	**37.1**
BH-49	7/29/2022	3.5	<0.000387	<0.000458	<0.000567	<0.00101	<0.00101	**22.2**	<15.0	**22.2**	<15.0	**22.2**	**30.1**
Sidewall Confirmation Samples													
SW-1	6/22/2022	Sidewall	<0.000383	<0.000453	<0.000562	<0.00100	<0.00100	<15.0	**17.5**	**17.5**	<15.0	**17.5**	**196**
SW-2	6/22/2022	Sidewall	<0.000383	<0.000454	<0.000563	<0.00101	<0.00101	<15.0	<15.0	<15.0	<15.0	<15.0	**224**
~~SW-3~~	~~6/22/2022~~	~~Sidewall~~	~~<0.000384~~	~~<0.000455~~	~~<0.000564~~	~~<0.00101~~	~~<0.00101~~	~~<15.0~~	~~20.8~~	~~20.8~~	~~<15.0~~	~~20.8~~	~~674~~
SW-3A	7/27/2022	Sidewall	<0.000386	<0.000457	**0.00187**	**0.00929**	**0.0112**	**16.4**	<15.0	**16.4**	**15.3**	**31.7**	**15.7**
~~SW-4~~	~~6/22/2022~~	~~Sidewall~~	~~<0.000386~~	~~<0.000457~~	~~<0.000566~~	~~<0.00101~~	~~<0.00101~~	~~<15.0~~	~~30.6~~	~~30.6~~	~~<15.0~~	~~30.6~~	~~1,500~~
SW-4A	7/28/2022	Sidewall	<0.000386	<0.000457	<0.000566	<0.00101	<0.00101	**26.6**	<15.0	**26.6**	<15.0	**26.6**	**19.9**
~~SW-5~~	~~6/22/2022~~	~~Sidewall~~	~~<0.000387~~	~~<0.000458~~	~~<0.000567~~	~~<0.00101~~	~~<0.00101~~	~~<15.0~~	~~227~~	~~227~~	~~27.7~~	~~255~~	~~392~~
SW-5A	7/27/2022	Sidewall	<0.000387	<0.000458	**0.000820**	**0.00399**	**0.00481**	**17.6**	<15.0	**17.6**	**18.3**	**35.9**	**68.0**
~~SW-6~~	~~6/22/2022~~	~~Sidewall~~	~~<0.000384~~	~~<0.000455~~	~~<0.000564~~	~~<0.00101~~	~~<0.00101~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~701~~
SW-6A	7/27/2022	Sidewall	**0.000642**	<0.000455	<0.000564	**0.00219**	**0.00283**	**22.6**	<15.0	**22.6**	**17.1**	**39.7**	**17.1**
SW-7	6/22/2022	Sidewall	<0.000383	<0.000453	<0.000562	<0.00100	<0.00100	<15.0	<15.0	<15.0	<15.0	<15.0	**312**
SW-8	6/24/2022	Sidewall	<0.000382	<0.000452	<0.000561	<0.00100	<0.00100	<15.0	<15.0	<15.0	<15.0	<15.0	**284**
~~SW-9~~	~~6/22/2022~~	~~Sidewall~~	~~<0.000384~~	~~<0.000455~~	~~<0.000564~~	~~<0.00101~~	~~<0.00101~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~3,540~~

Table 1
Summary of Soil Analytical Data
Merchant Livestock 30 State 2H
Centennial Resources Production, Inc.
Lea County, New Mexico

Sample ID	Sample Date	Depth (ft bgs)	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	Total Petroleum Hydrocarbons (TPH)					Chloride
								GRO (C6-C10)	DRO (C10-C28)	GRO+DRO	MRO (C28-C35)	Total GRO/DRO/MRO	
Table I Closure Criteria for Soil <50 ft Depth to Groundwater 19.15.29 NMAC			**10**	**---**	**---**	**---**	**50**	**---**	**---**	**---**	**---**	**100**	**600**
SW-9A	7/28/2022	Sidewall	<0.000386	<0.000457	<0.000566	<0.00101	<0.00101	**25.8**	<14.9	**25.8**	<14.9	**25.8**	**496**
~~SW-10~~	~~6/22/2022~~	Sidewall	~~<0.000383~~	~~<0.000454~~	~~<0.000563~~	~~<0.00101~~	~~<0.00101~~	~~<15.0~~	~~16.1~~	~~16.1~~	~~<15.0~~	~~16.1~~	~~1,910~~
SW-10A	7/28/2022	Sidewall	**0.000413**	<0.000459	<0.000568	<0.00102	<0.00102	**21.0**	<15.0	**21.0**	<15.0	**21.0**	**216**
SW-11	6/22/2022	Sidewall	<0.000386	<0.000457	<0.000566	<0.00101	<0.00101	<15.0	<15.0	<15.0	<15.0	<15.0	**60.2**
SW-12	6/22/2022	Sidewall	<0.000384	<0.000455	<0.000564	<0.00101	<0.00101	<15.0	<15.0	<15.0	<15.0	<15.0	**331**
~~SW-13~~	~~6/23/2022~~	Sidewall	~~<0.000383~~	~~<0.000453~~	~~<0.000562~~	~~<0.00100~~	~~<0.00100~~	~~24.4~~	~~17.2~~	~~41.6~~	~~<15.0~~	~~41.6~~	~~2,390~~
SW-13A	7/27/2022	Sidewall	<0.000387	<0.000458	<0.000567	<0.00101	<0.00101	<15.0	<15.0	<15.0	<15.0	<15.0	**136**
SW-14	6/23/2022	Sidewall	<0.000383	<0.000454	<0.000563	<0.00101	<0.00101	**21.6**	**17.2**	**38.8**	<15.0	**38.8**	**232**
SW-15	6/23/2022	Sidewall	**0.00231**	**0.00458**	<0.000561	<0.00100	**0.00689**	**19.7**	<15.0	**19.7**	<15.0	**19.7**	**1,070**
SW-16	6/24/2022	Sidewall	<0.000386	<0.000457	<0.000566	<0.00101	<0.00101	**22.4**	**16.7**	**39.1**	<15.0	**39.1**	**2,890**
~~SW-17~~	~~6/30/2022~~	Sidewall	~~<0.000387~~	~~<0.000459~~	~~<0.000568~~	~~<0.00102~~	~~<0.00102~~	~~<15.0~~	~~<15.0~~	~~<15.0~~	~~15.0~~	~~15.0~~	~~1,830~~
SW-17A	7/27/2022	Sidewall	<0.000384	<0.000455	<0.000564	<0.00101	<0.00101	<15.0	<15.0	<15.0	<15.0	<15.0	**72.0**
~~SW-18~~	~~7/22/2022~~	Sidewall	~~<0.000383~~	~~<0.000453~~	~~<0.000562~~	~~<0.00100~~	~~<0.00100~~	~~47.4~~	~~<15.0~~	~~47.4~~	~~<15.0~~	~~47.4~~	~~786~~
SW-18A	8/25/2022	Sidewall	<0.000384	<0.000455	<0.000564	<0.00101	<0.00101	**42.9**	<15.0	**42.9**	<15.0	**42.9**	**347**
~~SW-19~~	~~7/22/2022~~	Sidewall	~~<0.000387~~	~~<0.000458~~	~~<0.000567~~	~~<0.00101~~	~~<0.00101~~	~~45.7~~	~~<14.9~~	~~45.7~~	~~<14.9~~	~~45.7~~	~~762~~
SW-19A	8/25/2022	Sidewall	<0.000385	<0.000456	<0.000565	<0.00101	<0.00101	**27.9**	<15.0	**27.9**	<15.0	**27.9**	**175**

1. Values reported in mg/kg
2. < = Value Less than Reporting Limit (RL)
3. Bold Indicates Analyte Detected
4. BTEX analyses by EPA Method SW 8021B.
5. TPH analyses by EPA Method SW 8015 Mod.
6. GRO/DRO/MRO = Gasoline/Diesel/Motor Oil
7. Yellow shaded cells indicate analytical samples that 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.

~~BH-2~~ Sample Point Excavated

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Table 2
Daily Disposal Summary
Merchant Livestock 30 State 2H
Centennial Resources Production
Lea County, New Mexico

Date of Disposal	Total Yds^3 Disposed
6/23/2022	180
6/24/2022	60
6/27/2022	240
7/6/2022	20
7/7/2022	140
7/8/2022	240
7/11/2022	180
7/12/2022	160
7/13/2022	464
7/19/2022	440
7/20/2022	240
7/25/2022	80
7/26/2022	160
7/27/2022	280
8/2/2022	212
8/25/2022	140
Project Total	**3,236**

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Attachment A
Laboratory Analytical Reports and Chain-of-Custody Documentation

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-16239-1
Laboratory Sample Delivery Group: 12581651
Client Project/Site: Merchant Livestock 30

For:
GHD Services Inc.
2135 South Loop 250 West
Midland, Texas 79703

Attn: Becky Haskell

Debbie Simmons

Authorized for release by:
7/1/2022 9:14:46 AM

Debbie Simmons, Project Manager
(832)986-6768
Debbie.Simmons@et.eurofinsus.com

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Laboratory Job ID: 880-16239-1
SDG: 12581651

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Definitions/Glossary

Client: GHD Services Inc. Job ID: 880-16239-1
Project/Site: Merchant Livestock 30 SDG: 12581651

Qualifiers

GC VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: GHD Services Inc. Job ID: 880-16239-1
Project/Site: Merchant Livestock 30 SDG: 12581651

Job ID: 880-16239-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-16239-1

Comments
Extra samples received not on COC, BH-1 through BH-10. Per Becky Haskell analyze all for same tests as other samples on CoC.

Receipt
The samples were received on 6/23/2022 10:50 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.3º C.

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-28359 and analytical batch 880-28308 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-28308 recovered above the upper contro limit for Benzene, Toluene, Ethylbenzene, m-Xylene & p-Xylene and o-Xylene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8021B: LCSD outside acceptance limits for o xylene. Since all that's required by method is an LCS and the RPD was acceptable, the data was reported.

(LCSD 880-28310/2-A)

Method 8021B: Surrogate recovery for the following sample was outside control limits: (CCV 880-28415/33). Evidence of matrix interferences is not obvious.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method 8015B NM: The method blank for preparation batch 880-28258 and analytical batch 880-28192 contained OII Range Organics (Over C28-C36) above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Client Sample ID: BH-32

Date Collected: 06/21/22 09:20
Date Received: 06/23/22 10:50
Sample Depth: 3'

Lab Sample ID: 880-16239-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		06/24/22 09:32	06/24/22 20:23	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		06/24/22 09:32	06/24/22 20:23	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		06/24/22 09:32	06/24/22 20:23	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		06/24/22 09:32	06/24/22 20:23	1
o-Xylene	<0.000344	U *+	0.00200	0.000344	mg/Kg		06/24/22 09:32	06/24/22 20:23	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		06/24/22 09:32	06/24/22 20:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*06/24/22 09:32*	*06/24/22 20:23*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*06/24/22 09:32*	*06/24/22 20:23*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00400	0.00101	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**16.8**	**J**	49.9	15.0	mg/Kg			06/24/22 10:29	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	49.9	15.0	mg/Kg		06/23/22 12:52	06/23/22 21:37	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		06/23/22 12:52	06/23/22 21:37	1
Oil Range Organics (Over C28-C36)	**16.8**	**J B**	49.9	15.0	mg/Kg		06/23/22 12:52	06/23/22 21:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*06/23/22 12:52*	*06/23/22 21:37*	*1*
o-Terphenyl	*114*		*70 - 130*	*06/23/22 12:52*	*06/23/22 21:37*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2340**		25.2	4.33	mg/Kg			06/28/22 05:12	5

Client Sample ID: BH-33

Date Collected: 06/21/22 09:30
Date Received: 06/23/22 10:50
Sample Depth: 3'

Lab Sample ID: 880-16239-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		06/28/22 08:42	06/28/22 17:34	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		06/28/22 08:42	06/28/22 17:34	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		06/28/22 08:42	06/28/22 17:34	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		06/28/22 08:42	06/28/22 17:34	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		06/28/22 08:42	06/28/22 17:34	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		06/28/22 08:42	06/28/22 17:34	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Client Sample ID: BH-33

Date Collected: 06/21/22 09:30
Date Received: 06/23/22 10:50
Sample Depth: 3'

Lab Sample ID: 880-16239-2
Matrix: Solid

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*06/28/22 08:42*	*06/28/22 17:34*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*06/28/22 08:42*	*06/28/22 17:34*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00400	0.00101	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**15.3**	**J**	50.0	15.0	mg/Kg			06/24/22 10:29	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		06/23/22 12:52	06/23/22 22:40	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		06/23/22 12:52	06/23/22 22:40	1
Oil Range Organics (Over C28-C36)	**15.3**	**J B**	50.0	15.0	mg/Kg		06/23/22 12:52	06/23/22 22:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*06/23/22 12:52*	*06/23/22 22:40*	*1*
o-Terphenyl	*107*		*70 - 130*	*06/23/22 12:52*	*06/23/22 22:40*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**621**		5.02	0.862	mg/Kg			06/28/22 05:20	1

Client Sample ID: BH-34

Date Collected: 06/21/22 09:40
Date Received: 06/23/22 10:50
Sample Depth: 3'

Lab Sample ID: 880-16239-3
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000382	U	0.00198	0.000382	mg/Kg		06/27/22 15:00	06/27/22 15:48	1
Toluene	**0.000494**	**J**	0.00198	0.000452	mg/Kg		06/27/22 15:00	06/27/22 15:48	1
Ethylbenzene	<0.000561	U	0.00198	0.000561	mg/Kg		06/27/22 15:00	06/27/22 15:48	1
m-Xylene & p-Xylene	**0.00109**	**J**	0.00397	0.00100	mg/Kg		06/27/22 15:00	06/27/22 15:48	1
o-Xylene	<0.000341	U	0.00198	0.000341	mg/Kg		06/27/22 15:00	06/27/22 15:48	1
Xylenes, Total	**0.00109**	**J**	0.00397	0.00100	mg/Kg		06/27/22 15:00	06/27/22 15:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*06/27/22 15:00*	*06/27/22 15:48*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*06/27/22 15:00*	*06/27/22 15:48*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.00158**	**J**	0.00397	0.00100	mg/Kg			06/27/22 12:48	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Client Sample ID: BH-34

Date Collected: 06/21/22 09:40
Date Received: 06/23/22 10:50
Sample Depth: 3'

Lab Sample ID: 880-16239-3
Matrix: Solid

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	49.9	15.0	mg/Kg			06/24/22 10:29	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	49.9	15.0	mg/Kg		06/23/22 12:52	06/23/22 23:01	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		06/23/22 12:52	06/23/22 23:01	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		06/23/22 12:52	06/23/22 23:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*06/23/22 12:52*	*06/23/22 23:01*	*1*
o-Terphenyl	*118*		*70 - 130*	*06/23/22 12:52*	*06/23/22 23:01*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**160**		5.00	0.858	mg/Kg			06/28/22 05:44	1

Client Sample ID: BH-35

Date Collected: 06/21/22 09:50
Date Received: 06/23/22 10:50
Sample Depth: 3'

Lab Sample ID: 880-16239-4
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000384	U	0.00200	0.000384	mg/Kg		06/24/22 09:32	06/24/22 21:24	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		06/24/22 09:32	06/24/22 21:24	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		06/24/22 09:32	06/24/22 21:24	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		06/24/22 09:32	06/24/22 21:24	1
o-Xylene	<0.000343	U *+	0.00200	0.000343	mg/Kg		06/24/22 09:32	06/24/22 21:24	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		06/24/22 09:32	06/24/22 21:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*06/24/22 09:32*	*06/24/22 21:24*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*06/24/22 09:32*	*06/24/22 21:24*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<14.9	U	49.8	14.9	mg/Kg			06/24/22 10:29	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<14.9	U	49.8	14.9	mg/Kg		06/23/22 12:52	06/23/22 23:22	1
Diesel Range Organics (Over C10-C28)	<14.9	U	49.8	14.9	mg/Kg		06/23/22 12:52	06/23/22 23:22	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		06/23/22 12:52	06/23/22 23:22	1

Client Sample Results

Client: GHD Services Inc. Job ID: 880-16239-1
Project/Site: Merchant Livestock 30 SDG: 12581651

Client Sample ID: BH-35
Date Collected: 06/21/22 09:50
Date Received: 06/23/22 10:50
Sample Depth: 3'

Lab Sample ID: 880-16239-4
Matrix: Solid

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*113*		*70 - 130*	*06/23/22 12:52*	*06/23/22 23:22*	*1*
o-Terphenyl	*123*		*70 - 130*	*06/23/22 12:52*	*06/23/22 23:22*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**773**		5.03	0.863	mg/Kg			06/28/22 05:52	1

Client Sample ID: BH-36
Date Collected: 06/21/22 10:00
Date Received: 06/23/22 10:50
Sample Depth: 3'

Lab Sample ID: 880-16239-5
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000388	U	0.00202	0.000388	mg/Kg		06/27/22 15:00	06/27/22 16:09	1
Toluene	**0.000664**	**J**	0.00202	0.000460	mg/Kg		06/27/22 15:00	06/27/22 16:09	1
Ethylbenzene	<0.000570	U	0.00202	0.000570	mg/Kg		06/27/22 15:00	06/27/22 16:09	1
m-Xylene & p-Xylene	<0.00102	U	0.00403	0.00102	mg/Kg		06/27/22 15:00	06/27/22 16:09	1
o-Xylene	<0.000347	U	0.00202	0.000347	mg/Kg		06/27/22 15:00	06/27/22 16:09	1
Xylenes, Total	<0.00102	U	0.00403	0.00102	mg/Kg		06/27/22 15:00	06/27/22 16:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*	*06/27/22 15:00*	*06/27/22 16:09*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*06/27/22 15:00*	*06/27/22 16:09*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00102	U	0.00403	0.00102	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	49.9	15.0	mg/Kg			06/24/22 10:29	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	49.9	15.0	mg/Kg		06/23/22 12:52	06/23/22 23:43	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		06/23/22 12:52	06/23/22 23:43	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		06/23/22 12:52	06/23/22 23:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*99*		*70 - 130*	*06/23/22 12:52*	*06/23/22 23:43*	*1*
o-Terphenyl	*105*		*70 - 130*	*06/23/22 12:52*	*06/23/22 23:43*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1020**		5.00	0.858	mg/Kg			06/28/22 05:59	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Client Sample ID: BH-37

Lab Sample ID: 880-16239-6
Matrix: Solid
Date Collected: 06/21/22 10:10
Date Received: 06/23/22 10:50
Sample Depth: 3'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		06/24/22 09:32	06/24/22 22:05	1
Toluene	<0.000458	U	0.00201	0.000458	mg/Kg		06/24/22 09:32	06/24/22 22:05	1
Ethylbenzene	<0.000567	U	0.00201	0.000567	mg/Kg		06/24/22 09:32	06/24/22 22:05	1
m-Xylene & p-Xylene	<0.00101	U	0.00402	0.00101	mg/Kg		06/24/22 09:32	06/24/22 22:05	1
o-Xylene	<0.000345	U *+	0.00201	0.000345	mg/Kg		06/24/22 09:32	06/24/22 22:05	1
Xylenes, Total	<0.00101	U	0.00402	0.00101	mg/Kg		06/24/22 09:32	06/24/22 22:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*06/24/22 09:32*	*06/24/22 22:05*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*06/24/22 09:32*	*06/24/22 22:05*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00402	0.00101	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	50.0	15.0	mg/Kg			06/24/22 10:29	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		06/23/22 12:52	06/24/22 00:04	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		06/23/22 12:52	06/24/22 00:04	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		06/23/22 12:52	06/24/22 00:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*06/23/22 12:52*	*06/24/22 00:04*	*1*
o-Terphenyl	*110*		*70 - 130*	*06/23/22 12:52*	*06/24/22 00:04*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3290**		24.9	4.27	mg/Kg			06/28/22 06:07	5

Client Sample ID: SW-11

Lab Sample ID: 880-16239-7
Matrix: Solid
Date Collected: 06/22/22 10:20
Date Received: 06/23/22 10:50
Sample Depth: Suf - 3'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000386	U	0.00200	0.000386	mg/Kg		06/24/22 15:02	06/25/22 01:43	1
Toluene	<0.000457	U	0.00200	0.000457	mg/Kg		06/24/22 15:02	06/25/22 01:43	1
Ethylbenzene	<0.000566	U	0.00200	0.000566	mg/Kg		06/24/22 15:02	06/25/22 01:43	1
m-Xylene & p-Xylene	<0.00101	U F1	0.00401	0.00101	mg/Kg		06/24/22 15:02	06/25/22 01:43	1
o-Xylene	**0.000588**	**J**	0.00200	0.000345	mg/Kg		06/24/22 15:02	06/25/22 01:43	1
Xylenes, Total	<0.00101	U F1	0.00401	0.00101	mg/Kg		06/24/22 15:02	06/25/22 01:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*06/24/22 15:02*	*06/25/22 01:43*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Client Sample ID: SW-11

Date Collected: 06/22/22 10:20
Date Received: 06/23/22 10:50
Sample Depth: Suf - 3'

Lab Sample ID: 880-16239-7
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*06/24/22 15:02*	*06/25/22 01:43*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00401	0.00101	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	50.0	15.0	mg/Kg			06/24/22 10:29	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		06/23/22 12:52	06/24/22 00:25	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		06/23/22 12:52	06/24/22 00:25	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		06/23/22 12:52	06/24/22 00:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*06/23/22 12:52*	*06/24/22 00:25*	*1*
o-Terphenyl	*113*		*70 - 130*	*06/23/22 12:52*	*06/24/22 00:25*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**60.2**		4.95	0.850	mg/Kg			06/28/22 06:15	1

Client Sample ID: SW-12

Date Collected: 06/22/22 10:30
Date Received: 06/23/22 10:50
Sample Depth: Suf - 3'

Lab Sample ID: 880-16239-8
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000384	U	0.00200	0.000384	mg/Kg		06/24/22 15:02	06/25/22 02:04	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		06/24/22 15:02	06/25/22 02:04	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		06/24/22 15:02	06/25/22 02:04	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		06/24/22 15:02	06/25/22 02:04	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		06/24/22 15:02	06/25/22 02:04	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		06/24/22 15:02	06/25/22 02:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*06/24/22 15:02*	*06/25/22 02:04*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*06/24/22 15:02*	*06/25/22 02:04*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	50.0	15.0	mg/Kg			06/24/22 10:29	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Client Sample ID: SW-12
Date Collected: 06/22/22 10:30
Date Received: 06/23/22 10:50
Sample Depth: Suf - 3'

Lab Sample ID: 880-16239-8
Matrix: Solid

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		06/23/22 12:52	06/24/22 00:46	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		06/23/22 12:52	06/24/22 00:46	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		06/23/22 12:52	06/24/22 00:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*117*		*70 - 130*	*06/23/22 12:52*	*06/24/22 00:46*	*1*
o-Terphenyl	*128*		*70 - 130*	*06/23/22 12:52*	*06/24/22 00:46*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**331**		5.00	0.858	mg/Kg			06/28/22 06:23	1

Client Sample ID: SW-1
Date Collected: 06/22/22 11:20
Date Received: 06/23/22 10:50
Sample Depth: Suf - 2'

Lab Sample ID: 880-16239-9
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		06/24/22 15:02	06/25/22 02:24	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		06/24/22 15:02	06/25/22 02:24	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		06/24/22 15:02	06/25/22 02:24	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		06/24/22 15:02	06/25/22 02:24	1
o-Xylene	<0.000342	U	0.00199	0.000342	mg/Kg		06/24/22 15:02	06/25/22 02:24	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		06/24/22 15:02	06/25/22 02:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*06/24/22 15:02*	*06/25/22 02:24*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*06/24/22 15:02*	*06/25/22 02:24*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00398	0.00100	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**17.5**	**J**	49.9	15.0	mg/Kg			06/24/22 10:29	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	49.9	15.0	mg/Kg		06/23/22 12:52	06/24/22 01:07	1
Diesel Range Organics (Over C10-C28)	**17.5**	**J**	49.9	15.0	mg/Kg		06/23/22 12:52	06/24/22 01:07	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		06/23/22 12:52	06/24/22 01:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*119*		*70 - 130*	*06/23/22 12:52*	*06/24/22 01:07*	*1*
o-Terphenyl	*127*		*70 - 130*	*06/23/22 12:52*	*06/24/22 01:07*	*1*

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Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Client Sample ID: SW-1
Date Collected: 06/22/22 11:20
Date Received: 06/23/22 10:50
Sample Depth: Suf - 2'

Lab Sample ID: 880-16239-9
Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	196		4.99	0.857	mg/Kg			06/28/22 06:31	1

Client Sample ID: SW-2
Date Collected: 06/22/22 11:30
Date Received: 06/23/22 10:50
Sample Depth: Suf - 3'

Lab Sample ID: 880-16239-10
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		06/24/22 15:02	06/25/22 02:45	1
Toluene	<0.000454	U	0.00199	0.000454	mg/Kg		06/24/22 15:02	06/25/22 02:45	1
Ethylbenzene	<0.000563	U	0.00199	0.000563	mg/Kg		06/24/22 15:02	06/25/22 02:45	1
m-Xylene & p-Xylene	<0.00101	U	0.00398	0.00101	mg/Kg		06/24/22 15:02	06/25/22 02:45	1
o-Xylene	<0.000343	U	0.00199	0.000343	mg/Kg		06/24/22 15:02	06/25/22 02:45	1
Xylenes, Total	<0.00101	U	0.00398	0.00101	mg/Kg		06/24/22 15:02	06/25/22 02:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*06/24/22 15:02*	*06/25/22 02:45*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*06/24/22 15:02*	*06/25/22 02:45*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00398	0.00101	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	49.9	15.0	mg/Kg			06/24/22 10:29	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	49.9	15.0	mg/Kg		06/23/22 12:52	06/24/22 01:29	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		06/23/22 12:52	06/24/22 01:29	1
OII Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		06/23/22 12:52	06/24/22 01:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*06/23/22 12:52*	*06/24/22 01:29*	*1*
o-Terphenyl	*110*		*70 - 130*	*06/23/22 12:52*	*06/24/22 01:29*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	224		5.05	0.867	mg/Kg			06/29/22 16:09	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Client Sample ID: SW-3

Lab Sample ID: 880-16239-11
Matrix: Solid
Date Collected: 06/22/22 11:40
Date Received: 06/23/22 10:50
Sample Depth: Surf - 2'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000384	U	0.00200	0.000384	mg/Kg		06/24/22 15:02	06/25/22 03:05	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		06/24/22 15:02	06/25/22 03:05	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		06/24/22 15:02	06/25/22 03:05	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		06/24/22 15:02	06/25/22 03:05	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		06/24/22 15:02	06/25/22 03:05	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		06/24/22 15:02	06/25/22 03:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*06/24/22 15:02*	*06/25/22 03:05*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*06/24/22 15:02*	*06/25/22 03:05*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**20.8**	**J**	49.9	15.0	mg/Kg			06/24/22 10:29	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	49.9	15.0	mg/Kg		06/23/22 12:52	06/24/22 02:11	1
Diesel Range Organics (Over C10-C28)	**20.8**	**J**	49.9	15.0	mg/Kg		06/23/22 12:52	06/24/22 02:11	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		06/23/22 12:52	06/24/22 02:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*120*		*70 - 130*	*06/23/22 12:52*	*06/24/22 02:11*	*1*
o-Terphenyl	*129*		*70 - 130*	*06/23/22 12:52*	*06/24/22 02:11*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**674**		5.04	0.865	mg/Kg			06/29/22 16:33	1

Client Sample ID: SW-4

Lab Sample ID: 880-16239-12
Matrix: Solid
Date Collected: 06/22/22 11:50
Date Received: 06/23/22 10:50
Sample Depth: Surf - 2'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000386	U	0.00200	0.000386	mg/Kg		06/24/22 15:02	06/25/22 03:25	1
Toluene	<0.000457	U	0.00200	0.000457	mg/Kg		06/24/22 15:02	06/25/22 03:25	1
Ethylbenzene	<0.000566	U	0.00200	0.000566	mg/Kg		06/24/22 15:02	06/25/22 03:25	1
m-Xylene & p-Xylene	<0.00101	U	0.00401	0.00101	mg/Kg		06/24/22 15:02	06/25/22 03:25	1
o-Xylene	<0.000345	U	0.00200	0.000345	mg/Kg		06/24/22 15:02	06/25/22 03:25	1
Xylenes, Total	<0.00101	U	0.00401	0.00101	mg/Kg		06/24/22 15:02	06/25/22 03:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*	*06/24/22 15:02*	*06/25/22 03:25*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Client Sample ID: SW-4

Lab Sample ID: 880-16239-12
Matrix: Solid
Date Collected: 06/22/22 11:50
Date Received: 06/23/22 10:50
Sample Depth: Surf - 2'

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*06/24/22 15:02*	*06/25/22 03:25*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00401	0.00101	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**30.6**	**J**	50.0	15.0	mg/Kg			06/24/22 10:29	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		06/23/22 12:52	06/24/22 02:32	1
Diesel Range Organics (Over C10-C28)	**30.6**	**J**	50.0	15.0	mg/Kg		06/23/22 12:52	06/24/22 02:32	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		06/23/22 12:52	06/24/22 02:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*06/23/22 12:52*	*06/24/22 02:32*	*1*
o-Terphenyl	*109*		*70 - 130*	*06/23/22 12:52*	*06/24/22 02:32*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1500**		5.04	0.865	mg/Kg			06/29/22 16:41	1

Client Sample ID: SW-5

Lab Sample ID: 880-16239-13
Matrix: Solid
Date Collected: 06/22/22 12:00
Date Received: 06/23/22 10:50
Sample Depth: Surf - 2'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		06/24/22 15:02	06/25/22 03:46	1
Toluene	<0.000458	U	0.00201	0.000458	mg/Kg		06/24/22 15:02	06/25/22 03:46	1
Ethylbenzene	<0.000567	U	0.00201	0.000567	mg/Kg		06/24/22 15:02	06/25/22 03:46	1
m-Xylene & p-Xylene	<0.00101	U	0.00402	0.00101	mg/Kg		06/24/22 15:02	06/25/22 03:46	1
o-Xylene	<0.000345	U	0.00201	0.000345	mg/Kg		06/24/22 15:02	06/25/22 03:46	1
Xylenes, Total	<0.00101	U	0.00402	0.00101	mg/Kg		06/24/22 15:02	06/25/22 03:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*06/24/22 15:02*	*06/25/22 03:46*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*06/24/22 15:02*	*06/25/22 03:46*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00402	0.00101	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**255**		49.9	15.0	mg/Kg			06/24/22 10:29	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Client Sample ID: SW-5

Lab Sample ID: 880-16239-13
Matrix: Solid
Date Collected: 06/22/22 12:00
Date Received: 06/23/22 10:50
Sample Depth: Surf - 2'

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	49.9	15.0	mg/Kg		06/23/22 12:52	06/24/22 02:53	1
Diesel Range Organics (Over C10-C28)	**227**		49.9	15.0	mg/Kg		06/23/22 12:52	06/24/22 02:53	1
Oil Range Organics (Over C28-C36)	**27.7**	**J B**	49.9	15.0	mg/Kg		06/23/22 12:52	06/24/22 02:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*118*		*70 - 130*	*06/23/22 12:52*	*06/24/22 02:53*	*1*
o-Terphenyl	*127*		*70 - 130*	*06/23/22 12:52*	*06/24/22 02:53*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**392**		4.95	0.850	mg/Kg			06/29/22 16:48	1

Client Sample ID: SW-6

Lab Sample ID: 880-16239-14
Matrix: Solid
Date Collected: 06/22/22 12:10
Date Received: 06/23/22 10:50
Sample Depth: Surf - 2'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000384	U	0.00200	0.000384	mg/Kg		06/24/22 15:02	06/25/22 04:06	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		06/24/22 15:02	06/25/22 04:06	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		06/24/22 15:02	06/25/22 04:06	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		06/24/22 15:02	06/25/22 04:06	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		06/24/22 15:02	06/25/22 04:06	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		06/24/22 15:02	06/25/22 04:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*06/24/22 15:02*	*06/25/22 04:06*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*06/24/22 15:02*	*06/25/22 04:06*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	50.0	15.0	mg/Kg			06/24/22 10:29	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		06/23/22 12:52	06/24/22 03:14	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		06/23/22 12:52	06/24/22 03:14	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		06/23/22 12:52	06/24/22 03:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*120*		*70 - 130*	*06/23/22 12:52*	*06/24/22 03:14*	*1*
o-Terphenyl	*128*		*70 - 130*	*06/23/22 12:52*	*06/24/22 03:14*	*1*

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Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Client Sample ID: SW-6

Lab Sample ID: 880-16239-14
Matrix: Solid
Date Collected: 06/22/22 12:10
Date Received: 06/23/22 10:50
Sample Depth: Surf - 2'

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	701		4.95	0.850	mg/Kg			06/29/22 16:56	1

Client Sample ID: SW-7

Lab Sample ID: 880-16239-15
Matrix: Solid
Date Collected: 06/22/22 12:20
Date Received: 06/23/22 10:50
Sample Depth: Surf - 2'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		06/24/22 15:02	06/25/22 04:27	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		06/24/22 15:02	06/25/22 04:27	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		06/24/22 15:02	06/25/22 04:27	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		06/24/22 15:02	06/25/22 04:27	1
o-Xylene	<0.000342	U	0.00199	0.000342	mg/Kg		06/24/22 15:02	06/25/22 04:27	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		06/24/22 15:02	06/25/22 04:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*06/24/22 15:02*	*06/25/22 04:27*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*06/24/22 15:02*	*06/25/22 04:27*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00398	0.00100	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	50.0	15.0	mg/Kg			06/24/22 10:29	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		06/23/22 12:52	06/24/22 03:35	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		06/23/22 12:52	06/24/22 03:35	1
OII Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		06/23/22 12:52	06/24/22 03:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*06/23/22 12:52*	*06/24/22 03:35*	*1*
o-Terphenyl	*111*		*70 - 130*	*06/23/22 12:52*	*06/24/22 03:35*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	312		5.05	0.867	mg/Kg			06/29/22 17:20	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Client Sample ID: SW-9

Lab Sample ID: 880-16239-16
Matrix: Solid

Date Collected: 06/22/22 12:40
Date Received: 06/23/22 10:50
Sample Depth: Surf - 2'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000384	U	0.00200	0.000384	mg/Kg		06/24/22 15:02	06/25/22 04:47	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		06/24/22 15:02	06/25/22 04:47	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		06/24/22 15:02	06/25/22 04:47	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		06/24/22 15:02	06/25/22 04:47	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		06/24/22 15:02	06/25/22 04:47	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		06/24/22 15:02	06/25/22 04:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*06/24/22 15:02*	*06/25/22 04:47*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*06/24/22 15:02*	*06/25/22 04:47*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	50.0	15.0	mg/Kg			06/24/22 10:29	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		06/23/22 12:52	06/24/22 03:56	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		06/23/22 12:52	06/24/22 03:56	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		06/23/22 12:52	06/24/22 03:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*06/23/22 12:52*	*06/24/22 03:56*	*1*
o-Terphenyl	*98*		*70 - 130*	*06/23/22 12:52*	*06/24/22 03:56*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3540**		25.2	4.33	mg/Kg			06/29/22 17:28	5

Client Sample ID: SW-10

Lab Sample ID: 880-16239-17
Matrix: Solid

Date Collected: 06/22/22 12:50
Date Received: 06/23/22 10:50
Sample Depth: Surf - 2'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		06/24/22 15:02	06/25/22 06:37	1
Toluene	<0.000454	U	0.00199	0.000454	mg/Kg		06/24/22 15:02	06/25/22 06:37	1
Ethylbenzene	<0.000563	U	0.00199	0.000563	mg/Kg		06/24/22 15:02	06/25/22 06:37	1
m-Xylene & p-Xylene	<0.00101	U	0.00398	0.00101	mg/Kg		06/24/22 15:02	06/25/22 06:37	1
o-Xylene	<0.000343	U	0.00199	0.000343	mg/Kg		06/24/22 15:02	06/25/22 06:37	1
Xylenes, Total	<0.00101	U	0.00398	0.00101	mg/Kg		06/24/22 15:02	06/25/22 06:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*	*06/24/22 15:02*	*06/25/22 06:37*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Client Sample ID: SW-10

Lab Sample ID: 880-16239-17
Matrix: Solid
Date Collected: 06/22/22 12:50
Date Received: 06/23/22 10:50
Sample Depth: Surf - 2'

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*06/24/22 15:02*	*06/25/22 06:37*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00398	0.00101	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**16.1**	**J**	50.0	15.0	mg/Kg			06/24/22 10:29	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		06/23/22 12:52	06/24/22 04:17	1
Diesel Range Organics (Over C10-C28)	**16.1**	**J**	50.0	15.0	mg/Kg		06/23/22 12:52	06/24/22 04:17	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		06/23/22 12:52	06/24/22 04:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*116*		*70 - 130*	*06/23/22 12:52*	*06/24/22 04:17*	*1*
o-Terphenyl	*125*		*70 - 130*	*06/23/22 12:52*	*06/24/22 04:17*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1910**		25.1	4.31	mg/Kg			06/29/22 17:36	5

Client Sample ID: BH-11

Lab Sample ID: 880-16239-18
Matrix: Solid
Date Collected: 06/22/22 11:55
Date Received: 06/23/22 10:50
Sample Depth: 3.5'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000386	U	0.00200	0.000386	mg/Kg		06/24/22 15:02	06/25/22 06:58	1
Toluene	<0.000457	U	0.00200	0.000457	mg/Kg		06/24/22 15:02	06/25/22 06:58	1
Ethylbenzene	<0.000566	U	0.00200	0.000566	mg/Kg		06/24/22 15:02	06/25/22 06:58	1
m-Xylene & p-Xylene	<0.00101	U	0.00401	0.00101	mg/Kg		06/24/22 15:02	06/25/22 06:58	1
o-Xylene	<0.000345	U	0.00200	0.000345	mg/Kg		06/24/22 15:02	06/25/22 06:58	1
Xylenes, Total	<0.00101	U	0.00401	0.00101	mg/Kg		06/24/22 15:02	06/25/22 06:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*06/24/22 15:02*	*06/25/22 06:58*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*06/24/22 15:02*	*06/25/22 06:58*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00401	0.00101	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**16.4**	**J**	50.0	15.0	mg/Kg			06/24/22 10:29	1

Eurofins Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Client Sample ID: BH-11

Lab Sample ID: 880-16239-18
Matrix: Solid
Date Collected: 06/22/22 11:55
Date Received: 06/23/22 10:50
Sample Depth: 3.5'

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		06/23/22 12:52	06/24/22 04:38	1
Diesel Range Organics (Over C10-C28)	**16.4**	**J**	50.0	15.0	mg/Kg		06/23/22 12:52	06/24/22 04:38	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		06/23/22 12:52	06/24/22 04:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*113*		*70 - 130*	*06/23/22 12:52*	*06/24/22 04:38*	*1*
o-Terphenyl	*123*		*70 - 130*	*06/23/22 12:52*	*06/24/22 04:38*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1120**		5.02	0.862	mg/Kg			06/29/22 17:43	1

Client Sample ID: BH-12

Lab Sample ID: 880-16239-19
Matrix: Solid
Date Collected: 06/22/22 12:05
Date Received: 06/23/22 10:50
Sample Depth: 3.5'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000386	U	0.00200	0.000386	mg/Kg		06/24/22 15:02	06/25/22 07:18	1
Toluene	<0.000457	U	0.00200	0.000457	mg/Kg		06/24/22 15:02	06/25/22 07:18	1
Ethylbenzene	<0.000566	U	0.00200	0.000566	mg/Kg		06/24/22 15:02	06/25/22 07:18	1
m-Xylene & p-Xylene	<0.00101	U	0.00401	0.00101	mg/Kg		06/24/22 15:02	06/25/22 07:18	1
o-Xylene	<0.000345	U	0.00200	0.000345	mg/Kg		06/24/22 15:02	06/25/22 07:18	1
Xylenes, Total	<0.00101	U	0.00401	0.00101	mg/Kg		06/24/22 15:02	06/25/22 07:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*06/24/22 15:02*	*06/25/22 07:18*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*06/24/22 15:02*	*06/25/22 07:18*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00401	0.00101	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	49.9	15.0	mg/Kg			06/24/22 10:29	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	49.9	15.0	mg/Kg		06/23/22 12:52	06/24/22 04:59	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		06/23/22 12:52	06/24/22 04:59	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		06/23/22 12:52	06/24/22 04:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*06/23/22 12:52*	*06/24/22 04:59*	*1*
o-Terphenyl	*110*		*70 - 130*	*06/23/22 12:52*	*06/24/22 04:59*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Client Sample ID: BH-12

Lab Sample ID: 880-16239-19
Matrix: Solid
Date Collected: 06/22/22 12:05
Date Received: 06/23/22 10:50
Sample Depth: 3.5'

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**19.2**		5.01	0.860	mg/Kg			06/29/22 17:51	1

Client Sample ID: BH-13

Lab Sample ID: 880-16239-20
Matrix: Solid
Date Collected: 06/22/22 12:15
Date Received: 06/23/22 10:50
Sample Depth: 3.5'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000389	U	0.00202	0.000389	mg/Kg		06/24/22 15:02	06/25/22 07:38	1
Toluene	<0.000461	U	0.00202	0.000461	mg/Kg		06/24/22 15:02	06/25/22 07:38	1
Ethylbenzene	<0.000571	U	0.00202	0.000571	mg/Kg		06/24/22 15:02	06/25/22 07:38	1
m-Xylene & p-Xylene	<0.00102	U	0.00404	0.00102	mg/Kg		06/24/22 15:02	06/25/22 07:38	1
o-Xylene	<0.000347	U	0.00202	0.000347	mg/Kg		06/24/22 15:02	06/25/22 07:38	1
Xylenes, Total	<0.00102	U	0.00404	0.00102	mg/Kg		06/24/22 15:02	06/25/22 07:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*06/24/22 15:02*	*06/25/22 07:38*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*06/24/22 15:02*	*06/25/22 07:38*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00102	U	0.00404	0.00102	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**15.3**	**J**	49.9	15.0	mg/Kg			06/24/22 10:29	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	49.9	15.0	mg/Kg		06/23/22 12:52	06/24/22 05:20	1
Diesel Range Organics (Over C10-C28)	**15.3**	**J**	49.9	15.0	mg/Kg		06/23/22 12:52	06/24/22 05:20	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		06/23/22 12:52	06/24/22 05:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*116*		*70 - 130*	*06/23/22 12:52*	*06/24/22 05:20*	*1*
o-Terphenyl	*123*		*70 - 130*	*06/23/22 12:52*	*06/24/22 05:20*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**243**		4.95	0.850	mg/Kg			06/29/22 17:59	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Client Sample ID: BH-14

Lab Sample ID: 880-16239-21
Matrix: Solid
Date Collected: 06/22/22 12:25
Date Received: 06/23/22 10:50
Sample Depth: 3.5'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000384	U	0.00200	0.000384	mg/Kg		06/24/22 15:02	06/25/22 07:59	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		06/24/22 15:02	06/25/22 07:59	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		06/24/22 15:02	06/25/22 07:59	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		06/24/22 15:02	06/25/22 07:59	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		06/24/22 15:02	06/25/22 07:59	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		06/24/22 15:02	06/25/22 07:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*06/24/22 15:02*	*06/25/22 07:59*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*06/24/22 15:02*	*06/25/22 07:59*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	49.9	15.0	mg/Kg			06/24/22 10:29	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	49.9	15.0	mg/Kg		06/23/22 16:11	06/23/22 21:11	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		06/23/22 16:11	06/23/22 21:11	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		06/23/22 16:11	06/23/22 21:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*113*		*70 - 130*	*06/23/22 16:11*	*06/23/22 21:11*	*1*
o-Terphenyl	*118*		*70 - 130*	*06/23/22 16:11*	*06/23/22 21:11*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2360**		24.9	4.27	mg/Kg			06/29/22 18:23	5

Client Sample ID: BH-15

Lab Sample ID: 880-16239-22
Matrix: Solid
Date Collected: 06/22/22 12:35
Date Received: 06/23/22 10:50
Sample Depth: 3.5'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		06/24/22 15:02	06/25/22 08:19	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		06/24/22 15:02	06/25/22 08:19	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		06/24/22 15:02	06/25/22 08:19	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		06/24/22 15:02	06/25/22 08:19	1
o-Xylene	<0.000342	U	0.00199	0.000342	mg/Kg		06/24/22 15:02	06/25/22 08:19	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		06/24/22 15:02	06/25/22 08:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*06/24/22 15:02*	*06/25/22 08:19*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Client Sample ID: BH-15

Date Collected: 06/22/22 12:35
Date Received: 06/23/22 10:50
Sample Depth: 3.5'

Lab Sample ID: 880-16239-22
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*06/24/22 15:02*	*06/25/22 08:19*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00398	0.00100	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	50.0	15.0	mg/Kg			06/24/22 10:29	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		06/23/22 16:11	06/23/22 22:10	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		06/23/22 16:11	06/23/22 22:10	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		06/23/22 16:11	06/23/22 22:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*06/23/22 16:11*	*06/23/22 22:10*	*1*
o-Terphenyl	*120*		*70 - 130*	*06/23/22 16:11*	*06/23/22 22:10*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1990**		25.0	4.29	mg/Kg			06/29/22 18:31	5

Client Sample ID: BH-16

Date Collected: 06/22/22 12:45
Date Received: 06/23/22 10:50
Sample Depth: 3.5'

Lab Sample ID: 880-16239-23
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000386	U	0.00200	0.000386	mg/Kg		06/24/22 15:02	06/25/22 08:40	1
Toluene	<0.000457	U	0.00200	0.000457	mg/Kg		06/24/22 15:02	06/25/22 08:40	1
Ethylbenzene	<0.000566	U	0.00200	0.000566	mg/Kg		06/24/22 15:02	06/25/22 08:40	1
m-Xylene & p-Xylene	<0.00101	U	0.00401	0.00101	mg/Kg		06/24/22 15:02	06/25/22 08:40	1
o-Xylene	<0.000345	U	0.00200	0.000345	mg/Kg		06/24/22 15:02	06/25/22 08:40	1
Xylenes, Total	<0.00101	U	0.00401	0.00101	mg/Kg		06/24/22 15:02	06/25/22 08:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*06/24/22 15:02*	*06/25/22 08:40*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*06/24/22 15:02*	*06/25/22 08:40*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00401	0.00101	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	49.9	15.0	mg/Kg			06/24/22 10:29	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Client Sample ID: BH-16

Lab Sample ID: 880-16239-23
Matrix: Solid
Date Collected: 06/22/22 12:45
Date Received: 06/23/22 10:50
Sample Depth: 3.5'

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	49.9	15.0	mg/Kg		06/23/22 16:11	06/23/22 22:30	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		06/23/22 16:11	06/23/22 22:30	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		06/23/22 16:11	06/23/22 22:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*113*		*70 - 130*	*06/23/22 16:11*	*06/23/22 22:30*	*1*
o-Terphenyl	*122*		*70 - 130*	*06/23/22 16:11*	*06/23/22 22:30*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**298**		4.98	0.855	mg/Kg			06/29/22 18:54	1

Client Sample ID: BH-1

Lab Sample ID: 880-16239-24
Matrix: Solid
Date Collected: 06/22/22 10:15
Date Received: 06/23/22 10:50

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		06/24/22 15:02	06/25/22 09:00	1
Toluene	<0.000459	U	0.00201	0.000459	mg/Kg		06/24/22 15:02	06/25/22 09:00	1
Ethylbenzene	<0.000568	U	0.00201	0.000568	mg/Kg		06/24/22 15:02	06/25/22 09:00	1
m-Xylene & p-Xylene	<0.00102	U	0.00402	0.00102	mg/Kg		06/24/22 15:02	06/25/22 09:00	1
o-Xylene	<0.000346	U	0.00201	0.000346	mg/Kg		06/24/22 15:02	06/25/22 09:00	1
Xylenes, Total	<0.00102	U	0.00402	0.00102	mg/Kg		06/24/22 15:02	06/25/22 09:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*06/24/22 15:02*	*06/25/22 09:00*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*06/24/22 15:02*	*06/25/22 09:00*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00102	U	0.00402	0.00102	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<14.9	U	49.8	14.9	mg/Kg			06/24/22 10:29	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<14.9	U	49.8	14.9	mg/Kg		06/23/22 16:11	06/23/22 22:50	1
Diesel Range Organics (Over C10-C28)	<14.9	U	49.8	14.9	mg/Kg		06/23/22 16:11	06/23/22 22:50	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		06/23/22 16:11	06/23/22 22:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*113*		*70 - 130*	*06/23/22 16:11*	*06/23/22 22:50*	*1*
o-Terphenyl	*124*		*70 - 130*	*06/23/22 16:11*	*06/23/22 22:50*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Client Sample ID: BH-1
Date Collected: 06/22/22 10:15
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-24
Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1070		4.95	0.850	mg/Kg			06/29/22 19:02	1

Client Sample ID: BH-2
Date Collected: 06/22/22 10:25
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-25
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000384	U	0.00200	0.000384	mg/Kg		06/24/22 15:02	06/25/22 09:21	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		06/24/22 15:02	06/25/22 09:21	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		06/24/22 15:02	06/25/22 09:21	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		06/24/22 15:02	06/25/22 09:21	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		06/24/22 15:02	06/25/22 09:21	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		06/24/22 15:02	06/25/22 09:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*06/24/22 15:02*	*06/25/22 09:21*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*06/24/22 15:02*	*06/25/22 09:21*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	49.9	15.0	mg/Kg			06/24/22 10:29	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	49.9	15.0	mg/Kg		06/23/22 16:11	06/23/22 23:10	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		06/23/22 16:11	06/23/22 23:10	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		06/23/22 16:11	06/23/22 23:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*107*		*70 - 130*	*06/23/22 16:11*	*06/23/22 23:10*	*1*
o-Terphenyl	*115*		*70 - 130*	*06/23/22 16:11*	*06/23/22 23:10*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2790		25.0	4.29	mg/Kg			06/29/22 19:10	5

Client Sample ID: BH-3
Date Collected: 06/22/22 10:35
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-26
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000381	U	0.00198	0.000381	mg/Kg		06/24/22 15:02	06/25/22 09:41	1
Toluene	<0.000451	U	0.00198	0.000451	mg/Kg		06/24/22 15:02	06/25/22 09:41	1
Ethylbenzene	<0.000559	U	0.00198	0.000559	mg/Kg		06/24/22 15:02	06/25/22 09:41	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Client Sample ID: BH-3
Date Collected: 06/22/22 10:35
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-26
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	<0.00100	U	0.00396	0.00100	mg/Kg		06/24/22 15:02	06/25/22 09:41	1
o-Xylene	<0.000341	U	0.00198	0.000341	mg/Kg		06/24/22 15:02	06/25/22 09:41	1
Xylenes, Total	<0.00100	U	0.00396	0.00100	mg/Kg		06/24/22 15:02	06/25/22 09:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*06/24/22 15:02*	*06/25/22 09:41*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*06/24/22 15:02*	*06/25/22 09:41*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00396	0.00100	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	50.0	15.0	mg/Kg			06/24/22 10:29	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		06/23/22 16:11	06/23/22 23:29	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		06/23/22 16:11	06/23/22 23:29	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		06/23/22 16:11	06/23/22 23:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*111*		*70 - 130*	*06/23/22 16:11*	*06/23/22 23:29*	*1*
o-Terphenyl	*121*		*70 - 130*	*06/23/22 16:11*	*06/23/22 23:29*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**0.516**		0.00495	0.000850	mg/Kg			06/29/22 19:18	1

Client Sample ID: BH-4
Date Collected: 06/22/22 10:45
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-27
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		06/24/22 15:16	06/26/22 02:07	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		06/24/22 15:16	06/26/22 02:07	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		06/24/22 15:16	06/26/22 02:07	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		06/24/22 15:16	06/26/22 02:07	1
o-Xylene	<0.000342	U	0.00199	0.000342	mg/Kg		06/24/22 15:16	06/26/22 02:07	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		06/24/22 15:16	06/26/22 02:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*06/24/22 15:16*	*06/26/22 02:07*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*06/24/22 15:16*	*06/26/22 02:07*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00398	0.00100	mg/Kg			06/27/22 12:48	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Client Sample ID: BH-4
Date Collected: 06/22/22 10:45
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-27
Matrix: Solid

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	50.0	15.0	mg/Kg			06/24/22 10:29	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		06/23/22 16:11	06/23/22 23:49	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		06/23/22 16:11	06/23/22 23:49	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		06/23/22 16:11	06/23/22 23:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*116*		*70 - 130*	*06/23/22 16:11*	*06/23/22 23:49*	*1*
o-Terphenyl	*122*		*70 - 130*	*06/23/22 16:11*	*06/23/22 23:49*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**147**		4.96	0.851	mg/Kg			06/29/22 19:26	1

Client Sample ID: BH-5
Date Collected: 06/22/22 10:55
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-28
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000382	U	0.00198	0.000382	mg/Kg		06/24/22 15:16	06/26/22 02:27	1
Toluene	<0.000452	U	0.00198	0.000452	mg/Kg		06/24/22 15:16	06/26/22 02:27	1
Ethylbenzene	<0.000561	U	0.00198	0.000561	mg/Kg		06/24/22 15:16	06/26/22 02:27	1
m-Xylene & p-Xylene	<0.00100	U	0.00397	0.00100	mg/Kg		06/24/22 15:16	06/26/22 02:27	1
o-Xylene	<0.000341	U	0.00198	0.000341	mg/Kg		06/24/22 15:16	06/26/22 02:27	1
Xylenes, Total	<0.00100	U	0.00397	0.00100	mg/Kg		06/24/22 15:16	06/26/22 02:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*06/24/22 15:16*	*06/26/22 02:27*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*06/24/22 15:16*	*06/26/22 02:27*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00397	0.00100	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	50.0	15.0	mg/Kg			06/24/22 10:29	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		06/23/22 16:11	06/24/22 00:08	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		06/23/22 16:11	06/24/22 00:08	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		06/23/22 16:11	06/24/22 00:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*108*		*70 - 130*	*06/23/22 16:11*	*06/24/22 00:08*	*1*

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Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Client Sample ID: BH-5
Date Collected: 06/22/22 10:55
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-28
Matrix: Solid

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*118*		*70 - 130*	*06/23/22 16:11*	*06/24/22 00:08*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1030**		5.04	0.865	mg/Kg			06/29/22 19:33	1

Client Sample ID: BH-6
Date Collected: 06/22/22 11:05
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-29
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000386	U	0.00200	0.000386	mg/Kg		06/24/22 15:16	06/26/22 02:48	1
Toluene	<0.000457	U	0.00200	0.000457	mg/Kg		06/24/22 15:16	06/26/22 02:48	1
Ethylbenzene	<0.000566	U	0.00200	0.000566	mg/Kg		06/24/22 15:16	06/26/22 02:48	1
m-Xylene & p-Xylene	<0.00101	U	0.00401	0.00101	mg/Kg		06/24/22 15:16	06/26/22 02:48	1
o-Xylene	<0.000345	U	0.00200	0.000345	mg/Kg		06/24/22 15:16	06/26/22 02:48	1
Xylenes, Total	<0.00101	U	0.00401	0.00101	mg/Kg		06/24/22 15:16	06/26/22 02:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*06/24/22 15:16*	*06/26/22 02:48*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*06/24/22 15:16*	*06/26/22 02:48*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00401	0.00101	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	49.9	15.0	mg/Kg			06/24/22 10:29	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	49.9	15.0	mg/Kg		06/23/22 16:11	06/24/22 00:28	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		06/23/22 16:11	06/24/22 00:28	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		06/23/22 16:11	06/24/22 00:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*06/23/22 16:11*	*06/24/22 00:28*	*1*
o-Terphenyl	*116*		*70 - 130*	*06/23/22 16:11*	*06/24/22 00:28*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1080**		4.96	0.851	mg/Kg			06/29/22 19:41	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Client Sample ID: BH-7

Date Collected: 06/22/22 11:15
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-30

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		06/24/22 15:16	06/26/22 03:08	1
Toluene	<0.000459	U	0.00201	0.000459	mg/Kg		06/24/22 15:16	06/26/22 03:08	1
Ethylbenzene	<0.000568	U	0.00201	0.000568	mg/Kg		06/24/22 15:16	06/26/22 03:08	1
m-Xylene & p-Xylene	<0.00102	U	0.00402	0.00102	mg/Kg		06/24/22 15:16	06/26/22 03:08	1
o-Xylene	<0.000346	U	0.00201	0.000346	mg/Kg		06/24/22 15:16	06/26/22 03:08	1
Xylenes, Total	<0.00102	U	0.00402	0.00102	mg/Kg		06/24/22 15:16	06/26/22 03:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*	*06/24/22 15:16*	*06/26/22 03:08*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*06/24/22 15:16*	*06/26/22 03:08*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00102	U	0.00402	0.00102	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	49.9	15.0	mg/Kg			06/24/22 10:29	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	49.9	15.0	mg/Kg		06/23/22 16:11	06/24/22 00:48	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		06/23/22 16:11	06/24/22 00:48	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		06/23/22 16:11	06/24/22 00:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*119*		*70 - 130*	*06/23/22 16:11*	*06/24/22 00:48*	*1*
o-Terphenyl	*122*		*70 - 130*	*06/23/22 16:11*	*06/24/22 00:48*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1150**		5.00	0.858	mg/Kg			06/28/22 05:45	1

Client Sample ID: BH-8

Date Collected: 06/22/22 11:25
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-31

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000386	U	0.00200	0.000386	mg/Kg		06/24/22 14:13	06/25/22 14:43	1
Toluene	<0.000457	U	0.00200	0.000457	mg/Kg		06/24/22 14:13	06/25/22 14:43	1
Ethylbenzene	<0.000566	U	0.00200	0.000566	mg/Kg		06/24/22 14:13	06/25/22 14:43	1
m-Xylene & p-Xylene	<0.00101	U	0.00401	0.00101	mg/Kg		06/24/22 14:13	06/25/22 14:43	1
o-Xylene	<0.000345	U	0.00200	0.000345	mg/Kg		06/24/22 14:13	06/25/22 14:43	1
Xylenes, Total	<0.00101	U	0.00401	0.00101	mg/Kg		06/24/22 14:13	06/25/22 14:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*06/24/22 14:13*	*06/25/22 14:43*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*06/24/22 14:13*	*06/25/22 14:43*	*1*

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Client Sample Results

Client: GHD Services Inc. Job ID: 880-16239-1
Project/Site: Merchant Livestock 30 SDG: 12581651

Client Sample ID: BH-8 Lab Sample ID: 880-16239-31
Date Collected: 06/22/22 11:25 **Matrix: Solid**
Date Received: 06/23/22 10:50

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00401	0.00101	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**15.6**	**J**	49.9	15.0	mg/Kg			06/24/22 10:29	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	49.9	15.0	mg/Kg		06/23/22 16:11	06/24/22 01:28	1
Diesel Range Organics (Over C10-C28)	**15.6**	**J**	49.9	15.0	mg/Kg		06/23/22 16:11	06/24/22 01:28	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		06/23/22 16:11	06/24/22 01:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*06/23/22 16:11*	*06/24/22 01:28*	*1*
o-Terphenyl	*121*		*70 - 130*	*06/23/22 16:11*	*06/24/22 01:28*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**83.2**		5.00	0.858	mg/Kg			06/28/22 06:13	1

Client Sample ID: BH-9 Lab Sample ID: 880-16239-32
Date Collected: 06/22/22 11:35 **Matrix: Solid**
Date Received: 06/23/22 10:50

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000389	U	0.00202	0.000389	mg/Kg		06/24/22 14:13	06/25/22 15:04	1
Toluene	<0.000461	U	0.00202	0.000461	mg/Kg		06/24/22 14:13	06/25/22 15:04	1
Ethylbenzene	<0.000571	U	0.00202	0.000571	mg/Kg		06/24/22 14:13	06/25/22 15:04	1
m-Xylene & p-Xylene	<0.00102	U	0.00404	0.00102	mg/Kg		06/24/22 14:13	06/25/22 15:04	1
o-Xylene	<0.000347	U	0.00202	0.000347	mg/Kg		06/24/22 14:13	06/25/22 15:04	1
Xylenes, Total	<0.00102	U	0.00404	0.00102	mg/Kg		06/24/22 14:13	06/25/22 15:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*06/24/22 14:13*	*06/25/22 15:04*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*06/24/22 14:13*	*06/25/22 15:04*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00102	U	0.00404	0.00102	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	49.9	15.0	mg/Kg			06/24/22 10:29	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	49.9	15.0	mg/Kg		06/23/22 16:11	06/24/22 01:48	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		06/23/22 16:11	06/24/22 01:48	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Client Sample ID: BH-9
Date Collected: 06/22/22 11:35
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-32
Matrix: Solid

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		06/23/22 16:11	06/24/22 01:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*108*		*70 - 130*	*06/23/22 16:11*	*06/24/22 01:48*	*1*
o-Terphenyl	*120*		*70 - 130*	*06/23/22 16:11*	*06/24/22 01:48*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**26.7**		4.97	0.853	mg/Kg			06/28/22 06:22	1

Client Sample ID: BH-10
Date Collected: 06/22/22 11:45
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-33
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000384	U	0.00200	0.000384	mg/Kg		06/24/22 14:13	06/25/22 15:25	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		06/24/22 14:13	06/25/22 15:25	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		06/24/22 14:13	06/25/22 15:25	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		06/24/22 14:13	06/25/22 15:25	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		06/24/22 14:13	06/25/22 15:25	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		06/24/22 14:13	06/25/22 15:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*06/24/22 14:13*	*06/25/22 15:25*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*06/24/22 14:13*	*06/25/22 15:25*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	50.0	15.0	mg/Kg			06/24/22 10:29	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		06/23/22 16:11	06/24/22 02:08	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		06/23/22 16:11	06/24/22 02:08	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		06/23/22 16:11	06/24/22 02:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*06/23/22 16:11*	*06/24/22 02:08*	*1*
o-Terphenyl	*117*		*70 - 130*	*06/23/22 16:11*	*06/24/22 02:08*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**304**		4.95	0.850	mg/Kg			06/28/22 06:31	1

Surrogate Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-16239-1	BH-32	107	96
880-16239-2	BH-33	106	97
880-16239-3	BH-34	112	93
880-16239-4	BH-35	103	99
880-16239-5	BH-36	115	87
880-16239-6	BH-37	109	99
880-16239-7	SW-11	109	101
880-16239-7 MS	SW-11	100	100
880-16239-7 MSD	SW-11	105	94
880-16239-8	SW-12	101	97
880-16239-9	SW-1	103	102
880-16239-10	SW-2	107	101
880-16239-11	SW-3	102	100
880-16239-12	SW-4	108	102
880-16239-13	SW-5	105	94
880-16239-14	SW-6	105	102
880-16239-15	SW-7	102	99
880-16239-16	SW-9	107	97
880-16239-17	SW-10	108	97
880-16239-18	BH-11	101	99
880-16239-19	BH-12	103	97
880-16239-20	BH-13	101	95
880-16239-21	BH-14	102	96
880-16239-22	BH-15	101	100
880-16239-23	BH-16	101	99
880-16239-24	BH-1	105	97
880-16239-25	BH-2	102	101
880-16239-26	BH-3	105	99
880-16239-27	BH-4	116	90
880-16239-28	BH-5	116	88
880-16239-29	BH-6	117	91
880-16239-30	BH-7	114	89
880-16239-31	BH-8	99	87
880-16239-32	BH-9	110	92
880-16239-33	BH-10	100	88
LCS 880-28310/1-A	Lab Control Sample	102	100
LCS 880-28354/1-A	Lab Control Sample	127	106
LCS 880-28359/1-A	Lab Control Sample	102	100
LCS 880-28363/1-A	Lab Control Sample	110	98
LCS 880-28399/1-A	Lab Control Sample	111	98
LCS 880-28503/1-A	Lab Control Sample	107	100
LCSD 880-28310/2-A	Lab Control Sample Dup	105	103
LCSD 880-28354/2-A	Lab Control Sample Dup	110	99
LCSD 880-28359/2-A	Lab Control Sample Dup	103	98
LCSD 880-28363/2-A	Lab Control Sample Dup	107	100
LCSD 880-28399/2-A	Lab Control Sample Dup	111	98
LCSD 880-28503/2-A	Lab Control Sample Dup	106	99
MB 880-28306/39	Method Blank	101	90
MB 880-28310/5-A	Method Blank	95	96

Surrogate Summary

Client: GHD Services Inc. Job ID: 880-16239-1
Project/Site: Merchant Livestock 30 SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Matrix: Solid **Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits) BFB1 (70-130)	DFBZ1 (70-130)
MB 880-28354/5-A	Method Blank	102	87
MB 880-28359/5-A	Method Blank	96	96
MB 880-28363/5-A	Method Blank	101	89
MB 880-28399/5-A	Method Blank	105	89
MB 880-28503/5-A	Method Blank	99	89

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits) 1CO1 (70-130)	OTPH1 (70-130)
880-16239-1	BH-32	105	114
880-16239-1 MS	BH-32	95	93
880-16239-1 MSD	BH-32	94	92
880-16239-2	BH-33	100	107
880-16239-3	BH-34	109	118
880-16239-4	BH-35	113	123
880-16239-5	BH-36	99	105
880-16239-6	BH-37	102	110
880-16239-7	SW-11	105	113
880-16239-8	SW-12	117	128
880-16239-9	SW-1	119	127
880-16239-10	SW-2	101	110
880-16239-11	SW-3	120	129
880-16239-12	SW-4	100	109
880-16239-13	SW-5	118	127
880-16239-14	SW-6	120	128
880-16239-15	SW-7	102	111
880-16239-16	SW-9	91	98
880-16239-17	SW-10	116	125
880-16239-18	BH-11	113	123
880-16239-19	BH-12	102	110
880-16239-20	BH-13	116	123
880-16239-21	BH-14	113	118
880-16239-21 MS	BH-14	111	102
880-16239-21 MSD	BH-14	113	105
880-16239-22	BH-15	109	120
880-16239-23	BH-16	113	122
880-16239-24	BH-1	113	124
880-16239-25	BH-2	107	115
880-16239-26	BH-3	111	121
880-16239-27	BH-4	116	122
880-16239-28	BH-5	108	118
880-16239-29	BH-6	109	116
880-16239-30	BH-7	119	122
880-16239-31	BH-8	112	121

Surrogate Summary

Client: GHD Services Inc. Job ID: 880-16239-1
Project/Site: Merchant Livestock 30 SDG: 12581651

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)									
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)								
880-16239-32	BH-9	108	120								
880-16239-33	BH-10	109	117								
LCS 880-28258/2-A	Lab Control Sample	90	97								
LCS 880-28272/2-A	Lab Control Sample	96	96								
LCSD 880-28258/3-A	Lab Control Sample Dup	95	105								
LCSD 880-28272/3-A	Lab Control Sample Dup	102	105								
MB 880-28258/1-A	Method Blank	95	102								
MB 880-28272/1-A	Method Blank	103	112								

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-28306/39
Matrix: Solid
Analysis Batch: 28306

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg			06/24/22 22:17	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg			06/24/22 22:17	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg			06/24/22 22:17	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg			06/24/22 22:17	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg			06/24/22 22:17	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg			06/24/22 22:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*06/24/22 22:17*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*		*06/24/22 22:17*	*1*

Lab Sample ID: MB 880-28310/5-A
Matrix: Solid
Analysis Batch: 28308

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28310

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		06/24/22 09:32	06/24/22 13:37	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		06/24/22 09:32	06/24/22 13:37	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		06/24/22 09:32	06/24/22 13:37	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		06/24/22 09:32	06/24/22 13:37	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		06/24/22 09:32	06/24/22 13:37	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		06/24/22 09:32	06/24/22 13:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*06/24/22 09:32*	*06/24/22 13:37*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*06/24/22 09:32*	*06/24/22 13:37*	*1*

Lab Sample ID: LCS 880-28310/1-A
Matrix: Solid
Analysis Batch: 28308

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28310

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1112		mg/Kg		111	70 - 130
Toluene	0.100	0.1141		mg/Kg		114	70 - 130
Ethylbenzene	0.100	0.1185		mg/Kg		118	70 - 130
m-Xylene & p-Xylene	0.200	0.2434		mg/Kg		122	70 - 130
o-Xylene	0.100	0.1178		mg/Kg		118	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 880-28310/2-A
Matrix: Solid
Analysis Batch: 28308

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 28310

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1122		mg/Kg		112	70 - 130	1	35

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-28310/2-A
Matrix: Solid
Analysis Batch: 28308

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 28310

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.1173		mg/Kg		117	70 - 130	3	35
Ethylbenzene			0.100	0.1132		mg/Kg		113	70 - 130	5	35
m-Xylene & p-Xylene			0.200	0.2304		mg/Kg		115	70 - 130	5	35
o-Xylene			0.100	0.1306	*+	mg/Kg		131	70 - 130	10	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: MB 880-28354/5-A
Matrix: Solid
Analysis Batch: 28306

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28354

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		06/24/22 14:13	06/25/22 08:52	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		06/24/22 14:13	06/25/22 08:52	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		06/24/22 14:13	06/25/22 08:52	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		06/24/22 14:13	06/25/22 08:52	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		06/24/22 14:13	06/25/22 08:52	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		06/24/22 14:13	06/25/22 08:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*06/24/22 14:13*	*06/25/22 08:52*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*06/24/22 14:13*	*06/25/22 08:52*	*1*

Lab Sample ID: LCS 880-28354/1-A
Matrix: Solid
Analysis Batch: 28306

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28354

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene			0.100	0.07094		mg/Kg		71	70 - 130
Toluene			0.100	0.07028		mg/Kg		70	70 - 130
Ethylbenzene			0.100	0.07386		mg/Kg		74	70 - 130
m-Xylene & p-Xylene			0.200	0.1543		mg/Kg		77	70 - 130
o-Xylene			0.100	0.08210		mg/Kg		82	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*127*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: LCSD 880-28354/2-A
Matrix: Solid
Analysis Batch: 28306

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 28354

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09324		mg/Kg		93	70 - 130	27	35
Toluene			0.100	0.09103		mg/Kg		91	70 - 130	26	35
Ethylbenzene			0.100	0.09529		mg/Kg		95	70 - 130	25	35

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-28354/2-A
Matrix: Solid
Analysis Batch: 28306

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 28354

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
m-Xylene & p-Xylene			0.200	0.1953		mg/Kg		98	70 - 130	23	35
o-Xylene			0.100	0.1001		mg/Kg		100	70 - 130	20	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: MB 880-28359/5-A
Matrix: Solid
Analysis Batch: 28308

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28359

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		06/24/22 15:02	06/25/22 01:14	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		06/24/22 15:02	06/25/22 01:14	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		06/24/22 15:02	06/25/22 01:14	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		06/24/22 15:02	06/25/22 01:14	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		06/24/22 15:02	06/25/22 01:14	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		06/24/22 15:02	06/25/22 01:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*06/24/22 15:02*	*06/25/22 01:14*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*06/24/22 15:02*	*06/25/22 01:14*	*1*

Lab Sample ID: LCS 880-28359/1-A
Matrix: Solid
Analysis Batch: 28308

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28359

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene			0.100	0.08613		mg/Kg		86	70 - 130
Toluene			0.100	0.08829		mg/Kg		88	70 - 130
Ethylbenzene			0.100	0.08994		mg/Kg		90	70 - 130
m-Xylene & p-Xylene			0.200	0.1846		mg/Kg		92	70 - 130
o-Xylene			0.100	0.09277		mg/Kg		93	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 880-28359/2-A
Matrix: Solid
Analysis Batch: 28308

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 28359

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09176		mg/Kg		92	70 - 130	6	35
Toluene			0.100	0.09695		mg/Kg		97	70 - 130	9	35
Ethylbenzene			0.100	0.1000		mg/Kg		100	70 - 130	11	35
m-Xylene & p-Xylene			0.200	0.2059		mg/Kg		103	70 - 130	11	35
o-Xylene			0.100	0.1022		mg/Kg		102	70 - 130	10	35

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QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		70 - 130
1,4-Difluorobenzene (Surr)	98		70 - 130

Lab Sample ID: 880-16239-7 MS
Matrix: Solid
Analysis Batch: 28308

Client Sample ID: SW-11
Prep Type: Total/NA
Prep Batch: 28359

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.000386	U	0.0998	0.09638		mg/Kg		97	70 - 130
Toluene	<0.000457	U	0.0998	0.09108		mg/Kg		91	70 - 130
Ethylbenzene	<0.000566	U	0.0998	0.08814		mg/Kg		88	70 - 130
m-Xylene & p-Xylene	<0.00101	U F1	0.200	0.1315	F1	mg/Kg		66	70 - 130
o-Xylene	0.000588	J	0.0998	0.09238		mg/Kg		92	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

Lab Sample ID: 880-16239-7 MSD
Matrix: Solid
Analysis Batch: 28308

Client Sample ID: SW-11
Prep Type: Total/NA
Prep Batch: 28359

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.000386	U	0.0996	0.07535		mg/Kg		76	70 - 130	24	35
Toluene	<0.000457	U	0.0996	0.07967		mg/Kg		80	70 - 130	13	35
Ethylbenzene	<0.000566	U	0.0996	0.07860		mg/Kg		79	70 - 130	11	35
m-Xylene & p-Xylene	<0.00101	U F1	0.199	0.1036	F1	mg/Kg		52	70 - 130	24	35
o-Xylene	0.000588	J	0.0996	0.08656		mg/Kg		86	70 - 130	7	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

Lab Sample ID: MB 880-28363/5-A
Matrix: Solid
Analysis Batch: 28398

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28363

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		06/24/22 15:16	06/25/22 21:19	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		06/24/22 15:16	06/25/22 21:19	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		06/24/22 15:16	06/25/22 21:19	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		06/24/22 15:16	06/25/22 21:19	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		06/24/22 15:16	06/25/22 21:19	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		06/24/22 15:16	06/25/22 21:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	06/24/22 15:16	06/25/22 21:19	1
1,4-Difluorobenzene (Surr)	89		70 - 130	06/24/22 15:16	06/25/22 21:19	1

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCS 880-28363/1-A
Matrix: Solid
Analysis Batch: 28398

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28363

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1136		mg/Kg		114	70 - 130		
Toluene			0.100	0.1103		mg/Kg		110	70 - 130		
Ethylbenzene			0.100	0.1153		mg/Kg		115	70 - 130		
m-Xylene & p-Xylene			0.200	0.2346		mg/Kg		117	70 - 130		
o-Xylene			0.100	0.1196		mg/Kg		120	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: LCSD 880-28363/2-A
Matrix: Solid
Analysis Batch: 28398

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 28363

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1099		mg/Kg		110	70 - 130	3	35
Toluene			0.100	0.1041		mg/Kg		104	70 - 130	6	35
Ethylbenzene			0.100	0.1082		mg/Kg		108	70 - 130	6	35
m-Xylene & p-Xylene			0.200	0.2204		mg/Kg		110	70 - 130	6	35
o-Xylene			0.100	0.1110		mg/Kg		111	70 - 130	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: MB 880-28399/5-A
Matrix: Solid
Analysis Batch: 28415

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28399

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		06/25/22 18:16	06/27/22 10:39	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		06/25/22 18:16	06/27/22 10:39	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		06/25/22 18:16	06/27/22 10:39	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		06/25/22 18:16	06/27/22 10:39	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		06/25/22 18:16	06/27/22 10:39	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		06/25/22 18:16	06/27/22 10:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*06/25/22 18:16*	*06/27/22 10:39*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*06/25/22 18:16*	*06/27/22 10:39*	*1*

Lab Sample ID: LCS 880-28399/1-A
Matrix: Solid
Analysis Batch: 28415

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28399

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09940		mg/Kg		99	70 - 130		
Toluene			0.100	0.09941		mg/Kg		99	70 - 130		

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCS 880-28399/1-A
Matrix: Solid
Analysis Batch: 28415

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28399

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	0.100	0.1040		mg/Kg		104	70 - 130
m-Xylene & p-Xylene	0.200	0.2139		mg/Kg		107	70 - 130
o-Xylene	0.100	0.1062		mg/Kg		106	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: LCSD 880-28399/2-A
Matrix: Solid
Analysis Batch: 28415

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 28399

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1047		mg/Kg		105	70 - 130	5	35
Toluene	0.100	0.1036		mg/Kg		104	70 - 130	4	35
Ethylbenzene	0.100	0.1083		mg/Kg		108	70 - 130	4	35
m-Xylene & p-Xylene	0.200	0.2224		mg/Kg		111	70 - 130	4	35
o-Xylene	0.100	0.1101		mg/Kg		110	70 - 130	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: MB 880-28503/5-A
Matrix: Solid
Analysis Batch: 28497

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28503

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		06/28/22 08:42	06/28/22 11:21	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		06/28/22 08:42	06/28/22 11:21	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		06/28/22 08:42	06/28/22 11:21	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		06/28/22 08:42	06/28/22 11:21	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		06/28/22 08:42	06/28/22 11:21	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		06/28/22 08:42	06/28/22 11:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*06/28/22 08:42*	*06/28/22 11:21*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*06/28/22 08:42*	*06/28/22 11:21*	*1*

Lab Sample ID: LCS 880-28503/1-A
Matrix: Solid
Analysis Batch: 28497

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28503

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09926		mg/Kg		99	70 - 130
Toluene	0.100	0.1001		mg/Kg		100	70 - 130
Ethylbenzene	0.100	0.1047		mg/Kg		105	70 - 130
m-Xylene & p-Xylene	0.200	0.2175		mg/Kg		109	70 - 130

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCS 880-28503/1-A
Matrix: Solid
Analysis Batch: 28497

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28503

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			0.100	0.1093		mg/Kg		109	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 880-28503/2-A
Matrix: Solid
Analysis Batch: 28497

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 28503

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09871		mg/Kg		99	70 - 130	1	35
Toluene			0.100	0.09884		mg/Kg		99	70 - 130	1	35
Ethylbenzene			0.100	0.1029		mg/Kg		103	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.2143		mg/Kg		107	70 - 130	1	35
o-Xylene			0.100	0.1077		mg/Kg		108	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-28258/1-A
Matrix: Solid
Analysis Batch: 28192

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28258

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		06/23/22 12:52	06/23/22 20:34	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		06/23/22 12:52	06/23/22 20:34	1
Oil Range Organics (Over C28-C36)	17.60	J	50.0	15.0	mg/Kg		06/23/22 12:52	06/23/22 20:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*95*		*70 - 130*	*06/23/22 12:52*	*06/23/22 20:34*	*1*
o-Terphenyl	*102*		*70 - 130*	*06/23/22 12:52*	*06/23/22 20:34*	*1*

Lab Sample ID: LCS 880-28258/2-A
Matrix: Solid
Analysis Batch: 28192

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28258

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1111		mg/Kg		111	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	849.0		mg/Kg		85	70 - 130		

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 880-28258/2-A
Matrix: Solid
Analysis Batch: 28192

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28258

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	90		70 - 130
o-Terphenyl	97		70 - 130

Lab Sample ID: LCSD 880-28258/3-A
Matrix: Solid
Analysis Batch: 28192

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 28258

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1111		mg/Kg		111	70 - 130	0	20
Diesel Range Organics (Over C10-C28)			1000	875.4		mg/Kg		88	70 - 130	3	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	95		70 - 130
o-Terphenyl	105		70 - 130

Lab Sample ID: 880-16239-1 MS
Matrix: Solid
Analysis Batch: 28192

Client Sample ID: BH-32
Prep Type: Total/NA
Prep Batch: 28258

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	998	1184		mg/Kg		119	70 - 130
Diesel Range Organics (Over C10-C28)	<15.0	U	998	861.8		mg/Kg		86	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	95		70 - 130
o-Terphenyl	93		70 - 130

Lab Sample ID: 880-16239-1 MSD
Matrix: Solid
Analysis Batch: 28192

Client Sample ID: BH-32
Prep Type: Total/NA
Prep Batch: 28258

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	999	1182		mg/Kg		118	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	<15.0	U	999	867.4		mg/Kg		87	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	94		70 - 130
o-Terphenyl	92		70 - 130

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-28272/1-A
Matrix: Solid
Analysis Batch: 28196

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28272

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		06/23/22 16:11	06/23/22 20:12	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		06/23/22 16:11	06/23/22 20:12	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		06/23/22 16:11	06/23/22 20:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*06/23/22 16:11*	*06/23/22 20:12*	*1*
o-Terphenyl	*112*		*70 - 130*	*06/23/22 16:11*	*06/23/22 20:12*	*1*

Lab Sample ID: LCS 880-28272/2-A
Matrix: Solid
Analysis Batch: 28196

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28272

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1098		mg/Kg		110	70 - 130
Diesel Range Organics (Over C10-C28)	1000	863.7		mg/Kg		86	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*96*		*70 - 130*
o-Terphenyl	*96*		*70 - 130*

Lab Sample ID: LCSD 880-28272/3-A
Matrix: Solid
Analysis Batch: 28196

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 28272

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1083		mg/Kg		108	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	1000	975.6		mg/Kg		98	70 - 130	12	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*102*		*70 - 130*
o-Terphenyl	*105*		*70 - 130*

Lab Sample ID: 880-16239-21 MS
Matrix: Solid
Analysis Batch: 28196

Client Sample ID: BH-14
Prep Type: Total/NA
Prep Batch: 28272

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	998	1252		mg/Kg		125	70 - 130
Diesel Range Organics (Over C10-C28)	<15.0	U	998	878.5		mg/Kg		88	70 - 130

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 880-16239-21 MS
Matrix: Solid
Analysis Batch: 28196

Client Sample ID: BH-14
Prep Type: Total/NA
Prep Batch: 28272

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	111		70 - 130
o-Terphenyl	102		70 - 130

Lab Sample ID: 880-16239-21 MSD
Matrix: Solid
Analysis Batch: 28196

Client Sample ID: BH-14
Prep Type: Total/NA
Prep Batch: 28272

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	999	1256		mg/Kg		126	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	<15.0	U	999	902.1		mg/Kg		90	70 - 130	3	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	113		70 - 130
o-Terphenyl	105		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-28275/1-A
Matrix: Solid
Analysis Batch: 28540

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.858	U	5.00	0.858	mg/Kg			06/28/22 04:22	1

Lab Sample ID: LCS 880-28275/2-A
Matrix: Solid
Analysis Batch: 28540

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	261.6		mg/Kg		105	90 - 110

Lab Sample ID: LCSD 880-28275/3-A
Matrix: Solid
Analysis Batch: 28540

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	261.3		mg/Kg		105	90 - 110	0	20

Lab Sample ID: MB 880-28268/1-A
Matrix: Solid
Analysis Batch: 28541

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.858	U	5.00	0.858	mg/Kg			06/28/22 02:35	1

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-28268/2-A
Matrix: Solid
Analysis Batch: 28541

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	247.6		mg/Kg		99	90 - 110		

Lab Sample ID: LCSD 880-28268/3-A
Matrix: Solid
Analysis Batch: 28541

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	251.5		mg/Kg		101	90 - 110	2	20

Lab Sample ID: MB 880-28269/1-A
Matrix: Solid
Analysis Batch: 28654

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.858	U	5.00	0.858	mg/Kg			06/29/22 15:46	1

Lab Sample ID: LCS 880-28269/2-A
Matrix: Solid
Analysis Batch: 28654

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	250.9		mg/Kg		100	90 - 110		

Lab Sample ID: LCSD 880-28269/3-A
Matrix: Solid
Analysis Batch: 28654

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	251.4		mg/Kg		101	90 - 110	0	20

Lab Sample ID: 880-16239-10 MS
Matrix: Solid
Analysis Batch: 28654

Client Sample ID: SW-2
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	224		253	490.6		mg/Kg		105	90 - 110		

Lab Sample ID: 880-16239-10 MSD
Matrix: Solid
Analysis Batch: 28654

Client Sample ID: SW-2
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	224		253	492.9		mg/Kg		106	90 - 110	0	20

Lab Sample ID: 880-16239-20 MS
Matrix: Solid
Analysis Batch: 28654

Client Sample ID: BH-13
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	243		252	498.3		mg/Kg		101	90 - 110		

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 880-16239-20 MSD
Matrix: Solid
Analysis Batch: 28654

Client Sample ID: BH-13
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	243		252	499.0		mg/Kg		101	90 - 110	0	20

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

GC VOA

Analysis Batch: 28306

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16239-31	BH-8	Total/NA	Solid	8021B	28354
880-16239-32	BH-9	Total/NA	Solid	8021B	28354
880-16239-33	BH-10	Total/NA	Solid	8021B	28354
MB 880-28306/39	Method Blank	Total/NA	Solid	8021B	
MB 880-28354/5-A	Method Blank	Total/NA	Solid	8021B	28354
LCS 880-28354/1-A	Lab Control Sample	Total/NA	Solid	8021B	28354
LCSD 880-28354/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	28354

Analysis Batch: 28308

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16239-1	BH-32	Total/NA	Solid	8021B	28310
880-16239-4	BH-35	Total/NA	Solid	8021B	28310
880-16239-6	BH-37	Total/NA	Solid	8021B	28310
880-16239-7	SW-11	Total/NA	Solid	8021B	28359
880-16239-8	SW-12	Total/NA	Solid	8021B	28359
880-16239-9	SW-1	Total/NA	Solid	8021B	28359
880-16239-10	SW-2	Total/NA	Solid	8021B	28359
880-16239-11	SW-3	Total/NA	Solid	8021B	28359
880-16239-12	SW-4	Total/NA	Solid	8021B	28359
880-16239-13	SW-5	Total/NA	Solid	8021B	28359
880-16239-14	SW-6	Total/NA	Solid	8021B	28359
880-16239-15	SW-7	Total/NA	Solid	8021B	28359
880-16239-16	SW-9	Total/NA	Solid	8021B	28359
880-16239-17	SW-10	Total/NA	Solid	8021B	28359
880-16239-18	BH-11	Total/NA	Solid	8021B	28359
880-16239-19	BH-12	Total/NA	Solid	8021B	28359
880-16239-20	BH-13	Total/NA	Solid	8021B	28359
880-16239-21	BH-14	Total/NA	Solid	8021B	28359
880-16239-22	BH-15	Total/NA	Solid	8021B	28359
880-16239-23	BH-16	Total/NA	Solid	8021B	28359
880-16239-24	BH-1	Total/NA	Solid	8021B	28359
880-16239-25	BH-2	Total/NA	Solid	8021B	28359
880-16239-26	BH-3	Total/NA	Solid	8021B	28359
MB 880-28310/5-A	Method Blank	Total/NA	Solid	8021B	28310
MB 880-28359/5-A	Method Blank	Total/NA	Solid	8021B	28359
LCS 880-28310/1-A	Lab Control Sample	Total/NA	Solid	8021B	28310
LCS 880-28359/1-A	Lab Control Sample	Total/NA	Solid	8021B	28359
LCSD 880-28310/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	28310
LCSD 880-28359/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	28359
880-16239-7 MS	SW-11	Total/NA	Solid	8021B	28359
880-16239-7 MSD	SW-11	Total/NA	Solid	8021B	28359

Prep Batch: 28310

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16239-1	BH-32	Total/NA	Solid	5035	
880-16239-4	BH-35	Total/NA	Solid	5035	
880-16239-6	BH-37	Total/NA	Solid	5035	
MB 880-28310/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-28310/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-28310/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

GC VOA

Prep Batch: 28354

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16239-31	BH-8	Total/NA	Solid	5035	
880-16239-32	BH-9	Total/NA	Solid	5035	
880-16239-33	BH-10	Total/NA	Solid	5035	
MB 880-28354/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-28354/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-28354/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Prep Batch: 28359

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16239-7	SW-11	Total/NA	Solid	5035	
880-16239-8	SW-12	Total/NA	Solid	5035	
880-16239-9	SW-1	Total/NA	Solid	5035	
880-16239-10	SW-2	Total/NA	Solid	5035	
880-16239-11	SW-3	Total/NA	Solid	5035	
880-16239-12	SW-4	Total/NA	Solid	5035	
880-16239-13	SW-5	Total/NA	Solid	5035	
880-16239-14	SW-6	Total/NA	Solid	5035	
880-16239-15	SW-7	Total/NA	Solid	5035	
880-16239-16	SW-9	Total/NA	Solid	5035	
880-16239-17	SW-10	Total/NA	Solid	5035	
880-16239-18	BH-11	Total/NA	Solid	5035	
880-16239-19	BH-12	Total/NA	Solid	5035	
880-16239-20	BH-13	Total/NA	Solid	5035	
880-16239-21	BH-14	Total/NA	Solid	5035	
880-16239-22	BH-15	Total/NA	Solid	5035	
880-16239-23	BH-16	Total/NA	Solid	5035	
880-16239-24	BH-1	Total/NA	Solid	5035	
880-16239-25	BH-2	Total/NA	Solid	5035	
880-16239-26	BH-3	Total/NA	Solid	5035	
MB 880-28359/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-28359/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-28359/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-16239-7 MS	SW-11	Total/NA	Solid	5035	
880-16239-7 MSD	SW-11	Total/NA	Solid	5035	

Prep Batch: 28363

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16239-27	BH-4	Total/NA	Solid	5035	
880-16239-28	BH-5	Total/NA	Solid	5035	
880-16239-29	BH-6	Total/NA	Solid	5035	
880-16239-30	BH-7	Total/NA	Solid	5035	
MB 880-28363/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-28363/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-28363/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 28398

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16239-27	BH-4	Total/NA	Solid	8021B	28363
880-16239-28	BH-5	Total/NA	Solid	8021B	28363
880-16239-29	BH-6	Total/NA	Solid	8021B	28363
880-16239-30	BH-7	Total/NA	Solid	8021B	28363

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

GC VOA (Continued)

Analysis Batch: 28398 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-28363/5-A	Method Blank	Total/NA	Solid	8021B	28363
LCS 880-28363/1-A	Lab Control Sample	Total/NA	Solid	8021B	28363
LCSD 880-28363/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	28363

Prep Batch: 28399

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16239-3	BH-34	Total/NA	Solid	5035	
880-16239-5	BH-36	Total/NA	Solid	5035	
MB 880-28399/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-28399/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-28399/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 28415

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16239-3	BH-34	Total/NA	Solid	8021B	28399
880-16239-5	BH-36	Total/NA	Solid	8021B	28399
MB 880-28399/5-A	Method Blank	Total/NA	Solid	8021B	28399
LCS 880-28399/1-A	Lab Control Sample	Total/NA	Solid	8021B	28399
LCSD 880-28399/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	28399

Analysis Batch: 28471

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16239-1	BH-32	Total/NA	Solid	Total BTEX	
880-16239-2	BH-33	Total/NA	Solid	Total BTEX	
880-16239-3	BH-34	Total/NA	Solid	Total BTEX	
880-16239-4	BH-35	Total/NA	Solid	Total BTEX	
880-16239-5	BH-36	Total/NA	Solid	Total BTEX	
880-16239-6	BH-37	Total/NA	Solid	Total BTEX	
880-16239-7	SW-11	Total/NA	Solid	Total BTEX	
880-16239-8	SW-12	Total/NA	Solid	Total BTEX	
880-16239-9	SW-1	Total/NA	Solid	Total BTEX	
880-16239-10	SW-2	Total/NA	Solid	Total BTEX	
880-16239-11	SW-3	Total/NA	Solid	Total BTEX	
880-16239-12	SW-4	Total/NA	Solid	Total BTEX	
880-16239-13	SW-5	Total/NA	Solid	Total BTEX	
880-16239-14	SW-6	Total/NA	Solid	Total BTEX	
880-16239-15	SW-7	Total/NA	Solid	Total BTEX	
880-16239-16	SW-9	Total/NA	Solid	Total BTEX	
880-16239-17	SW-10	Total/NA	Solid	Total BTEX	
880-16239-18	BH-11	Total/NA	Solid	Total BTEX	
880-16239-19	BH-12	Total/NA	Solid	Total BTEX	
880-16239-20	BH-13	Total/NA	Solid	Total BTEX	
880-16239-21	BH-14	Total/NA	Solid	Total BTEX	
880-16239-22	BH-15	Total/NA	Solid	Total BTEX	
880-16239-23	BH-16	Total/NA	Solid	Total BTEX	
880-16239-24	BH-1	Total/NA	Solid	Total BTEX	
880-16239-25	BH-2	Total/NA	Solid	Total BTEX	
880-16239-26	BH-3	Total/NA	Solid	Total BTEX	
880-16239-27	BH-4	Total/NA	Solid	Total BTEX	
880-16239-28	BH-5	Total/NA	Solid	Total BTEX	
880-16239-29	BH-6	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

GC VOA (Continued)

Analysis Batch: 28471 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16239-30	BH-7	Total/NA	Solid	Total BTEX	
880-16239-31	BH-8	Total/NA	Solid	Total BTEX	
880-16239-32	BH-9	Total/NA	Solid	Total BTEX	
880-16239-33	BH-10	Total/NA	Solid	Total BTEX	

Analysis Batch: 28497

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16239-2	BH-33	Total/NA	Solid	8021B	28503
MB 880-28503/5-A	Method Blank	Total/NA	Solid	8021B	28503
LCS 880-28503/1-A	Lab Control Sample	Total/NA	Solid	8021B	28503
LCSD 880-28503/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	28503

Prep Batch: 28503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16239-2	BH-33	Total/NA	Solid	5035	
MB 880-28503/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-28503/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-28503/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

GC Semi VOA

Analysis Batch: 28192

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16239-1	BH-32	Total/NA	Solid	8015B NM	28258
880-16239-2	BH-33	Total/NA	Solid	8015B NM	28258
880-16239-3	BH-34	Total/NA	Solid	8015B NM	28258
880-16239-4	BH-35	Total/NA	Solid	8015B NM	28258
880-16239-5	BH-36	Total/NA	Solid	8015B NM	28258
880-16239-6	BH-37	Total/NA	Solid	8015B NM	28258
880-16239-7	SW-11	Total/NA	Solid	8015B NM	28258
880-16239-8	SW-12	Total/NA	Solid	8015B NM	28258
880-16239-9	SW-1	Total/NA	Solid	8015B NM	28258
880-16239-10	SW-2	Total/NA	Solid	8015B NM	28258
880-16239-11	SW-3	Total/NA	Solid	8015B NM	28258
880-16239-12	SW-4	Total/NA	Solid	8015B NM	28258
880-16239-13	SW-5	Total/NA	Solid	8015B NM	28258
880-16239-14	SW-6	Total/NA	Solid	8015B NM	28258
880-16239-15	SW-7	Total/NA	Solid	8015B NM	28258
880-16239-16	SW-9	Total/NA	Solid	8015B NM	28258
880-16239-17	SW-10	Total/NA	Solid	8015B NM	28258
880-16239-18	BH-11	Total/NA	Solid	8015B NM	28258
880-16239-19	BH-12	Total/NA	Solid	8015B NM	28258
880-16239-20	BH-13	Total/NA	Solid	8015B NM	28258
MB 880-28258/1-A	Method Blank	Total/NA	Solid	8015B NM	28258
LCS 880-28258/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	28258
LCSD 880-28258/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	28258
880-16239-1 MS	BH-32	Total/NA	Solid	8015B NM	28258
880-16239-1 MSD	BH-32	Total/NA	Solid	8015B NM	28258

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

GC Semi VOA

Analysis Batch: 28196

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16239-21	BH-14	Total/NA	Solid	8015B NM	28272
880-16239-22	BH-15	Total/NA	Solid	8015B NM	28272
880-16239-23	BH-16	Total/NA	Solid	8015B NM	28272
880-16239-24	BH-1	Total/NA	Solid	8015B NM	28272
880-16239-25	BH-2	Total/NA	Solid	8015B NM	28272
880-16239-26	BH-3	Total/NA	Solid	8015B NM	28272
880-16239-27	BH-4	Total/NA	Solid	8015B NM	28272
880-16239-28	BH-5	Total/NA	Solid	8015B NM	28272
880-16239-29	BH-6	Total/NA	Solid	8015B NM	28272
880-16239-30	BH-7	Total/NA	Solid	8015B NM	28272
880-16239-31	BH-8	Total/NA	Solid	8015B NM	28272
880-16239-32	BH-9	Total/NA	Solid	8015B NM	28272
880-16239-33	BH-10	Total/NA	Solid	8015B NM	28272
MB 880-28272/1-A	Method Blank	Total/NA	Solid	8015B NM	28272
LCS 880-28272/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	28272
LCSD 880-28272/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	28272
880-16239-21 MS	BH-14	Total/NA	Solid	8015B NM	28272
880-16239-21 MSD	BH-14	Total/NA	Solid	8015B NM	28272

Prep Batch: 28258

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16239-1	BH-32	Total/NA	Solid	8015NM Prep	
880-16239-2	BH-33	Total/NA	Solid	8015NM Prep	
880-16239-3	BH-34	Total/NA	Solid	8015NM Prep	
880-16239-4	BH-35	Total/NA	Solid	8015NM Prep	
880-16239-5	BH-36	Total/NA	Solid	8015NM Prep	
880-16239-6	BH-37	Total/NA	Solid	8015NM Prep	
880-16239-7	SW-11	Total/NA	Solid	8015NM Prep	
880-16239-8	SW-12	Total/NA	Solid	8015NM Prep	
880-16239-9	SW-1	Total/NA	Solid	8015NM Prep	
880-16239-10	SW-2	Total/NA	Solid	8015NM Prep	
880-16239-11	SW-3	Total/NA	Solid	8015NM Prep	
880-16239-12	SW-4	Total/NA	Solid	8015NM Prep	
880-16239-13	SW-5	Total/NA	Solid	8015NM Prep	
880-16239-14	SW-6	Total/NA	Solid	8015NM Prep	
880-16239-15	SW-7	Total/NA	Solid	8015NM Prep	
880-16239-16	SW-9	Total/NA	Solid	8015NM Prep	
880-16239-17	SW-10	Total/NA	Solid	8015NM Prep	
880-16239-18	BH-11	Total/NA	Solid	8015NM Prep	
880-16239-19	BH-12	Total/NA	Solid	8015NM Prep	
880-16239-20	BH-13	Total/NA	Solid	8015NM Prep	
MB 880-28258/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-28258/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-28258/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-16239-1 MS	BH-32	Total/NA	Solid	8015NM Prep	
880-16239-1 MSD	BH-32	Total/NA	Solid	8015NM Prep	

Prep Batch: 28272

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16239-21	BH-14	Total/NA	Solid	8015NM Prep	
880-16239-22	BH-15	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

GC Semi VOA (Continued)

Prep Batch: 28272 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16239-23	BH-16	Total/NA	Solid	8015NM Prep	
880-16239-24	BH-1	Total/NA	Solid	8015NM Prep	
880-16239-25	BH-2	Total/NA	Solid	8015NM Prep	
880-16239-26	BH-3	Total/NA	Solid	8015NM Prep	
880-16239-27	BH-4	Total/NA	Solid	8015NM Prep	
880-16239-28	BH-5	Total/NA	Solid	8015NM Prep	
880-16239-29	BH-6	Total/NA	Solid	8015NM Prep	
880-16239-30	BH-7	Total/NA	Solid	8015NM Prep	
880-16239-31	BH-8	Total/NA	Solid	8015NM Prep	
880-16239-32	BH-9	Total/NA	Solid	8015NM Prep	
880-16239-33	BH-10	Total/NA	Solid	8015NM Prep	
MB 880-28272/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-28272/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-28272/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-16239-21 MS	BH-14	Total/NA	Solid	8015NM Prep	
880-16239-21 MSD	BH-14	Total/NA	Solid	8015NM Prep	

Analysis Batch: 28324

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16239-1	BH-32	Total/NA	Solid	8015 NM	
880-16239-2	BH-33	Total/NA	Solid	8015 NM	
880-16239-3	BH-34	Total/NA	Solid	8015 NM	
880-16239-4	BH-35	Total/NA	Solid	8015 NM	
880-16239-5	BH-36	Total/NA	Solid	8015 NM	
880-16239-6	BH-37	Total/NA	Solid	8015 NM	
880-16239-7	SW-11	Total/NA	Solid	8015 NM	
880-16239-8	SW-12	Total/NA	Solid	8015 NM	
880-16239-9	SW-1	Total/NA	Solid	8015 NM	
880-16239-10	SW-2	Total/NA	Solid	8015 NM	
880-16239-11	SW-3	Total/NA	Solid	8015 NM	
880-16239-12	SW-4	Total/NA	Solid	8015 NM	
880-16239-13	SW-5	Total/NA	Solid	8015 NM	
880-16239-14	SW-6	Total/NA	Solid	8015 NM	
880-16239-15	SW-7	Total/NA	Solid	8015 NM	
880-16239-16	SW-9	Total/NA	Solid	8015 NM	
880-16239-17	SW-10	Total/NA	Solid	8015 NM	
880-16239-18	BH-11	Total/NA	Solid	8015 NM	
880-16239-19	BH-12	Total/NA	Solid	8015 NM	
880-16239-20	BH-13	Total/NA	Solid	8015 NM	
880-16239-21	BH-14	Total/NA	Solid	8015 NM	
880-16239-22	BH-15	Total/NA	Solid	8015 NM	
880-16239-23	BH-16	Total/NA	Solid	8015 NM	
880-16239-24	BH-1	Total/NA	Solid	8015 NM	
880-16239-25	BH-2	Total/NA	Solid	8015 NM	
880-16239-26	BH-3	Total/NA	Solid	8015 NM	
880-16239-27	BH-4	Total/NA	Solid	8015 NM	
880-16239-28	BH-5	Total/NA	Solid	8015 NM	
880-16239-29	BH-6	Total/NA	Solid	8015 NM	
880-16239-30	BH-7	Total/NA	Solid	8015 NM	
880-16239-31	BH-8	Total/NA	Solid	8015 NM	
880-16239-32	BH-9	Total/NA	Solid	8015 NM	

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

GC Semi VOA (Continued)

Analysis Batch: 28324 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16239-33	BH-10	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 28268

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16239-1	BH-32	Soluble	Solid	DI Leach	
880-16239-2	BH-33	Soluble	Solid	DI Leach	
880-16239-3	BH-34	Soluble	Solid	DI Leach	
880-16239-4	BH-35	Soluble	Solid	DI Leach	
880-16239-5	BH-36	Soluble	Solid	DI Leach	
880-16239-6	BH-37	Soluble	Solid	DI Leach	
880-16239-7	SW-11	Soluble	Solid	DI Leach	
880-16239-8	SW-12	Soluble	Solid	DI Leach	
880-16239-9	SW-1	Soluble	Solid	DI Leach	
MB 880-28268/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-28268/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-28268/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Leach Batch: 28269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16239-10	SW-2	Soluble	Solid	DI Leach	
880-16239-11	SW-3	Soluble	Solid	DI Leach	
880-16239-12	SW-4	Soluble	Solid	DI Leach	
880-16239-13	SW-5	Soluble	Solid	DI Leach	
880-16239-14	SW-6	Soluble	Solid	DI Leach	
880-16239-15	SW-7	Soluble	Solid	DI Leach	
880-16239-16	SW-9	Soluble	Solid	DI Leach	
880-16239-17	SW-10	Soluble	Solid	DI Leach	
880-16239-18	BH-11	Soluble	Solid	DI Leach	
880-16239-19	BH-12	Soluble	Solid	DI Leach	
880-16239-20	BH-13	Soluble	Solid	DI Leach	
880-16239-21	BH-14	Soluble	Solid	DI Leach	
880-16239-22	BH-15	Soluble	Solid	DI Leach	
880-16239-23	BH-16	Soluble	Solid	DI Leach	
880-16239-24	BH-1	Soluble	Solid	DI Leach	
880-16239-25	BH-2	Soluble	Solid	DI Leach	
880-16239-26	BH-3	Soluble	Solid	DI Leach	
880-16239-27	BH-4	Soluble	Solid	DI Leach	
880-16239-28	BH-5	Soluble	Solid	DI Leach	
880-16239-29	BH-6	Soluble	Solid	DI Leach	
MB 880-28269/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-28269/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-28269/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-16239-10 MS	SW-2	Soluble	Solid	DI Leach	
880-16239-10 MSD	SW-2	Soluble	Solid	DI Leach	
880-16239-20 MS	BH-13	Soluble	Solid	DI Leach	
880-16239-20 MSD	BH-13	Soluble	Solid	DI Leach	

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

HPLC/IC

Leach Batch: 28275

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16239-30	BH-7	Soluble	Solid	DI Leach	
880-16239-31	BH-8	Soluble	Solid	DI Leach	
880-16239-32	BH-9	Soluble	Solid	DI Leach	
880-16239-33	BH-10	Soluble	Solid	DI Leach	
MB 880-28275/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-28275/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-28275/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 28540

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16239-30	BH-7	Soluble	Solid	300.0	28275
880-16239-31	BH-8	Soluble	Solid	300.0	28275
880-16239-32	BH-9	Soluble	Solid	300.0	28275
880-16239-33	BH-10	Soluble	Solid	300.0	28275
MB 880-28275/1-A	Method Blank	Soluble	Solid	300.0	28275
LCS 880-28275/2-A	Lab Control Sample	Soluble	Solid	300.0	28275
LCSD 880-28275/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	28275

Analysis Batch: 28541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16239-1	BH-32	Soluble	Solid	300.0	28268
880-16239-2	BH-33	Soluble	Solid	300.0	28268
880-16239-3	BH-34	Soluble	Solid	300.0	28268
880-16239-4	BH-35	Soluble	Solid	300.0	28268
880-16239-5	BH-36	Soluble	Solid	300.0	28268
880-16239-6	BH-37	Soluble	Solid	300.0	28268
880-16239-7	SW-11	Soluble	Solid	300.0	28268
880-16239-8	SW-12	Soluble	Solid	300.0	28268
880-16239-9	SW-1	Soluble	Solid	300.0	28268
MB 880-28268/1-A	Method Blank	Soluble	Solid	300.0	28268
LCS 880-28268/2-A	Lab Control Sample	Soluble	Solid	300.0	28268
LCSD 880-28268/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	28268

Analysis Batch: 28654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16239-10	SW-2	Soluble	Solid	300.0	28269
880-16239-11	SW-3	Soluble	Solid	300.0	28269
880-16239-12	SW-4	Soluble	Solid	300.0	28269
880-16239-13	SW-5	Soluble	Solid	300.0	28269
880-16239-14	SW-6	Soluble	Solid	300.0	28269
880-16239-15	SW-7	Soluble	Solid	300.0	28269
880-16239-16	SW-9	Soluble	Solid	300.0	28269
880-16239-17	SW-10	Soluble	Solid	300.0	28269
880-16239-18	BH-11	Soluble	Solid	300.0	28269
880-16239-19	BH-12	Soluble	Solid	300.0	28269
880-16239-20	BH-13	Soluble	Solid	300.0	28269
880-16239-21	BH-14	Soluble	Solid	300.0	28269
880-16239-22	BH-15	Soluble	Solid	300.0	28269
880-16239-23	BH-16	Soluble	Solid	300.0	28269
880-16239-24	BH-1	Soluble	Solid	300.0	28269
880-16239-25	BH-2	Soluble	Solid	300.0	28269

QC Association Summary

Client: GHD Services Inc. Job ID: 880-16239-1
Project/Site: Merchant Livestock 30 SDG: 12581651

HPLC/IC (Continued)

Analysis Batch: 28654 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16239-26	BH-3	Soluble	Solid	300.0	28269
880-16239-27	BH-4	Soluble	Solid	300.0	28269
880-16239-28	BH-5	Soluble	Solid	300.0	28269
880-16239-29	BH-6	Soluble	Solid	300.0	28269
MB 880-28269/1-A	Method Blank	Soluble	Solid	300.0	28269
LCS 880-28269/2-A	Lab Control Sample	Soluble	Solid	300.0	28269
LCSD 880-28269/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	28269
880-16239-10 MS	SW-2	Soluble	Solid	300.0	28269
880-16239-10 MSD	SW-2	Soluble	Solid	300.0	28269
880-16239-20 MS	BH-13	Soluble	Solid	300.0	28269
880-16239-20 MSD	BH-13	Soluble	Solid	300.0	28269

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Client Sample ID: BH-32
Date Collected: 06/21/22 09:20
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	28310	06/24/22 09:32	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28308	06/24/22 20:23	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	28258	06/23/22 12:52	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28192	06/23/22 21:37	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	28268	06/23/22 14:25	CH	XEN MID
Soluble	Analysis	300.0		5			28541	06/28/22 05:12	SMC	XEN MID

Client Sample ID: BH-33
Date Collected: 06/21/22 09:30
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	28503	06/28/22 08:42	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28497	06/28/22 17:34	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	28258	06/23/22 12:52	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28192	06/23/22 22:40	AJ	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	28268	06/23/22 14:25	CH	XEN MID
Soluble	Analysis	300.0		1			28541	06/28/22 05:20	SMC	XEN MID

Client Sample ID: BH-34
Date Collected: 06/21/22 09:40
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	28399	06/27/22 15:00	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28415	06/27/22 15:48	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	28258	06/23/22 12:52	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28192	06/23/22 23:01	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	28268	06/23/22 14:25	CH	XEN MID
Soluble	Analysis	300.0		1			28541	06/28/22 05:44	SMC	XEN MID

Client Sample ID: BH-35
Date Collected: 06/21/22 09:50
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	28310	06/24/22 09:32	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28308	06/24/22 21:24	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID

Lab Chronicle

Client: GHD Services Inc. Job ID: 880-16239-1
Project/Site: Merchant Livestock 30 SDG: 12581651

Client Sample ID: BH-35 Lab Sample ID: 880-16239-4
Date Collected: 06/21/22 09:50 **Matrix: Solid**
Date Received: 06/23/22 10:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	28258	06/23/22 12:52	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28192	06/23/22 23:22	AJ	XEN MID
Soluble	Leach	DI Leach			4.97 g	50 mL	28268	06/23/22 14:25	CH	XEN MID
Soluble	Analysis	300.0		1			28541	06/28/22 05:52	SMC	XEN MID

Client Sample ID: BH-36 Lab Sample ID: 880-16239-5
Date Collected: 06/21/22 10:00 **Matrix: Solid**
Date Received: 06/23/22 10:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	28399	06/27/22 15:00	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28415	06/27/22 16:09	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	28258	06/23/22 12:52	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28192	06/23/22 23:43	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	28268	06/23/22 14:25	CH	XEN MID
Soluble	Analysis	300.0		1			28541	06/28/22 05:59	SMC	XEN MID

Client Sample ID: BH-37 Lab Sample ID: 880-16239-6
Date Collected: 06/21/22 10:10 **Matrix: Solid**
Date Received: 06/23/22 10:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	28310	06/24/22 09:32	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28308	06/24/22 22:05	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	28258	06/23/22 12:52	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28192	06/24/22 00:04	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	28268	06/23/22 14:25	CH	XEN MID
Soluble	Analysis	300.0		5			28541	06/28/22 06:07	SMC	XEN MID

Client Sample ID: SW-11 Lab Sample ID: 880-16239-7
Date Collected: 06/22/22 10:20 **Matrix: Solid**
Date Received: 06/23/22 10:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	28359	06/24/22 15:02	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28308	06/25/22 01:43	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	28258	06/23/22 12:52	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28192	06/24/22 00:25	AJ	XEN MID

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Lab Chronicle

Client: GHD Services Inc. Job ID: 880-16239-1
Project/Site: Merchant Livestock 30 SDG: 12581651

Client Sample ID: SW-11 Lab Sample ID: 880-16239-7
Date Collected: 06/22/22 10:20 **Matrix: Solid**
Date Received: 06/23/22 10:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.05 g	50 mL	28268	06/23/22 14:25	CH	XEN MID
Soluble	Analysis	300.0		1			28541	06/28/22 06:15	SMC	XEN MID

Client Sample ID: SW-12 Lab Sample ID: 880-16239-8
Date Collected: 06/22/22 10:30 **Matrix: Solid**
Date Received: 06/23/22 10:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	28359	06/24/22 15:02	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28308	06/25/22 02:04	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	28258	06/23/22 12:52	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28192	06/24/22 00:46	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	28268	06/23/22 14:25	CH	XEN MID
Soluble	Analysis	300.0		1			28541	06/28/22 06:23	SMC	XEN MID

Client Sample ID: SW-1 Lab Sample ID: 880-16239-9
Date Collected: 06/22/22 11:20 **Matrix: Solid**
Date Received: 06/23/22 10:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	28359	06/24/22 15:02	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28308	06/25/22 02:24	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	28258	06/23/22 12:52	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28192	06/24/22 01:07	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	28268	06/23/22 14:25	CH	XEN MID
Soluble	Analysis	300.0		1			28541	06/28/22 06:31	SMC	XEN MID

Client Sample ID: SW-2 Lab Sample ID: 880-16239-10
Date Collected: 06/22/22 11:30 **Matrix: Solid**
Date Received: 06/23/22 10:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	28359	06/24/22 15:02	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28308	06/25/22 02:45	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	28258	06/23/22 12:52	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28192	06/24/22 01:29	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	28269	06/23/22 14:27	CH	XEN MID
Soluble	Analysis	300.0		1			28654	06/29/22 16:09	CH	XEN MID

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Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Client Sample ID: SW-3
Date Collected: 06/22/22 11:40
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	28359	06/24/22 15:02	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28308	06/25/22 03:05	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	28258	06/23/22 12:52	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28192	06/24/22 02:11	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	28269	06/23/22 14:27	CH	XEN MID
Soluble	Analysis	300.0		1			28654	06/29/22 16:33	CH	XEN MID

Client Sample ID: SW-4
Date Collected: 06/22/22 11:50
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-12
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	28359	06/24/22 15:02	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28308	06/25/22 03:25	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	28258	06/23/22 12:52	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28192	06/24/22 02:32	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	28269	06/23/22 14:27	CH	XEN MID
Soluble	Analysis	300.0		1			28654	06/29/22 16:41	CH	XEN MID

Client Sample ID: SW-5
Date Collected: 06/22/22 12:00
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-13
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	28359	06/24/22 15:02	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28308	06/25/22 03:46	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	28258	06/23/22 12:52	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28192	06/24/22 02:53	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	28269	06/23/22 14:27	CH	XEN MID
Soluble	Analysis	300.0		1			28654	06/29/22 16:48	CH	XEN MID

Client Sample ID: SW-6
Date Collected: 06/22/22 12:10
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-14
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	28359	06/24/22 15:02	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28308	06/25/22 04:06	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID

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Lab Chronicle

Client: GHD Services Inc. Job ID: 880-16239-1
Project/Site: Merchant Livestock 30 SDG: 12581651

Client Sample ID: SW-6 Lab Sample ID: 880-16239-14
Date Collected: 06/22/22 12:10 **Matrix: Solid**
Date Received: 06/23/22 10:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	28258	06/23/22 12:52	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28192	06/24/22 03:14	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	28269	06/23/22 14:27	CH	XEN MID
Soluble	Analysis	300.0		1			28654	06/29/22 16:56	CH	XEN MID

Client Sample ID: SW-7 Lab Sample ID: 880-16239-15
Date Collected: 06/22/22 12:20 **Matrix: Solid**
Date Received: 06/23/22 10:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	28359	06/24/22 15:02	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28308	06/25/22 04:27	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	28258	06/23/22 12:52	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28192	06/24/22 03:35	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	28269	06/23/22 14:27	CH	XEN MID
Soluble	Analysis	300.0		1			28654	06/29/22 17:20	CH	XEN MID

Client Sample ID: SW-9 Lab Sample ID: 880-16239-16
Date Collected: 06/22/22 12:40 **Matrix: Solid**
Date Received: 06/23/22 10:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	28359	06/24/22 15:02	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28308	06/25/22 04:47	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	28258	06/23/22 12:52	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28192	06/24/22 03:56	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	28269	06/23/22 14:27	CH	XEN MID
Soluble	Analysis	300.0		5			28654	06/29/22 17:28	CH	XEN MID

Client Sample ID: SW-10 Lab Sample ID: 880-16239-17
Date Collected: 06/22/22 12:50 **Matrix: Solid**
Date Received: 06/23/22 10:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	28359	06/24/22 15:02	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28308	06/25/22 06:37	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	28258	06/23/22 12:52	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28192	06/24/22 04:17	AJ	XEN MID

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Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Client Sample ID: SW-10
Date Collected: 06/22/22 12:50
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-17
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.98 g	50 mL	28269	06/23/22 14:27	CH	XEN MID
Soluble	Analysis	300.0		5			28654	06/29/22 17:36	CH	XEN MID

Client Sample ID: BH-11
Date Collected: 06/22/22 11:55
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-18
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	28359	06/24/22 15:02	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28308	06/25/22 06:58	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	28258	06/23/22 12:52	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28192	06/24/22 04:38	AJ	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	28269	06/23/22 14:27	CH	XEN MID
Soluble	Analysis	300.0		1			28654	06/29/22 17:43	CH	XEN MID

Client Sample ID: BH-12
Date Collected: 06/22/22 12:05
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-19
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	28359	06/24/22 15:02	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28308	06/25/22 07:18	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	28258	06/23/22 12:52	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28192	06/24/22 04:59	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	28269	06/23/22 14:27	CH	XEN MID
Soluble	Analysis	300.0		1			28654	06/29/22 17:51	CH	XEN MID

Client Sample ID: BH-13
Date Collected: 06/22/22 12:15
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-20
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	28359	06/24/22 15:02	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28308	06/25/22 07:38	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	28258	06/23/22 12:52	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28192	06/24/22 05:20	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	28269	06/23/22 14:27	CH	XEN MID
Soluble	Analysis	300.0		1			28654	06/29/22 17:59	CH	XEN MID

Lab Chronicle

Client: GHD Services Inc. Job ID: 880-16239-1
Project/Site: Merchant Livestock 30 SDG: 12581651

Client Sample ID: BH-14 Lab Sample ID: 880-16239-21
Date Collected: 06/22/22 12:25 **Matrix: Solid**
Date Received: 06/23/22 10:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	28359	06/24/22 15:02	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28308	06/25/22 07:59	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	28272	06/23/22 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28196	06/23/22 21:11	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	28269	06/23/22 14:27	CH	XEN MID
Soluble	Analysis	300.0		5			28654	06/29/22 18:23	CH	XEN MID

Client Sample ID: BH-15 Lab Sample ID: 880-16239-22
Date Collected: 06/22/22 12:35 **Matrix: Solid**
Date Received: 06/23/22 10:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	28359	06/24/22 15:02	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28308	06/25/22 08:19	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	28272	06/23/22 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28196	06/23/22 22:10	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	28269	06/23/22 14:27	CH	XEN MID
Soluble	Analysis	300.0		5			28654	06/29/22 18:31	CH	XEN MID

Client Sample ID: BH-16 Lab Sample ID: 880-16239-23
Date Collected: 06/22/22 12:45 **Matrix: Solid**
Date Received: 06/23/22 10:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	28359	06/24/22 15:02	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28308	06/25/22 08:40	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	28272	06/23/22 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28196	06/23/22 22:30	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	28269	06/23/22 14:27	CH	XEN MID
Soluble	Analysis	300.0		1			28654	06/29/22 18:54	CH	XEN MID

Client Sample ID: BH-1 Lab Sample ID: 880-16239-24
Date Collected: 06/22/22 10:15 **Matrix: Solid**
Date Received: 06/23/22 10:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	28359	06/24/22 15:02	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28308	06/25/22 09:00	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID

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Lab Chronicle

Client: GHD Services Inc. Job ID: 880-16239-1
Project/Site: Merchant Livestock 30 SDG: 12581651

Client Sample ID: BH-1 Lab Sample ID: 880-16239-24
Date Collected: 06/22/22 10:15 **Matrix: Solid**
Date Received: 06/23/22 10:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	28272	06/23/22 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28196	06/23/22 22:50	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	28269	06/23/22 14:27	CH	XEN MID
Soluble	Analysis	300.0		1			28654	06/29/22 19:02	CH	XEN MID

Client Sample ID: BH-2 Lab Sample ID: 880-16239-25
Date Collected: 06/22/22 10:25 **Matrix: Solid**
Date Received: 06/23/22 10:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	28359	06/24/22 15:02	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28308	06/25/22 09:21	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	28272	06/23/22 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28196	06/23/22 23:10	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	28269	06/23/22 14:27	CH	XEN MID
Soluble	Analysis	300.0		5			28654	06/29/22 19:10	CH	XEN MID

Client Sample ID: BH-3 Lab Sample ID: 880-16239-26
Date Collected: 06/22/22 10:35 **Matrix: Solid**
Date Received: 06/23/22 10:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	28359	06/24/22 15:02	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28308	06/25/22 09:41	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	28272	06/23/22 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28196	06/23/22 23:29	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 L	50 mL	28269	06/23/22 14:27	CH	XEN MID
Soluble	Analysis	300.0		1			28654	06/29/22 19:18	CH	XEN MID

Client Sample ID: BH-4 Lab Sample ID: 880-16239-27
Date Collected: 06/22/22 10:45 **Matrix: Solid**
Date Received: 06/23/22 10:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	28363	06/24/22 15:16	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28398	06/26/22 02:07	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	28272	06/23/22 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28196	06/23/22 23:49	AJ	XEN MID

Eurofins Midland

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Client Sample ID: BH-4
Date Collected: 06/22/22 10:45
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-27
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.04 g	50 mL	28269	06/23/22 14:27	CH	XEN MID
Soluble	Analysis	300.0		1			28654	06/29/22 19:26	CH	XEN MID

Client Sample ID: BH-5
Date Collected: 06/22/22 10:55
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-28
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	28363	06/24/22 15:16	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28398	06/26/22 02:27	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	28272	06/23/22 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28196	06/24/22 00:08	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	28269	06/23/22 14:27	CH	XEN MID
Soluble	Analysis	300.0		1			28654	06/29/22 19:33	CH	XEN MID

Client Sample ID: BH-6
Date Collected: 06/22/22 11:05
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-29
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	28363	06/24/22 15:16	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28398	06/26/22 02:48	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	28272	06/23/22 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28196	06/24/22 00:28	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	28269	06/23/22 14:27	CH	XEN MID
Soluble	Analysis	300.0		1			28654	06/29/22 19:41	CH	XEN MID

Client Sample ID: BH-7
Date Collected: 06/22/22 11:15
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-30
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	28363	06/24/22 15:16	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28398	06/26/22 03:08	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	28272	06/23/22 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28196	06/24/22 00:48	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	28275	06/23/22 16:38	CH	XEN MID
Soluble	Analysis	300.0		1			28540	06/28/22 05:45	SMC	XEN MID

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Client Sample ID: BH-8
Date Collected: 06/22/22 11:25
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-31
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	28354	06/24/22 14:13	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28306	06/25/22 14:43	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	28272	06/23/22 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28196	06/24/22 01:28	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	28275	06/23/22 16:38	CH	XEN MID
Soluble	Analysis	300.0		1			28540	06/28/22 06:13	SMC	XEN MID

Client Sample ID: BH-9
Date Collected: 06/22/22 11:35
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-32
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	28354	06/24/22 14:13	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28306	06/25/22 15:04	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	28272	06/23/22 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28196	06/24/22 01:48	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	28275	06/23/22 16:38	CH	XEN MID
Soluble	Analysis	300.0		1			28540	06/28/22 06:22	SMC	XEN MID

Client Sample ID: BH-10
Date Collected: 06/22/22 11:45
Date Received: 06/23/22 10:50

Lab Sample ID: 880-16239-33
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	28354	06/24/22 14:13	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28306	06/25/22 15:25	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28471	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28324	06/24/22 10:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	28272	06/23/22 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28196	06/24/22 02:08	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	28275	06/23/22 16:38	CH	XEN MID
Soluble	Analysis	300.0		1			28540	06/28/22 06:31	SMC	XEN MID

Laboratory References:
XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-21-22	06-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: GHD Services Inc. Job ID: 880-16239-1
Project/Site: Merchant Livestock 30 SDG: 12581651

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5035	Closed System Purge and Trap	SW846	XEN MID
8015NM Prep	Microextraction	SW846	XEN MID
DI Leach	Deionized Water Leaching Procedure	ASTM	XEN MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16239-1
SDG: 12581651

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-16239-1	BH-32	Solid	06/21/22 09:20	06/23/22 10:50	3'
880-16239-2	BH-33	Solid	06/21/22 09:30	06/23/22 10:50	3'
880-16239-3	BH-34	Solid	06/21/22 09:40	06/23/22 10:50	3'
880-16239-4	BH-35	Solid	06/21/22 09:50	06/23/22 10:50	3'
880-16239-5	BH-36	Solid	06/21/22 10:00	06/23/22 10:50	3'
880-16239-6	BH-37	Solid	06/21/22 10:10	06/23/22 10:50	3'
880-16239-7	SW-11	Solid	06/22/22 10:20	06/23/22 10:50	Suf - 3'
880-16239-8	SW-12	Solid	06/22/22 10:30	06/23/22 10:50	Suf - 3'
880-16239-9	SW-1	Solid	06/22/22 11:20	06/23/22 10:50	Suf - 2'
880-16239-10	SW-2	Solid	06/22/22 11:30	06/23/22 10:50	Suf - 3'
880-16239-11	SW-3	Solid	06/22/22 11:40	06/23/22 10:50	Surf - 2'
880-16239-12	SW-4	Solid	06/22/22 11:50	06/23/22 10:50	Surf - 2'
880-16239-13	SW-5	Solid	06/22/22 12:00	06/23/22 10:50	Surf - 2'
880-16239-14	SW-6	Solid	06/22/22 12:10	06/23/22 10:50	Surf - 2'
880-16239-15	SW-7	Solid	06/22/22 12:20	06/23/22 10:50	Surf - 2'
880-16239-16	SW-9	Solid	06/22/22 12:40	06/23/22 10:50	Surf - 2'
880-16239-17	SW-10	Solid	06/22/22 12:50	06/23/22 10:50	Surf - 2'
880-16239-18	BH-11	Solid	06/22/22 11:55	06/23/22 10:50	3.5'
880-16239-19	BH-12	Solid	06/22/22 12:05	06/23/22 10:50	3.5'
880-16239-20	BH-13	Solid	06/22/22 12:15	06/23/22 10:50	3.5'
880-16239-21	BH-14	Solid	06/22/22 12:25	06/23/22 10:50	3.5'
880-16239-22	BH-15	Solid	06/22/22 12:35	06/23/22 10:50	3.5'
880-16239-23	BH-16	Solid	06/22/22 12:45	06/23/22 10:50	3.5'
880-16239-24	BH-1	Solid	06/22/22 10:15	06/23/22 10:50	
880-16239-25	BH-2	Solid	06/22/22 10:25	06/23/22 10:50	
880-16239-26	BH-3	Solid	06/22/22 10:35	06/23/22 10:50	
880-16239-27	BH-4	Solid	06/22/22 10:45	06/23/22 10:50	
880-16239-28	BH-5	Solid	06/22/22 10:55	06/23/22 10:50	
880-16239-29	BH-6	Solid	06/22/22 11:05	06/23/22 10:50	
880-16239-30	BH-7	Solid	06/22/22 11:15	06/23/22 10:50	
880-16239-31	BH-8	Solid	06/22/22 11:25	06/23/22 10:50	
880-16239-32	BH-9	Solid	06/22/22 11:35	06/23/22 10:50	
880-16239-33	BH-10	Solid	06/22/22 11:45	06/23/22 10:50	

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Xenco Laboratories

The Environmental Lab of Texas

880-16239 Chain of Custody

16239

RECORD AND ANALYSIS REQUEST

Phone: 432-563-1800
Fax: 432-563-1713

7/1/2022

Project Manager	Becky Haskell@GHD.com
Company Name	GHD
Company Address	2135 S. Loop 250 W
City/State/Zip	Midland, TX, 79703
Telephone No	432-686-0086
Fax No	
Sampler Signature	
e-mail	Heath.Boyd@GHD.com
Project Name	Merchant Livestock 30
Project #.	12581651
Project Loc:	Lea County, NM
PO #:	
Report Format:	☑ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #:

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge	GW=Groundwater S=Soil/Solid	NP=Non-Potable Specify Other	Analyze For: TCLP TPH 8015B	TOTAL TPH 8015M	TPH TX 1005	TPH TX 1006	Cations (Ca Mg Na K)	Anions (Cl SO4, Alkalinity)	SAR / ESP / CEC	Metals As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Chloride 300.0		RUSH T.A.T (Pre-Schedule) 24 48 72 hrs	Standard TAT
	BH-32		3'	6/22/22	920														X									X			X			
	BH-33				930														X									X			X			
	BH-34				940														X									X			X			
	BH-35				950														X									X			X			
	BH-36				1000														X									X			X			
	BH-37		X		1010														X									X			X			
	SW-11	Surf	3'		1020														X									X			X			
	SW-12	"	X		1030														X									X			X			
	SW-1	Surf	3'		1120														X									X			X			
	SW-2	"	X	X	1130														X									X			X			

Special Instructions: Please Email: Becky, Heath Nikki.Mishler@cdevinc.com

Relinquished by	Date	Time	Received by	Date	Time
	6/22/22	1540		6/22/22	3:40
Relinquished by	Date	Time	Received by	Date	Time
	6-22-22	3:41	Received by ELOT	6/23/22	10:50
Relinquished by	Date	Time		Date	Time

Laboratory Comments.

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep ?	Y	N
by Courier? UPS DHL FedEx Lone Star		

Temperature Upon Receipt: As Read 1.5 H3 | Corrected 1.3 °C -2 IR

Received by OCD: 10/31/2022 6:36:00 AM

Released to Imaging: 11/28/2022 9:20:24 AM

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Xenco Laboratories

The Environmental Lab of Texas

Loc: 880
16239

12600 West I-20 East
Odessa, Texas 79765

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

162391

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Becky. Haskell@GHD
Company Name: GHD
Company Address: 2135 S. Loop 250 W.
City/State/Zip: Midland, TX, 79703
Telephone No: 432-686-0086
Fax No:
Sampler Signature:
e-mail: Heath. Boyd@GHD.com

Project Name: Merchant Livestock 30
Project #: 12581651
Project Loc: Lea County, NM
PO #:
Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #:

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge	GW=Groundwater S=Soil/Solid	NP=Non-Potable Specify Other	Analyze For: TCLP / TOTAL: TPH 418.1	8015M	8015B	TPH TX 1005	TX 1006	Cations (Ca Mg Na K)	Anions (Cl SO4 Alkalinity)	SAR / ESP / CEC	Metals As Ag Ba Cd Cr Pb Hg Se	Volatiles	SemiVolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	GRO	DRO	Chloride	RUSH TAT (Pre-Schedule) 24 48 72 hrs	Standard TAT
	SW-3	Surf.	2'	6/22/22	1140														X										X				X		
	SW-4				1150														X										X				X		
	SW-5				1200														X										X				X		
	SW-6				1210														X										X				X		
	SW-7				1220														X										X				X		
	SW-9				1240														X										X				X		
	SW-10	X	X	X	1250														X										X				X		

Special Instructions: Please Email: Becky, Heath, Nikki.Mishler@cdevinc.com

Relinquished by	Date	Time	Received by:	Date	Time
	6/22/22	1540		6.22.22	3.40
Relinquished by	Date	Time	Received by:	Date	Time
	6.22.22	3.41		6/23/22	10:50
Relinquished by	Date	Time	Received by ELOT	Date	Time

Laboratory Comments.

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep ?	Y	N

by Courier? UPS DHL (FedEx) Lone Star

Temperature Upon Receipt	As Read	Corrected
-2	1.5	1.3 °C IRE

Received by OCD: 10/31/2022 6:36:00 AM

Released to Imaging: 11/28/2022 9:20:24 AM

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Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

1.6239

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Becky.Haskell@GHD.com
Company Name: GHD
Company Address: 2135 S. Loop 250 W
City/State/Zip: Midland, TX, 79703
Telephone No: 432-686-0086
Fax No:
Sampler Signature:
e-mail: Heath.Boyd@GHD.com

Project Name: Merchant Livestock 30
Project #: 12581651
Project Loc: Lea County, NM
PO #:
Report Format: ☑ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #:

Lab # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge	GW=Groundwater S=Soil/Solid	NP=Non-Potable Specify Other	Analyze For: TPH 418.1 8015M 8015B	TPH TX 1005 TX 1006	Cations (Ca Mg Na, K)	Anions (Cl SO4, Alkalinity)	SAR / ESP / CEC	Metals As Ag Ba Cd Cr Pb Hg Se (TCLP / TOTAL)	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N O R M	BTEX	Chloride 300 M	RUSH TAT (Pre-Schedule) 24 48 72 hrs	Standard TAT
	BH-11		3.5	6/21/22	1155		1												X											X	X		
	BH-12		↓		1205		1												X											X	X		
	BH-13				1215		1												X											X	X		
	BH-14				1225		1												X											X	X		
	BH-15				1235		1												X											X	X		
	BH-16		X	X	1245		1												X											X	X		

Special Instructions: Please Email: Becky, Heath, Vikki.Mishler@LCDEnv.com

Relinquished by	Date	Time	Received by	Date	Time
	6/21/22	1620		6-21-22	4:18
Relinquished by	Date	Time	Received by	Date	Time
				6/23/22	10:50
Relinquished by	Date	Time	Received by ELOT	Date	Time

Laboratory Comments

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep ?	Y	N
by Courier? UPS DHL FedEx Lone Star		

Temperature Upon Receipt	As Read	Corrected
	-.2	1.5 °C

Received by OCD: 10/31/2022 6:36:00 AM

Released to Imaging: 11/28/2022 9:20:24 AM

7/1/2022

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 880-16239-1
SDG Number: 12581651

Login Number: 16239
List Number: 1
Creator: Rodriguez, Leticia

List Source: Eurofins Midland

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Received extra samples not listed on COC.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-16290-1
Laboratory Sample Delivery Group: 12581651
Client Project/Site: Merchant Livestock 30

For:
GHD Services Inc.
2135 South Loop 250 West
Midland, Texas 79703

Attn: Becky Haskell

Authorized for release by:
7/6/2022 3:33:18 PM

Debbie Simmons, Project Manager
(832)986-6768
Debbie.Simmons@et.eurofinsus.com

LINKS

Review your project results through my EOL

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Laboratory Job ID: 880-16290-1
SDG: 12581651

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Definitions/Glossary

Client: GHD Services Inc. Job ID: 880-16290-1
Project/Site: Merchant Livestock 30 SDG: 12581651

Qualifiers

GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16290-1
SDG: 12581651

Job ID: 880-16290-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-16290-1

Comments
No additional comments.

Receipt
The samples were received on 6/24/2022 11:45 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.5º C.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
Method 8015B NM: Surrogate recovery for the following sample was outside control limits: (CCV 880-28375/19). Evidence of matrix interferences is not obvious.

Method 8015B NM: Surrogate recovery for the following sample was outside control limits: (MB 880-28365/1-A). Evidence of matrix interferences is not obvious.

Method 8015B NM: Surrogate recovery for the following sample was outside control limits: (890-2452-A-1-E). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015B NM: Surrogate recovery for the following sample was outside control limits: SW-13 (880-16290-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015B NM: Surrogate recovery for the following sample was outside control limits: SW-15 (880-16290-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015B NM: Surrogate recovery for the following sample was outside control limits: BH-38 (880-16290-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015B NM: Surrogate recovery for the following samples were outside control limits: BH-39 (880-16290-6) and BH-40 (880-16290-7). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015B NM: Surrogate recovery for the following sample was outside control limits: (CCV 880-28375/55). Evidence of matrix interferences is not obvious.

Method 8015B NM: The method blank for preparation batch 880-28365 and analytical batch 880-28375 contained Gasoline Range Organics (GRO)-C6-C10, Diesel Range Organics (Over C10-C28) and Total TPH above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16290-1
SDG: 12581651

Client Sample ID: SW-13

Date Collected: 06/23/22 11:40
Date Received: 06/24/22 11:45
Sample Depth: 4'

Lab Sample ID: 880-16290-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		06/24/22 14:13	06/25/22 10:36	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		06/24/22 14:13	06/25/22 10:36	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		06/24/22 14:13	06/25/22 10:36	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		06/24/22 14:13	06/25/22 10:36	1
o-Xylene	<0.000342	U	0.00199	0.000342	mg/Kg		06/24/22 14:13	06/25/22 10:36	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		06/24/22 14:13	06/25/22 10:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*06/24/22 14:13*	*06/25/22 10:36*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*06/24/22 14:13*	*06/25/22 10:36*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00398	0.00100	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**41.6**	**J**	49.9	15.0	mg/Kg			06/27/22 10:30	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**24.4**	**J B**	49.9	15.0	mg/Kg		06/24/22 15:43	06/25/22 21:48	1
Diesel Range Organics (Over C10-C28)	**17.2**	**J B**	49.9	15.0	mg/Kg		06/24/22 15:43	06/25/22 21:48	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		06/24/22 15:43	06/25/22 21:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*121*		*70 - 130*	*06/24/22 15:43*	*06/25/22 21:48*	*1*
o-Terphenyl	*131*	*S1+*	*70 - 130*	*06/24/22 15:43*	*06/25/22 21:48*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2390**		24.9	4.27	mg/Kg			07/01/22 23:49	5

Client Sample ID: SW-14

Date Collected: 06/23/22 11:50
Date Received: 06/24/22 11:45
Sample Depth: 4'

Lab Sample ID: 880-16290-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		06/24/22 14:13	06/25/22 10:56	1
Toluene	<0.000454	U	0.00199	0.000454	mg/Kg		06/24/22 14:13	06/25/22 10:56	1
Ethylbenzene	<0.000563	U	0.00199	0.000563	mg/Kg		06/24/22 14:13	06/25/22 10:56	1
m-Xylene & p-Xylene	<0.00101	U	0.00398	0.00101	mg/Kg		06/24/22 14:13	06/25/22 10:56	1
o-Xylene	<0.000343	U	0.00199	0.000343	mg/Kg		06/24/22 14:13	06/25/22 10:56	1
Xylenes, Total	<0.00101	U	0.00398	0.00101	mg/Kg		06/24/22 14:13	06/25/22 10:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*06/24/22 14:13*	*06/25/22 10:56*	*1*

Client Sample Results

Client: GHD Services Inc. Job ID: 880-16290-1
Project/Site: Merchant Livestock 30 SDG: 12581651

Client Sample ID: SW-14 Lab Sample ID: 880-16290-2

Date Collected: 06/23/22 11:50 **Matrix: Solid**
Date Received: 06/24/22 11:45
Sample Depth: 4'

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*	*06/24/22 14:13*	*06/25/22 10:56*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00398	0.00101	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**38.8**	**J**	50.0	15.0	mg/Kg			06/27/22 10:30	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**21.6**	**J B**	50.0	15.0	mg/Kg		06/24/22 15:43	06/25/22 22:10	1
Diesel Range Organics (Over C10-C28)	**17.2**	**J B**	50.0	15.0	mg/Kg		06/24/22 15:43	06/25/22 22:10	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		06/24/22 15:43	06/25/22 22:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*120*		*70 - 130*	*06/24/22 15:43*	*06/25/22 22:10*	*1*
o-Terphenyl	*129*		*70 - 130*	*06/24/22 15:43*	*06/25/22 22:10*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**232**		5.02	0.862	mg/Kg			07/01/22 23:58	1

Client Sample ID: SW-15 Lab Sample ID: 880-16290-3

Date Collected: 06/23/22 12:00 **Matrix: Solid**
Date Received: 06/24/22 11:45
Sample Depth: 4'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.00231**		0.00198	0.000382	mg/Kg		06/24/22 14:13	06/25/22 11:17	1
Toluene	**0.00458**		0.00198	0.000452	mg/Kg		06/24/22 14:13	06/25/22 11:17	1
Ethylbenzene	<0.000561	U	0.00198	0.000561	mg/Kg		06/24/22 14:13	06/25/22 11:17	1
m-Xylene & p-Xylene	<0.00100	U	0.00397	0.00100	mg/Kg		06/24/22 14:13	06/25/22 11:17	1
o-Xylene	<0.000341	U	0.00198	0.000341	mg/Kg		06/24/22 14:13	06/25/22 11:17	1
Xylenes, Total	<0.00100	U	0.00397	0.00100	mg/Kg		06/24/22 14:13	06/25/22 11:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*06/24/22 14:13*	*06/25/22 11:17*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*06/24/22 14:13*	*06/25/22 11:17*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.00689**		0.00397	0.00100	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**19.7**	**J**	50.0	15.0	mg/Kg			06/27/22 10:30	1

Eurofins Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16290-1
SDG: 12581651

Client Sample ID: SW-15

Date Collected: 06/23/22 12:00
Date Received: 06/24/22 11:45
Sample Depth: 4'

Lab Sample ID: 880-16290-3
Matrix: Solid

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**19.7**	**J B**	50.0	15.0	mg/Kg		06/24/22 15:43	06/25/22 22:31	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		06/24/22 15:43	06/25/22 22:31	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		06/24/22 15:43	06/25/22 22:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*120*		*70 - 130*	*06/24/22 15:43*	*06/25/22 22:31*	*1*
o-Terphenyl	*133*	*S1+*	*70 - 130*	*06/24/22 15:43*	*06/25/22 22:31*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1070**		5.00	0.858	mg/Kg			07/02/22 00:08	1

Client Sample ID: SW-16

Date Collected: 06/23/22 12:10
Date Received: 06/24/22 11:45
Sample Depth: 4'

Lab Sample ID: 880-16290-4
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000386	U	0.00200	0.000386	mg/Kg		06/24/22 14:13	06/25/22 11:37	1
Toluene	<0.000457	U	0.00200	0.000457	mg/Kg		06/24/22 14:13	06/25/22 11:37	1
Ethylbenzene	<0.000566	U	0.00200	0.000566	mg/Kg		06/24/22 14:13	06/25/22 11:37	1
m-Xylene & p-Xylene	<0.00101	U	0.00401	0.00101	mg/Kg		06/24/22 14:13	06/25/22 11:37	1
o-Xylene	<0.000345	U	0.00200	0.000345	mg/Kg		06/24/22 14:13	06/25/22 11:37	1
Xylenes, Total	<0.00101	U	0.00401	0.00101	mg/Kg		06/24/22 14:13	06/25/22 11:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*	*06/24/22 14:13*	*06/25/22 11:37*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*06/24/22 14:13*	*06/25/22 11:37*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00401	0.00101	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**39.1**	**J**	50.0	15.0	mg/Kg			06/27/22 10:30	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**22.4**	**J B**	50.0	15.0	mg/Kg		06/24/22 15:43	06/25/22 22:52	1
Diesel Range Organics (Over C10-C28)	**16.7**	**J B**	50.0	15.0	mg/Kg		06/24/22 15:43	06/25/22 22:52	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		06/24/22 15:43	06/25/22 22:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*121*		*70 - 130*	*06/24/22 15:43*	*06/25/22 22:52*	*1*
o-Terphenyl	*130*		*70 - 130*	*06/24/22 15:43*	*06/25/22 22:52*	*1*

Eurofins Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16290-1
SDG: 12581651

Client Sample ID: SW-16

Lab Sample ID: 880-16290-4
Matrix: Solid
Date Collected: 06/23/22 12:10
Date Received: 06/24/22 11:45
Sample Depth: 4'

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2890**		24.9	4.27	mg/Kg			07/02/22 00:17	5

Client Sample ID: BH-38

Lab Sample ID: 880-16290-5
Matrix: Solid
Date Collected: 06/23/22 12:20
Date Received: 06/24/22 11:45
Sample Depth: 4'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		06/24/22 14:13	06/25/22 11:58	1
Toluene	**0.000656**	**J**	0.00201	0.000459	mg/Kg		06/24/22 14:13	06/25/22 11:58	1
Ethylbenzene	<0.000568	U	0.00201	0.000568	mg/Kg		06/24/22 14:13	06/25/22 11:58	1
m-Xylene & p-Xylene	**0.00114**	**J**	0.00402	0.00102	mg/Kg		06/24/22 14:13	06/25/22 11:58	1
o-Xylene	**0.00243**		0.00201	0.000346	mg/Kg		06/24/22 14:13	06/25/22 11:58	1
Xylenes, Total	**0.00357**	**J**	0.00402	0.00102	mg/Kg		06/24/22 14:13	06/25/22 11:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*06/24/22 14:13*	*06/25/22 11:58*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*06/24/22 14:13*	*06/25/22 11:58*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.00423**		0.00402	0.00102	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**36.7**	**J**	50.0	15.0	mg/Kg			06/27/22 10:30	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**19.4**	**J B**	50.0	15.0	mg/Kg		06/24/22 15:43	06/25/22 23:13	1
Diesel Range Organics (Over C10-C28)	**17.3**	**J B**	50.0	15.0	mg/Kg		06/24/22 15:43	06/25/22 23:13	1
OII Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		06/24/22 15:43	06/25/22 23:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*125*		*70 - 130*	*06/24/22 15:43*	*06/25/22 23:13*	*1*
o-Terphenyl	*133*	*S1+*	*70 - 130*	*06/24/22 15:43*	*06/25/22 23:13*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**906**		4.95	0.850	mg/Kg			07/02/22 00:44	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16290-1
SDG: 12581651

Client Sample ID: BH-39

Date Collected: 06/23/22 12:30
Date Received: 06/24/22 11:45
Sample Depth: 4'

Lab Sample ID: 880-16290-6
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000384	U	0.00200	0.000384	mg/Kg		06/24/22 14:13	06/25/22 12:19	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		06/24/22 14:13	06/25/22 12:19	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		06/24/22 14:13	06/25/22 12:19	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		06/24/22 14:13	06/25/22 12:19	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		06/24/22 14:13	06/25/22 12:19	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		06/24/22 14:13	06/25/22 12:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*06/24/22 14:13*	*06/25/22 12:19*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*06/24/22 14:13*	*06/25/22 12:19*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**45.0**	**J**	50.0	15.0	mg/Kg			06/27/22 10:30	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**28.0**	**J B**	50.0	15.0	mg/Kg		06/24/22 15:43	06/25/22 23:34	1
Diesel Range Organics (Over C10-C28)	**17.0**	**J B**	50.0	15.0	mg/Kg		06/24/22 15:43	06/25/22 23:34	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		06/24/22 15:43	06/25/22 23:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*127*		*70 - 130*	*06/24/22 15:43*	*06/25/22 23:34*	*1*
o-Terphenyl	*143*	*S1+*	*70 - 130*	*06/24/22 15:43*	*06/25/22 23:34*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**577**		5.04	0.865	mg/Kg			07/02/22 00:54	1

Client Sample ID: BH-40

Date Collected: 06/23/22 12:40
Date Received: 06/24/22 11:45
Sample Depth: 4'

Lab Sample ID: 880-16290-7
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		06/24/22 14:13	06/25/22 13:42	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		06/24/22 14:13	06/25/22 13:42	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		06/24/22 14:13	06/25/22 13:42	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		06/24/22 14:13	06/25/22 13:42	1
o-Xylene	<0.000342	U	0.00199	0.000342	mg/Kg		06/24/22 14:13	06/25/22 13:42	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		06/24/22 14:13	06/25/22 13:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*06/24/22 14:13*	*06/25/22 13:42*	*1*

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Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16290-1
SDG: 12581651

Client Sample ID: BH-40

Date Collected: 06/23/22 12:40
Date Received: 06/24/22 11:45
Sample Depth: 4'

Lab Sample ID: 880-16290-7

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*06/24/22 14:13*	*06/25/22 13:42*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00398	0.00100	mg/Kg			06/27/22 12:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**33.0**	**J**	49.9	15.0	mg/Kg			06/27/22 10:30	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**15.6**	**J B**	49.9	15.0	mg/Kg		06/24/22 15:43	06/25/22 23:55	1
Diesel Range Organics (Over C10-C28)	**17.4**	**J B**	49.9	15.0	mg/Kg		06/24/22 15:43	06/25/22 23:55	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		06/24/22 15:43	06/25/22 23:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*126*		*70 - 130*	*06/24/22 15:43*	*06/25/22 23:55*	*1*
o-Terphenyl	*135*	*S1+*	*70 - 130*	*06/24/22 15:43*	*06/25/22 23:55*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**243**		5.03	0.863	mg/Kg			07/02/22 01:03	1

Surrogate Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16290-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-16290-1	SW-13	113	94
880-16290-2	SW-14	100	85
880-16290-3	SW-15	116	93
880-16290-4	SW-16	114	93
880-16290-5	BH-38	102	98
880-16290-6	BH-39	94	94
880-16290-7	BH-40	96	88
LCS 880-28354/1-A	Lab Control Sample	127	106
LCSD 880-28354/2-A	Lab Control Sample Dup	110	99
MB 880-28306/39	Method Blank	101	90
MB 880-28354/5-A	Method Blank	102	87

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-16290-1	SW-13	121	131 S1+
880-16290-2	SW-14	120	129
880-16290-3	SW-15	120	133 S1+
880-16290-4	SW-16	121	130
880-16290-5	BH-38	125	133 S1+
880-16290-6	BH-39	127	143 S1+
880-16290-7	BH-40	126	135 S1+
LCS 880-28365/2-A	Lab Control Sample	95	106
LCSD 880-28365/3-A	Lab Control Sample Dup	104	115
MB 880-28365/1-A	Method Blank	131 S1+	143 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16290-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-28306/39
Matrix: Solid
Analysis Batch: 28306

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg			06/24/22 22:17	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg			06/24/22 22:17	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg			06/24/22 22:17	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg			06/24/22 22:17	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg			06/24/22 22:17	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg			06/24/22 22:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*06/24/22 22:17*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*		*06/24/22 22:17*	*1*

Lab Sample ID: MB 880-28354/5-A
Matrix: Solid
Analysis Batch: 28306

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28354

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		06/24/22 14:13	06/25/22 08:52	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		06/24/22 14:13	06/25/22 08:52	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		06/24/22 14:13	06/25/22 08:52	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		06/24/22 14:13	06/25/22 08:52	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		06/24/22 14:13	06/25/22 08:52	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		06/24/22 14:13	06/25/22 08:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*06/24/22 14:13*	*06/25/22 08:52*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*06/24/22 14:13*	*06/25/22 08:52*	*1*

Lab Sample ID: LCS 880-28354/1-A
Matrix: Solid
Analysis Batch: 28306

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28354

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.07094		mg/Kg		71	70 - 130
Toluene	0.100	0.07028		mg/Kg		70	70 - 130
Ethylbenzene	0.100	0.07386		mg/Kg		74	70 - 130
m-Xylene & p-Xylene	0.200	0.1543		mg/Kg		77	70 - 130
o-Xylene	0.100	0.08210		mg/Kg		82	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*127*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: LCSD 880-28354/2-A
Matrix: Solid
Analysis Batch: 28306

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 28354

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09324		mg/Kg		93	70 - 130	27	35

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16290-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-28354/2-A
Matrix: Solid
Analysis Batch: 28306

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 28354

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.09103		mg/Kg		91	70 - 130	26	35
Ethylbenzene			0.100	0.09529		mg/Kg		95	70 - 130	25	35
m-Xylene & p-Xylene			0.200	0.1953		mg/Kg		98	70 - 130	23	35
o-Xylene			0.100	0.1001		mg/Kg		100	70 - 130	20	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-28365/1-A
Matrix: Solid
Analysis Batch: 28375

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28365

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	17.32	J	50.0	15.0	mg/Kg		06/24/22 15:43	06/25/22 17:03	1
Diesel Range Organics (Over C10-C28)	15.17	J	50.0	15.0	mg/Kg		06/24/22 15:43	06/25/22 17:03	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		06/24/22 15:43	06/25/22 17:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*131*	*S1+*	*70 - 130*	*06/24/22 15:43*	*06/25/22 17:03*	*1*
o-Terphenyl	*143*	*S1+*	*70 - 130*	*06/24/22 15:43*	*06/25/22 17:03*	*1*

Lab Sample ID: LCS 880-28365/2-A
Matrix: Solid
Analysis Batch: 28375

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28365

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	838.7		mg/Kg		84	70 - 130
Diesel Range Organics (Over C10-C28)			1000	943.7		mg/Kg		94	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*95*		*70 - 130*
o-Terphenyl	*106*		*70 - 130*

Lab Sample ID: LCSD 880-28365/3-A
Matrix: Solid
Analysis Batch: 28375

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 28365

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	851.2		mg/Kg		85	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	985.5		mg/Kg		99	70 - 130	4	20

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QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16290-1
SDG: 12581651

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCSD 880-28365/3-A
Matrix: Solid
Analysis Batch: 28375

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 28365

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*104*		*70 - 130*
o-Terphenyl	*115*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-28390/1-A
Matrix: Solid
Analysis Batch: 28775

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.858	U	5.00	0.858	mg/Kg			07/01/22 22:54	1

Lab Sample ID: LCS 880-28390/2-A
Matrix: Solid
Analysis Batch: 28775

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	274.0		mg/Kg		110	90 - 110		

Lab Sample ID: LCSD 880-28390/3-A
Matrix: Solid
Analysis Batch: 28775

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	274.2		mg/Kg		110	90 - 110	0	20

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16290-1
SDG: 12581651

GC VOA

Analysis Batch: 28306

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16290-1	SW-13	Total/NA	Solid	8021B	28354
880-16290-2	SW-14	Total/NA	Solid	8021B	28354
880-16290-3	SW-15	Total/NA	Solid	8021B	28354
880-16290-4	SW-16	Total/NA	Solid	8021B	28354
880-16290-5	BH-38	Total/NA	Solid	8021B	28354
880-16290-6	BH-39	Total/NA	Solid	8021B	28354
880-16290-7	BH-40	Total/NA	Solid	8021B	28354
MB 880-28306/39	Method Blank	Total/NA	Solid	8021B	
MB 880-28354/5-A	Method Blank	Total/NA	Solid	8021B	28354
LCS 880-28354/1-A	Lab Control Sample	Total/NA	Solid	8021B	28354
LCSD 880-28354/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	28354

Prep Batch: 28354

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16290-1	SW-13	Total/NA	Solid	5035	
880-16290-2	SW-14	Total/NA	Solid	5035	
880-16290-3	SW-15	Total/NA	Solid	5035	
880-16290-4	SW-16	Total/NA	Solid	5035	
880-16290-5	BH-38	Total/NA	Solid	5035	
880-16290-6	BH-39	Total/NA	Solid	5035	
880-16290-7	BH-40	Total/NA	Solid	5035	
MB 880-28354/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-28354/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-28354/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 28469

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16290-1	SW-13	Total/NA	Solid	Total BTEX	
880-16290-2	SW-14	Total/NA	Solid	Total BTEX	
880-16290-3	SW-15	Total/NA	Solid	Total BTEX	
880-16290-4	SW-16	Total/NA	Solid	Total BTEX	
880-16290-5	BH-38	Total/NA	Solid	Total BTEX	
880-16290-6	BH-39	Total/NA	Solid	Total BTEX	
880-16290-7	BH-40	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 28365

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16290-1	SW-13	Total/NA	Solid	8015NM Prep	
880-16290-2	SW-14	Total/NA	Solid	8015NM Prep	
880-16290-3	SW-15	Total/NA	Solid	8015NM Prep	
880-16290-4	SW-16	Total/NA	Solid	8015NM Prep	
880-16290-5	BH-38	Total/NA	Solid	8015NM Prep	
880-16290-6	BH-39	Total/NA	Solid	8015NM Prep	
880-16290-7	BH-40	Total/NA	Solid	8015NM Prep	
MB 880-28365/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-28365/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-28365/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16290-1
SDG: 12581651

GC Semi VOA

Analysis Batch: 28375

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16290-1	SW-13	Total/NA	Solid	8015B NM	28365
880-16290-2	SW-14	Total/NA	Solid	8015B NM	28365
880-16290-3	SW-15	Total/NA	Solid	8015B NM	28365
880-16290-4	SW-16	Total/NA	Solid	8015B NM	28365
880-16290-5	BH-38	Total/NA	Solid	8015B NM	28365
880-16290-6	BH-39	Total/NA	Solid	8015B NM	28365
880-16290-7	BH-40	Total/NA	Solid	8015B NM	28365
MB 880-28365/1-A	Method Blank	Total/NA	Solid	8015B NM	28365
LCS 880-28365/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	28365
LCSD 880-28365/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	28365

Analysis Batch: 28444

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16290-1	SW-13	Total/NA	Solid	8015 NM	
880-16290-2	SW-14	Total/NA	Solid	8015 NM	
880-16290-3	SW-15	Total/NA	Solid	8015 NM	
880-16290-4	SW-16	Total/NA	Solid	8015 NM	
880-16290-5	BH-38	Total/NA	Solid	8015 NM	
880-16290-6	BH-39	Total/NA	Solid	8015 NM	
880-16290-7	BH-40	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 28390

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16290-1	SW-13	Soluble	Solid	DI Leach	
880-16290-2	SW-14	Soluble	Solid	DI Leach	
880-16290-3	SW-15	Soluble	Solid	DI Leach	
880-16290-4	SW-16	Soluble	Solid	DI Leach	
880-16290-5	BH-38	Soluble	Solid	DI Leach	
880-16290-6	BH-39	Soluble	Solid	DI Leach	
880-16290-7	BH-40	Soluble	Solid	DI Leach	
MB 880-28390/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-28390/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-28390/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 28775

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16290-1	SW-13	Soluble	Solid	300.0	28390
880-16290-2	SW-14	Soluble	Solid	300.0	28390
880-16290-3	SW-15	Soluble	Solid	300.0	28390
880-16290-4	SW-16	Soluble	Solid	300.0	28390
880-16290-5	BH-38	Soluble	Solid	300.0	28390
880-16290-6	BH-39	Soluble	Solid	300.0	28390
880-16290-7	BH-40	Soluble	Solid	300.0	28390
MB 880-28390/1-A	Method Blank	Soluble	Solid	300.0	28390
LCS 880-28390/2-A	Lab Control Sample	Soluble	Solid	300.0	28390
LCSD 880-28390/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	28390

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16290-1
SDG: 12581651

Client Sample ID: SW-13
Date Collected: 06/23/22 11:40
Date Received: 06/24/22 11:45

Lab Sample ID: 880-16290-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	28354	06/24/22 14:13	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28306	06/25/22 10:36	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28469	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28444	06/27/22 10:30	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	28365	06/24/22 15:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28375	06/25/22 21:48	SM	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	28390	06/25/22 15:16	SMC	XEN MID
Soluble	Analysis	300.0		5			28775	07/01/22 23:49	CH	XEN MID

Client Sample ID: SW-14
Date Collected: 06/23/22 11:50
Date Received: 06/24/22 11:45

Lab Sample ID: 880-16290-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	28354	06/24/22 14:13	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28306	06/25/22 10:56	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28469	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28444	06/27/22 10:30	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	28365	06/24/22 15:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28375	06/25/22 22:10	SM	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	28390	06/25/22 15:16	SMC	XEN MID
Soluble	Analysis	300.0		1			28775	07/01/22 23:58	CH	XEN MID

Client Sample ID: SW-15
Date Collected: 06/23/22 12:00
Date Received: 06/24/22 11:45

Lab Sample ID: 880-16290-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	28354	06/24/22 14:13	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28306	06/25/22 11:17	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28469	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28444	06/27/22 10:30	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	28365	06/24/22 15:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28375	06/25/22 22:31	SM	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	28390	06/25/22 15:16	SMC	XEN MID
Soluble	Analysis	300.0		1			28775	07/02/22 00:08	CH	XEN MID

Client Sample ID: SW-16
Date Collected: 06/23/22 12:10
Date Received: 06/24/22 11:45

Lab Sample ID: 880-16290-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	28354	06/24/22 14:13	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28306	06/25/22 11:37	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28469	06/27/22 12:48	SM	XEN MID

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16290-1
SDG: 12581651

Client Sample ID: SW-16
Date Collected: 06/23/22 12:10
Date Received: 06/24/22 11:45

Lab Sample ID: 880-16290-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			28444	06/27/22 10:30	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	28365	06/24/22 15:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28375	06/25/22 22:52	SM	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	28390	06/25/22 15:16	SMC	XEN MID
Soluble	Analysis	300.0		5			28775	07/02/22 00:17	CH	XEN MID

Client Sample ID: BH-38
Date Collected: 06/23/22 12:20
Date Received: 06/24/22 11:45

Lab Sample ID: 880-16290-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	28354	06/24/22 14:13	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28306	06/25/22 11:58	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28469	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28444	06/27/22 10:30	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	28365	06/24/22 15:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28375	06/25/22 23:13	SM	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	28390	06/25/22 15:16	SMC	XEN MID
Soluble	Analysis	300.0		1			28775	07/02/22 00:44	CH	XEN MID

Client Sample ID: BH-39
Date Collected: 06/23/22 12:30
Date Received: 06/24/22 11:45

Lab Sample ID: 880-16290-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	28354	06/24/22 14:13	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28306	06/25/22 12:19	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28469	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28444	06/27/22 10:30	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	28365	06/24/22 15:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28375	06/25/22 23:34	SM	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	28390	06/25/22 15:16	SMC	XEN MID
Soluble	Analysis	300.0		1			28775	07/02/22 00:54	CH	XEN MID

Client Sample ID: BH-40
Date Collected: 06/23/22 12:40
Date Received: 06/24/22 11:45

Lab Sample ID: 880-16290-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	28354	06/24/22 14:13	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28306	06/25/22 13:42	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28469	06/27/22 12:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28444	06/27/22 10:30	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	28365	06/24/22 15:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28375	06/25/22 23:55	SM	XEN MID

Eurofins Midland

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16290-1
SDG: 12581651

Client Sample ID: BH-40
Date Collected: 06/23/22 12:40
Date Received: 06/24/22 11:45

Lab Sample ID: 880-16290-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.97 g	50 mL	28390	06/25/22 15:16	SMC	XEN MID
Soluble	Analysis	300.0		1			28775	07/02/22 01:03	CH	XEN MID

Laboratory References:

XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: GHD Services Inc. Job ID: 880-16290-1
Project/Site: Merchant Livestock 30 SDG: 12581651

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-23	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16290-1
SDG: 12581651

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5035	Closed System Purge and Trap	SW846	XEN MID
8015NM Prep	Microextraction	SW846	XEN MID
DI Leach	Deionized Water Leaching Procedure	ASTM	XEN MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16290-1
SDG: 12581651

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-16290-1	SW-13	Solid	06/23/22 11:40	06/24/22 11:45	4'
880-16290-2	SW-14	Solid	06/23/22 11:50	06/24/22 11:45	4'
880-16290-3	SW-15	Solid	06/23/22 12:00	06/24/22 11:45	4'
880-16290-4	SW-16	Solid	06/23/22 12:10	06/24/22 11:45	4'
880-16290-5	BH-38	Solid	06/23/22 12:20	06/24/22 11:45	4'
880-16290-6	BH-39	Solid	06/23/22 12:30	06/24/22 11:45	4'
880-16290-7	BH-40	Solid	06/23/22 12:40	06/24/22 11:45	4'

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Xenco Laboratories

The Environmental Lab of Texas

880-16290 Chain of Custody

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

16290

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

7/6/2022

Project Manager: Becky.Haskell@GHD.com
Company Name: GHD
Company Address: 2135 S Loop 250 W.
City/State/Zip: Midland, TX 79703
Telephone No: 432-686-0086
Fax No:
Sampler Signature:
e-mail: Heath.Boyd@GHD.com

Project Name: Merchant Livestock 30
Project #: 12581651
Project Loc: Lea County, NM
PO #:
Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #:

(lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP/TOTAL: TPH 418.1	8015M	8015B	TPH TX 1005	TX 1006	Cations (Ca Mg Na K)	Anions (Cl SO4 Alkalinity)	SAR / ESP / CEC	Metals As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N O R M	Chloride 300 M			RUSH TAT (Pre-Schedule) 24 48 72 hrs	Standard TAT
	SW-13	S	4'	6/23/22	1140												X											X			X				
	SW-14	S			1150												X											X			X				
	SW-15	S			1200												X											X			X				
	SW-16	S			1210												X											X			X				
	BH-38	-			1220												X											X			X				
	BH-39	-			1230												X											X			X				
	BH-40	-	↓	↓	1240												X											X			X				

Special Instructions: Please Email: Becky, Heath
Nikki.Mishler@cdevinc.com

Direct Bill to: Centennial Resources Production Attn Nikki

Relinquished by	Date	Time	Received by	Date	Time
	6/23/22	1520		6-23-22	3:17
Relinquished by	Date	Time	Received by	Date	Time
	6 23 22	3:17		06/24/22	11:45
Relinquished by	Date	Time	Received by ELOT	Date	Time

Laboratory Comments.

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep ?	Y	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt	As Read	Corrected
	1.7	1.5 °C

Received by OCD: 10/31/2022 6:36:00 AM

Released to Imaging: 11/28/2022 9:20:24 AM

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 880-16290-1
SDG Number: 12581651

Login Number: 16290
List Number: 1
Creator: Rodriguez, Leticia

List Source: Eurofins Midland

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-16317-1
Laboratory Sample Delivery Group: Lea County NM
Client Project/Site: Merhcant Livestock 30

For:
GHD Services Inc.
2135 South Loop 250 West
Midland, Texas 79703

Attn: Becky Haskell

Authorized for release by:
7/1/2022 9:24:22 AM

Debbie Simmons, Project Manager
(832)986-6768
Debbie.Simmons@et.eurofinsus.com

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: GHD Services Inc.
Project/Site: Merhcant Livestock 30

Laboratory Job ID: 880-16317-1
SDG: Lea County NM

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Definitions/Glossary

Client: GHD Services Inc. Job ID: 880-16317-1
Project/Site: Merhcant Livestock 30 SDG: Lea County NM

Qualifiers

GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: GHD Services Inc.
Project/Site: Merhcant Livestock 30

Job ID: 880-16317-1
SDG: Lea County NM

Job ID: 880-16317-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-16317-1

Comments
No additional comments.

Receipt
The samples were received on 6/27/2022 10:15 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.0º C.

GC VOA
Method 8021B: The continuing calibration verification (CCV) associated with batch 880-28500 recovered above the upper control limit for Benzene, m-Xylene & p-Xylene, Xylenes, Total and 4-Bromofluorobenzene (Surr). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method 8015B NM: Surrogate recovery for the following sample was outside control limits: (LCSD 880-28577/3-A). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015B NM: Surrogate recovery for the following samples were outside control limits: BH-41 (880-16317-1), BH-42 (880-16317-2), BH-43 (880-16317-3) and BH-45 (880-16317-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015B NM: Surrogate recovery for the following sample was outside control limits: SW-8 (880-16317-7). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015B NM: Surrogate recovery for the following sample was outside control limits: (CCV 880-28522/46). Evidence of matrix interferences is not obvious.

Method 8015B NM: CCV biased high for diesel range hydrocarbons, however an acceptable CCV was analyzed within the 12 hour window, therefore data was qualified and reported.

(CCV 880-28522/46)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merhcant Livestock 30

Job ID: 880-16317-1
SDG: Lea County NM

Client Sample ID: BH-41

Date Collected: 06/24/22 10:30
Date Received: 06/27/22 10:15

Lab Sample ID: 880-16317-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.000814**	**J**	0.00202	0.000389	mg/Kg		06/28/22 08:41	06/28/22 19:40	1
Toluene	<0.000461	U	0.00202	0.000461	mg/Kg		06/28/22 08:41	06/28/22 19:40	1
Ethylbenzene	<0.000571	U	0.00202	0.000571	mg/Kg		06/28/22 08:41	06/28/22 19:40	1
m-Xylene & p-Xylene	<0.00102	U	0.00404	0.00102	mg/Kg		06/28/22 08:41	06/28/22 19:40	1
o-Xylene	<0.000347	U	0.00202	0.000347	mg/Kg		06/28/22 08:41	06/28/22 19:40	1
Xylenes, Total	<0.00102	U	0.00404	0.00102	mg/Kg		06/28/22 08:41	06/28/22 19:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*06/28/22 08:41*	*06/28/22 19:40*	*1*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*	*06/28/22 08:41*	*06/28/22 19:40*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00102	U	0.00404	0.00102	mg/Kg			06/29/22 14:44	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	50.0	15.0	mg/Kg			06/29/22 11:12	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		06/28/22 16:43	06/29/22 02:10	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		06/28/22 16:43	06/29/22 02:10	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		06/28/22 16:43	06/29/22 02:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*131*	*S1+*	*70 - 130*	*06/28/22 16:43*	*06/29/22 02:10*	*1*
o-Terphenyl	*118*		*70 - 130*	*06/28/22 16:43*	*06/29/22 02:10*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**50.2**		5.03	0.863	mg/Kg			06/30/22 12:02	1

Client Sample ID: BH-42

Date Collected: 06/24/22 10:40
Date Received: 06/27/22 10:15

Lab Sample ID: 880-16317-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		06/28/22 08:41	06/28/22 20:00	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		06/28/22 08:41	06/28/22 20:00	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		06/28/22 08:41	06/28/22 20:00	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		06/28/22 08:41	06/28/22 20:00	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		06/28/22 08:41	06/28/22 20:00	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		06/28/22 08:41	06/28/22 20:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*06/28/22 08:41*	*06/28/22 20:00*	*1*
1,4-Difluorobenzene (Surr)	*119*		*70 - 130*	*06/28/22 08:41*	*06/28/22 20:00*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merhcant Livestock 30

Job ID: 880-16317-1
SDG: Lea County NM

Client Sample ID: BH-42

Date Collected: 06/24/22 10:40
Date Received: 06/27/22 10:15

Lab Sample ID: 880-16317-2
Matrix: Solid

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00400	0.00101	mg/Kg			06/29/22 14:44	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	49.9	15.0	mg/Kg			06/29/22 11:12	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	49.9	15.0	mg/Kg		06/28/22 16:43	06/29/22 02:31	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		06/28/22 16:43	06/29/22 02:31	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		06/28/22 16:43	06/29/22 02:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*136*	*S1+*	*70 - 130*	*06/28/22 16:43*	*06/29/22 02:31*	*1*
o-Terphenyl	*122*		*70 - 130*	*06/28/22 16:43*	*06/29/22 02:31*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**492**		5.05	0.867	mg/Kg			06/30/22 12:12	1

Client Sample ID: BH-43

Date Collected: 06/24/22 10:50
Date Received: 06/27/22 10:15

Lab Sample ID: 880-16317-3
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		06/28/22 08:41	06/28/22 20:21	1
Toluene	<0.000458	U	0.00201	0.000458	mg/Kg		06/28/22 08:41	06/28/22 20:21	1
Ethylbenzene	<0.000567	U	0.00201	0.000567	mg/Kg		06/28/22 08:41	06/28/22 20:21	1
m-Xylene & p-Xylene	<0.00101	U	0.00402	0.00101	mg/Kg		06/28/22 08:41	06/28/22 20:21	1
o-Xylene	<0.000345	U	0.00201	0.000345	mg/Kg		06/28/22 08:41	06/28/22 20:21	1
Xylenes, Total	<0.00101	U	0.00402	0.00101	mg/Kg		06/28/22 08:41	06/28/22 20:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*06/28/22 08:41*	*06/28/22 20:21*	*1*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*	*06/28/22 08:41*	*06/28/22 20:21*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00402	0.00101	mg/Kg			06/29/22 14:44	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	50.0	15.0	mg/Kg			06/29/22 11:12	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		06/28/22 16:43	06/29/22 02:52	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		06/28/22 16:43	06/29/22 02:52	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merhcant Livestock 30

Job ID: 880-16317-1
SDG: Lea County NM

Client Sample ID: BH-43

Date Collected: 06/24/22 10:50
Date Received: 06/27/22 10:15

Lab Sample ID: 880-16317-3

Matrix: Solid

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oll Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		06/28/22 16:43	06/29/22 02:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*136*	*S1+*	*70 - 130*	*06/28/22 16:43*	*06/29/22 02:52*	*1*
o-Terphenyl	*122*		*70 - 130*	*06/28/22 16:43*	*06/29/22 02:52*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**424**		5.02	0.862	mg/Kg			06/30/22 12:21	1

Client Sample ID: BH-45

Date Collected: 06/24/22 11:10
Date Received: 06/27/22 10:15

Lab Sample ID: 880-16317-4

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		06/28/22 08:41	06/28/22 20:42	1
Toluene	<0.000454	U	0.00199	0.000454	mg/Kg		06/28/22 08:41	06/28/22 20:42	1
Ethylbenzene	<0.000563	U	0.00199	0.000563	mg/Kg		06/28/22 08:41	06/28/22 20:42	1
m-Xylene & p-Xylene	<0.00101	U	0.00398	0.00101	mg/Kg		06/28/22 08:41	06/28/22 20:42	1
o-Xylene	<0.000343	U	0.00199	0.000343	mg/Kg		06/28/22 08:41	06/28/22 20:42	1
Xylenes, Total	<0.00101	U	0.00398	0.00101	mg/Kg		06/28/22 08:41	06/28/22 20:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*06/28/22 08:41*	*06/28/22 20:42*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*06/28/22 08:41*	*06/28/22 20:42*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00398	0.00101	mg/Kg			06/29/22 14:44	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<14.9	U	49.8	14.9	mg/Kg			06/29/22 11:12	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<14.9	U	49.8	14.9	mg/Kg		06/28/22 16:43	06/29/22 03:14	1
Diesel Range Organics (Over C10-C28)	<14.9	U	49.8	14.9	mg/Kg		06/28/22 16:43	06/29/22 03:14	1
Oll Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		06/28/22 16:43	06/29/22 03:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*131*	*S1+*	*70 - 130*	*06/28/22 16:43*	*06/29/22 03:14*	*1*
o-Terphenyl	*118*		*70 - 130*	*06/28/22 16:43*	*06/29/22 03:14*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1170**		5.00	0.858	mg/Kg			06/30/22 12:30	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merhcant Livestock 30

Job ID: 880-16317-1
SDG: Lea County NM

Client Sample ID: BH-47

Date Collected: 06/24/22 11:30
Date Received: 06/27/22 10:15

Lab Sample ID: 880-16317-5
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000384	U	0.00200	0.000384	mg/Kg		06/28/22 08:41	06/28/22 21:03	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		06/28/22 08:41	06/28/22 21:03	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		06/28/22 08:41	06/28/22 21:03	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		06/28/22 08:41	06/28/22 21:03	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		06/28/22 08:41	06/28/22 21:03	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		06/28/22 08:41	06/28/22 21:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*06/28/22 08:41*	*06/28/22 21:03*	*1*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*06/28/22 08:41*	*06/28/22 21:03*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg			06/29/22 14:44	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	50.0	15.0	mg/Kg			06/29/22 11:12	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		06/28/22 16:43	06/29/22 03:35	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		06/28/22 16:43	06/29/22 03:35	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		06/28/22 16:43	06/29/22 03:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*119*		*70 - 130*	*06/28/22 16:43*	*06/29/22 03:35*	*1*
o-Terphenyl	*107*		*70 - 130*	*06/28/22 16:43*	*06/29/22 03:35*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**836**		4.99	0.857	mg/Kg			06/30/22 12:39	1

Client Sample ID: BH-48

Date Collected: 06/24/22 11:40
Date Received: 06/27/22 10:15

Lab Sample ID: 880-16317-6
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000388	U	0.00202	0.000388	mg/Kg		06/28/22 08:41	06/28/22 21:23	1
Toluene	<0.000460	U	0.00202	0.000460	mg/Kg		06/28/22 08:41	06/28/22 21:23	1
Ethylbenzene	<0.000570	U	0.00202	0.000570	mg/Kg		06/28/22 08:41	06/28/22 21:23	1
m-Xylene & p-Xylene	<0.00102	U	0.00403	0.00102	mg/Kg		06/28/22 08:41	06/28/22 21:23	1
o-Xylene	<0.000347	U	0.00202	0.000347	mg/Kg		06/28/22 08:41	06/28/22 21:23	1
Xylenes, Total	<0.00102	U	0.00403	0.00102	mg/Kg		06/28/22 08:41	06/28/22 21:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*06/28/22 08:41*	*06/28/22 21:23*	*1*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*	*06/28/22 08:41*	*06/28/22 21:23*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merhcant Livestock 30

Job ID: 880-16317-1
SDG: Lea County NM

Client Sample ID: BH-48

Date Collected: 06/24/22 11:40
Date Received: 06/27/22 10:15

Lab Sample ID: 880-16317-6
Matrix: Solid

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00102	U	0.00403	0.00102	mg/Kg			06/29/22 14:44	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	50.0	15.0	mg/Kg			06/29/22 11:12	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		06/28/22 16:43	06/29/22 03:56	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		06/28/22 16:43	06/29/22 03:56	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		06/28/22 16:43	06/29/22 03:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*127*		*70 - 130*	*06/28/22 16:43*	*06/29/22 03:56*	*1*
o-Terphenyl	*114*		*70 - 130*	*06/28/22 16:43*	*06/29/22 03:56*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**37.1**		4.99	0.857	mg/Kg			06/30/22 12:48	1

Client Sample ID: SW-8

Date Collected: 06/24/22 12:00
Date Received: 06/27/22 10:15

Lab Sample ID: 880-16317-7
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000382	U	0.00198	0.000382	mg/Kg		06/28/22 08:41	06/28/22 21:44	1
Toluene	<0.000452	U	0.00198	0.000452	mg/Kg		06/28/22 08:41	06/28/22 21:44	1
Ethylbenzene	<0.000561	U	0.00198	0.000561	mg/Kg		06/28/22 08:41	06/28/22 21:44	1
m-Xylene & p-Xylene	<0.00100	U	0.00397	0.00100	mg/Kg		06/28/22 08:41	06/28/22 21:44	1
o-Xylene	<0.000341	U	0.00198	0.000341	mg/Kg		06/28/22 08:41	06/28/22 21:44	1
Xylenes, Total	<0.00100	U	0.00397	0.00100	mg/Kg		06/28/22 08:41	06/28/22 21:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*06/28/22 08:41*	*06/28/22 21:44*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*06/28/22 08:41*	*06/28/22 21:44*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00397	0.00100	mg/Kg			06/29/22 14:44	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	49.9	15.0	mg/Kg			06/29/22 11:12	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	49.9	15.0	mg/Kg		06/28/22 16:43	06/29/22 04:38	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		06/28/22 16:43	06/29/22 04:38	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merhcant Livestock 30

Job ID: 880-16317-1
SDG: Lea County NM

Client Sample ID: SW-8
Date Collected: 06/24/22 12:00
Date Received: 06/27/22 10:15

Lab Sample ID: 880-16317-7
Matrix: Solid

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		06/28/22 16:43	06/29/22 04:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*133*	*S1+*	*70 - 130*	*06/28/22 16:43*	*06/29/22 04:38*	*1*
o-Terphenyl	*119*		*70 - 130*	*06/28/22 16:43*	*06/29/22 04:38*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**284**		4.97	0.853	mg/Kg			06/30/22 12:58	1

Surrogate Summary

Client: GHD Services Inc.
Project/Site: Merhcant Livestock 30

Job ID: 880-16317-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-16317-1	BH-41	87	112
880-16317-2	BH-42	88	119
880-16317-3	BH-43	94	112
880-16317-4	BH-45	94	108
880-16317-5	BH-47	90	110
880-16317-6	BH-48	90	112
880-16317-7	SW-8	96	108
LCS 880-28502/1-A	Lab Control Sample	101	104
LCSD 880-28502/2-A	Lab Control Sample Dup	102	102
MB 880-28502/5-A	Method Blank	89	113

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-16317-1	BH-41	131 S1+	118
880-16317-2	BH-42	136 S1+	122
880-16317-3	BH-43	136 S1+	122
880-16317-4	BH-45	131 S1+	118
880-16317-5	BH-47	119	107
880-16317-6	BH-48	127	114
880-16317-7	SW-8	133 S1+	119
LCS 880-28577/2-A	Lab Control Sample	122	105
LCSD 880-28577/3-A	Lab Control Sample Dup	131 S1+	112
MB 880-28577/1-A	Method Blank	128	116

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merhcant Livestock 30

Job ID: 880-16317-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-28502/5-A
Matrix: Solid
Analysis Batch: 28500

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28502

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		06/28/22 08:41	06/28/22 10:59	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		06/28/22 08:41	06/28/22 10:59	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		06/28/22 08:41	06/28/22 10:59	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		06/28/22 08:41	06/28/22 10:59	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		06/28/22 08:41	06/28/22 10:59	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		06/28/22 08:41	06/28/22 10:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*06/28/22 08:41*	*06/28/22 10:59*	*1*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*	*06/28/22 08:41*	*06/28/22 10:59*	*1*

Lab Sample ID: LCS 880-28502/1-A
Matrix: Solid
Analysis Batch: 28500

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28502

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.08737		mg/Kg		87	70 - 130		
Toluene			0.100	0.09682		mg/Kg		97	70 - 130		
Ethylbenzene			0.100	0.09282		mg/Kg		93	70 - 130		
m-Xylene & p-Xylene			0.200	0.1880		mg/Kg		94	70 - 130		
o-Xylene			0.100	0.09937		mg/Kg		99	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: LCSD 880-28502/2-A
Matrix: Solid
Analysis Batch: 28500

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 28502

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08991		mg/Kg		90	70 - 130	3	35
Toluene			0.100	0.1018		mg/Kg		102	70 - 130	5	35
Ethylbenzene			0.100	0.09827		mg/Kg		98	70 - 130	6	35
m-Xylene & p-Xylene			0.200	0.1988		mg/Kg		99	70 - 130	6	35
o-Xylene			0.100	0.1045		mg/Kg		105	70 - 130	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merhcant Livestock 30

Job ID: 880-16317-1
SDG: Lea County NM

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-28577/1-A
Matrix: Solid
Analysis Batch: 28522

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28577

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		06/28/22 16:43	06/28/22 22:59	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		06/28/22 16:43	06/28/22 22:59	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		06/28/22 16:43	06/28/22 22:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*128*		*70 - 130*	*06/28/22 16:43*	*06/28/22 22:59*	*1*
o-Terphenyl	*116*		*70 - 130*	*06/28/22 16:43*	*06/28/22 22:59*	*1*

Lab Sample ID: LCS 880-28577/2-A
Matrix: Solid
Analysis Batch: 28522

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28577

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1006		mg/Kg		101	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1017		mg/Kg		102	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*122*		*70 - 130*
o-Terphenyl	*105*		*70 - 130*

Lab Sample ID: LCSD 880-28577/3-A
Matrix: Solid
Analysis Batch: 28522

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 28577

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1091		mg/Kg		109	70 - 130	8	20
Diesel Range Organics (Over C10-C28)	1000	1083		mg/Kg		108	70 - 130	6	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*131*	*S1+*	*70 - 130*
o-Terphenyl	*112*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-28288/1-A
Matrix: Solid
Analysis Batch: 28657

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.858	U	5.00	0.858	mg/Kg			06/30/22 07:44	1

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merhcant Livestock 30

Job ID: 880-16317-1
SDG: Lea County NM

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-28288/2-A
Matrix: Solid
Analysis Batch: 28657

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	270.1		mg/Kg		108	90 - 110		

Lab Sample ID: LCSD 880-28288/3-A
Matrix: Solid
Analysis Batch: 28657

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	270.9		mg/Kg		108	90 - 110	0	20

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merhcant Livestock 30

Job ID: 880-16317-1
SDG: Lea County NM

GC VOA

Analysis Batch: 28500

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16317-1	BH-41	Total/NA	Solid	8021B	28502
880-16317-2	BH-42	Total/NA	Solid	8021B	28502
880-16317-3	BH-43	Total/NA	Solid	8021B	28502
880-16317-4	BH-45	Total/NA	Solid	8021B	28502
880-16317-5	BH-47	Total/NA	Solid	8021B	28502
880-16317-6	BH-48	Total/NA	Solid	8021B	28502
880-16317-7	SW-8	Total/NA	Solid	8021B	28502
MB 880-28502/5-A	Method Blank	Total/NA	Solid	8021B	28502
LCS 880-28502/1-A	Lab Control Sample	Total/NA	Solid	8021B	28502
LCSD 880-28502/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	28502

Prep Batch: 28502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16317-1	BH-41	Total/NA	Solid	5035	
880-16317-2	BH-42	Total/NA	Solid	5035	
880-16317-3	BH-43	Total/NA	Solid	5035	
880-16317-4	BH-45	Total/NA	Solid	5035	
880-16317-5	BH-47	Total/NA	Solid	5035	
880-16317-6	BH-48	Total/NA	Solid	5035	
880-16317-7	SW-8	Total/NA	Solid	5035	
MB 880-28502/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-28502/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-28502/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 28671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16317-1	BH-41	Total/NA	Solid	Total BTEX	
880-16317-2	BH-42	Total/NA	Solid	Total BTEX	
880-16317-3	BH-43	Total/NA	Solid	Total BTEX	
880-16317-4	BH-45	Total/NA	Solid	Total BTEX	
880-16317-5	BH-47	Total/NA	Solid	Total BTEX	
880-16317-6	BH-48	Total/NA	Solid	Total BTEX	
880-16317-7	SW-8	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 28522

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16317-1	BH-41	Total/NA	Solid	8015B NM	28577
880-16317-2	BH-42	Total/NA	Solid	8015B NM	28577
880-16317-3	BH-43	Total/NA	Solid	8015B NM	28577
880-16317-4	BH-45	Total/NA	Solid	8015B NM	28577
880-16317-5	BH-47	Total/NA	Solid	8015B NM	28577
880-16317-6	BH-48	Total/NA	Solid	8015B NM	28577
880-16317-7	SW-8	Total/NA	Solid	8015B NM	28577
MB 880-28577/1-A	Method Blank	Total/NA	Solid	8015B NM	28577
LCS 880-28577/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	28577
LCSD 880-28577/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	28577

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merhcant Livestock 30

Job ID: 880-16317-1
SDG: Lea County NM

GC Semi VOA

Prep Batch: 28577

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16317-1	BH-41	Total/NA	Solid	8015NM Prep	
880-16317-2	BH-42	Total/NA	Solid	8015NM Prep	
880-16317-3	BH-43	Total/NA	Solid	8015NM Prep	
880-16317-4	BH-45	Total/NA	Solid	8015NM Prep	
880-16317-5	BH-47	Total/NA	Solid	8015NM Prep	
880-16317-6	BH-48	Total/NA	Solid	8015NM Prep	
880-16317-7	SW-8	Total/NA	Solid	8015NM Prep	
MB 880-28577/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-28577/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-28577/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 28637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16317-1	BH-41	Total/NA	Solid	8015 NM	
880-16317-2	BH-42	Total/NA	Solid	8015 NM	
880-16317-3	BH-43	Total/NA	Solid	8015 NM	
880-16317-4	BH-45	Total/NA	Solid	8015 NM	
880-16317-5	BH-47	Total/NA	Solid	8015 NM	
880-16317-6	BH-48	Total/NA	Solid	8015 NM	
880-16317-7	SW-8	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 28288

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16317-1	BH-41	Soluble	Solid	DI Leach	
880-16317-2	BH-42	Soluble	Solid	DI Leach	
880-16317-3	BH-43	Soluble	Solid	DI Leach	
880-16317-4	BH-45	Soluble	Solid	DI Leach	
880-16317-5	BH-47	Soluble	Solid	DI Leach	
880-16317-6	BH-48	Soluble	Solid	DI Leach	
880-16317-7	SW-8	Soluble	Solid	DI Leach	
MB 880-28288/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-28288/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-28288/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 28657

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16317-1	BH-41	Soluble	Solid	300.0	28288
880-16317-2	BH-42	Soluble	Solid	300.0	28288
880-16317-3	BH-43	Soluble	Solid	300.0	28288
880-16317-4	BH-45	Soluble	Solid	300.0	28288
880-16317-5	BH-47	Soluble	Solid	300.0	28288
880-16317-6	BH-48	Soluble	Solid	300.0	28288
880-16317-7	SW-8	Soluble	Solid	300.0	28288
MB 880-28288/1-A	Method Blank	Soluble	Solid	300.0	28288
LCS 880-28288/2-A	Lab Control Sample	Soluble	Solid	300.0	28288
LCSD 880-28288/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	28288

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merhcant Livestock 30

Job ID: 880-16317-1
SDG: Lea County NM

Client Sample ID: BH-41
Date Collected: 06/24/22 10:30
Date Received: 06/27/22 10:15

Lab Sample ID: 880-16317-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	28502	06/28/22 08:41	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28500	06/28/22 19:40	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28671	06/29/22 14:44	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28637	06/29/22 11:12	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	28577	06/28/22 16:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28522	06/29/22 02:10	SM	XEN MID
Soluble	Leach	DI Leach			4.97 g	50 mL	28288	06/28/22 10:50	SMC	XEN MID
Soluble	Analysis	300.0		1			28657	06/30/22 12:02	CH	XEN MID

Client Sample ID: BH-42
Date Collected: 06/24/22 10:40
Date Received: 06/27/22 10:15

Lab Sample ID: 880-16317-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	28502	06/28/22 08:41	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28500	06/28/22 20:00	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28671	06/29/22 14:44	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28637	06/29/22 11:12	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	28577	06/28/22 16:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28522	06/29/22 02:31	SM	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	28288	06/28/22 10:50	SMC	XEN MID
Soluble	Analysis	300.0		1			28657	06/30/22 12:12	CH	XEN MID

Client Sample ID: BH-43
Date Collected: 06/24/22 10:50
Date Received: 06/27/22 10:15

Lab Sample ID: 880-16317-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	28502	06/28/22 08:41	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28500	06/28/22 20:21	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28671	06/29/22 14:44	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28637	06/29/22 11:12	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	28577	06/28/22 16:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28522	06/29/22 02:52	SM	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	28288	06/28/22 10:50	SMC	XEN MID
Soluble	Analysis	300.0		1			28657	06/30/22 12:21	CH	XEN MID

Client Sample ID: BH-45
Date Collected: 06/24/22 11:10
Date Received: 06/27/22 10:15

Lab Sample ID: 880-16317-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	28502	06/28/22 08:41	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28500	06/28/22 20:42	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28671	06/29/22 14:44	SM	XEN MID

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merhcant Livestock 30

Job ID: 880-16317-1
SDG: Lea County NM

Client Sample ID: BH-45
Date Collected: 06/24/22 11:10
Date Received: 06/27/22 10:15

Lab Sample ID: 880-16317-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			28637	06/29/22 11:12	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	28577	06/28/22 16:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28522	06/29/22 03:14	SM	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	28288	06/28/22 10:50	SMC	XEN MID
Soluble	Analysis	300.0		1			28657	06/30/22 12:30	CH	XEN MID

Client Sample ID: BH-47
Date Collected: 06/24/22 11:30
Date Received: 06/27/22 10:15

Lab Sample ID: 880-16317-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	28502	06/28/22 08:41	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28500	06/28/22 21:03	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28671	06/29/22 14:44	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28637	06/29/22 11:12	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	28577	06/28/22 16:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28522	06/29/22 03:35	SM	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	28288	06/28/22 10:50	SMC	XEN MID
Soluble	Analysis	300.0		1			28657	06/30/22 12:39	CH	XEN MID

Client Sample ID: BH-48
Date Collected: 06/24/22 11:40
Date Received: 06/27/22 10:15

Lab Sample ID: 880-16317-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	28502	06/28/22 08:41	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28500	06/28/22 21:23	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28671	06/29/22 14:44	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28637	06/29/22 11:12	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	28577	06/28/22 16:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28522	06/29/22 03:56	SM	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	28288	06/28/22 10:50	SMC	XEN MID
Soluble	Analysis	300.0		1			28657	06/30/22 12:48	CH	XEN MID

Client Sample ID: SW-8
Date Collected: 06/24/22 12:00
Date Received: 06/27/22 10:15

Lab Sample ID: 880-16317-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	28502	06/28/22 08:41	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28500	06/28/22 21:44	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28671	06/29/22 14:44	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28637	06/29/22 11:12	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	28577	06/28/22 16:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28522	06/29/22 04:38	SM	XEN MID

Eurofins Midland

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merhcant Livestock 30

Job ID: 880-16317-1
SDG: Lea County NM

Client Sample ID: SW-8
Date Collected: 06/24/22 12:00
Date Received: 06/27/22 10:15

Lab Sample ID: 880-16317-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.03 g	50 mL	28288	06/28/22 10:50	SMC	XEN MID
Soluble	Analysis	300.0		1			28657	06/30/22 12:58	CH	XEN MID

Laboratory References:

XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: GHD Services Inc.
Project/Site: Merhcant Livestock 30

Job ID: 880-16317-1
SDG: Lea County NM

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-21-22	06-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: GHD Services Inc.
Project/Site: Merhcant Livestock 30

Job ID: 880-16317-1
SDG: Lea County NM

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5035	Closed System Purge and Trap	SW846	XEN MID
8015NM Prep	Microextraction	SW846	XEN MID
DI Leach	Deionized Water Leaching Procedure	ASTM	XEN MID

Protocol References:

ASTM = ASTM International
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: GHD Services Inc.
Project/Site: Merhcant Livestock 30

Job ID: 880-16317-1
SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-16317-1	BH-41	Solid	06/24/22 10:30	06/27/22 10:15
880-16317-2	BH-42	Solid	06/24/22 10:40	06/27/22 10:15
880-16317-3	BH-43	Solid	06/24/22 10:50	06/27/22 10:15
880-16317-4	BH-45	Solid	06/24/22 11:10	06/27/22 10:15
880-16317-5	BH-47	Solid	06/24/22 11:30	06/27/22 10:15
880-16317-6	BH-48	Solid	06/24/22 11:40	06/27/22 10:15
880-16317-7	SW-8	Solid	06/24/22 12:00	06/27/22 10:15

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Xenco Laboratories

The Environmental Lab of Texas

880-16317 Chain of Custody

16317

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Becky.Haskell@GHD.com
Company Name: GHD
Company Address: 2135 S. Loop 250 W.
City/State/Zip: Midland, TX 79703
Telephone No: 432-686-0086
Fax No:
Sampler Signature:
e-mail: Heath.Boyd@GHD.com

Project Name: Merchant Livestock 30
Project #: 12581651
Project Loc: Lea County, NM
PO #:
Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #:

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water GW=Groundwater NP=Non-Potable SL=Sludge S=Soil/Solid Specify Other	Analyze For: TCLP TOTAL: TPH 418.1	TPH 8015M	TPH TX 1005	TX 1006	Cations (Ca Mg Na K)	Anions (Cl SO4 Alkalinity)	SAR / ESP / CEC	Metals As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	8015B (Chloride 300 m			PUSH TAT (Pre-Schedule) 24 48 72 hrs	Standard TAT
	BH-41			6/24/22	1030		1									S	X									X			X				X
	BH-42				1040		1										X									X			X				
	BH-43				1050		1										X									X			X				
	BH-45				1110		1										X									X			X				
	BH-47				1130		1										X									X			X				
	BH-48				1140		1										X									X			X				
	SW-8			X	1200		1									X	X									X			X				

Special Instructions: Please Email: Becky, Heath, Nikki.Mishler@cdevinc.com

Direct Bill to: Lotennial Resources Production, Attn: Nikki

Relinquished by	Date	Time	Received by	Date	Time
	6/24/22	1330		6-24 22	1.29
Relinquished by	Date	Time	Received by	Date	Time
	6 24-22	2.16		6/27/22	1015
Relinquished by	Date	Time	Received by ELOT	Date	Time

Laboratory Comments.

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep ?	Y	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt	As Read	Corrected
	3.2	3.0 °C

Received by OCD: 10/31/2022 6:36:00 AM

Released to Imaging: 11/28/2022 9:20:24 AM

7/1/2022

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 880-16317-1
SDG Number: Lea County NM

Login Number: 16317
List Number: 1
Creator: Rodriguez, Leticia

List Source: Eurofins Midland

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-16537-1
Laboratory Sample Delivery Group: Lea County NM
Client Project/Site: Merchant Livestock 30 - 12581651

For:
GHD Services Inc.
2135 South Loop 250 West
Midland, Texas 79703

Attn: Becky Haskell

Authorized for release by:
7/11/2022 5:13:34 PM

Debbie Simmons, Project Manager
(832)986-6768
Debbie.Simmons@et.eurofinsus.com

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30 - 12581651

Laboratory Job ID: 880-16537-1
SDG: Lea County NM

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Definitions/Glossary

Client: GHD Services Inc. Job ID: 880-16537-1
Project/Site: Merchant Livestock 30 - 12581651 SDG: Lea County NM

Qualifiers

GC VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: GHD Services Inc. Job ID: 880-16537-1
Project/Site: Merchant Livestock 30 - 12581651 SDG: Lea County NM

Job ID: 880-16537-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-16537-1

Receipt
The samples were received on 7/1/2022 10:46 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.4°C

GC VOA
Method 8021B: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-29220 and analytical batch 880-29366 recovered outside control limits for the following analytes: Ethylbenzene, m-Xylene & p-Xylene, o-Xylene and Xylenes, Total.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
Method 8015MOD_NM: The method blank for preparation batch 880-28906 and analytical batch 880-28973 contained Gasoline Range Organics (GRO)-C6-C10 and OII Range Organics (Over C28-C36) above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-28926 and analytical batch 880-29146 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30 - 12581651

Job ID: 880-16537-1
SDG: Lea County NM

Client Sample ID: BH-17

Date Collected: 06/30/22 10:30
Date Received: 07/01/22 10:46
Sample Depth: 3

Lab Sample ID: 880-16537-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000389	U	0.00202	0.000389	mg/Kg		07/07/22 15:17	07/11/22 00:24	1
Toluene	**0.00202**		0.00202	0.000461	mg/Kg		07/07/22 15:17	07/11/22 00:24	1
Ethylbenzene	<0.000571	U *1	0.00202	0.000571	mg/Kg		07/07/22 15:17	07/11/22 00:24	1
m-Xylene & p-Xylene	<0.00102	U *1	0.00404	0.00102	mg/Kg		07/07/22 15:17	07/11/22 00:24	1
o-Xylene	<0.000347	U *1	0.00202	0.000347	mg/Kg		07/07/22 15:17	07/11/22 00:24	1
Xylenes, Total	<0.00102	U *1	0.00404	0.00102	mg/Kg		07/07/22 15:17	07/11/22 00:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*121*		*70 - 130*	*07/07/22 15:17*	*07/11/22 00:24*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*07/07/22 15:17*	*07/11/22 00:24*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.00202**	**J**	0.00404	0.00102	mg/Kg			07/11/22 08:28	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**17.7**	**J**	49.9	15.0	mg/Kg			07/05/22 13:21	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	49.9	15.0	mg/Kg		07/01/22 16:31	07/04/22 16:18	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		07/01/22 16:31	07/04/22 16:18	1
Oil Range Organics (Over C28-C36)	**17.7**	**J B**	49.9	15.0	mg/Kg		07/01/22 16:31	07/04/22 16:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*77*		*70 - 130*	*07/01/22 16:31*	*07/04/22 16:18*	*1*
o-Terphenyl	*88*		*70 - 130*	*07/01/22 16:31*	*07/04/22 16:18*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**521**	**F1**	5.00	0.858	mg/Kg			07/07/22 10:23	1

Client Sample ID: BH-18

Date Collected: 06/30/22 10:40
Date Received: 07/01/22 10:46
Sample Depth: 3

Lab Sample ID: 880-16537-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000429	U	0.00223	0.000429	mg/Kg		07/07/22 15:17	07/11/22 00:45	1
Toluene	**0.00166**	**J**	0.00223	0.000508	mg/Kg		07/07/22 15:17	07/11/22 00:45	1
Ethylbenzene	<0.000629	U *1	0.00223	0.000629	mg/Kg		07/07/22 15:17	07/11/22 00:45	1
m-Xylene & p-Xylene	<0.00112	U *1	0.00445	0.00112	mg/Kg		07/07/22 15:17	07/11/22 00:45	1
o-Xylene	<0.000383	U *1	0.00223	0.000383	mg/Kg		07/07/22 15:17	07/11/22 00:45	1
Xylenes, Total	<0.00112	U *1	0.00445	0.00112	mg/Kg		07/07/22 15:17	07/11/22 00:45	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30 - 12581651

Job ID: 880-16537-1
SDG: Lea County NM

Client Sample ID: BH-18

Date Collected: 06/30/22 10:40
Date Received: 07/01/22 10:46
Sample Depth: 3

Lab Sample ID: 880-16537-2

Matrix: Solid

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*07/07/22 15:17*	*07/11/22 00:45*	*1*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*	*07/07/22 15:17*	*07/11/22 00:45*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.00166**	**J**	0.00445	0.00112	mg/Kg			07/11/22 08:28	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**16.8**	**J**	49.9	15.0	mg/Kg			07/05/22 13:21	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	49.9	15.0	mg/Kg		07/01/22 16:31	07/04/22 17:01	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		07/01/22 16:31	07/04/22 17:01	1
Oil Range Organics (Over C28-C36)	**16.8**	**J B**	49.9	15.0	mg/Kg		07/01/22 16:31	07/04/22 17:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*76*		*70 - 130*	*07/01/22 16:31*	*07/04/22 17:01*	*1*
o-Terphenyl	*91*		*70 - 130*	*07/01/22 16:31*	*07/04/22 17:01*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**719**		5.00	0.858	mg/Kg			07/07/22 11:53	1

Client Sample ID: BH-19

Date Collected: 06/30/22 10:50
Date Received: 07/01/22 10:46
Sample Depth: 3

Lab Sample ID: 880-16537-3

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		07/07/22 15:17	07/11/22 01:05	1
Toluene	**0.000546**	**J**	0.00199	0.000453	mg/Kg		07/07/22 15:17	07/11/22 01:05	1
Ethylbenzene	<0.000562	U *1	0.00199	0.000562	mg/Kg		07/07/22 15:17	07/11/22 01:05	1
m-Xylene & p-Xylene	<0.00100	U *1	0.00398	0.00100	mg/Kg		07/07/22 15:17	07/11/22 01:05	1
o-Xylene	<0.000342	U *1	0.00199	0.000342	mg/Kg		07/07/22 15:17	07/11/22 01:05	1
Xylenes, Total	<0.00100	U *1	0.00398	0.00100	mg/Kg		07/07/22 15:17	07/11/22 01:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*	*07/07/22 15:17*	*07/11/22 01:05*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*07/07/22 15:17*	*07/11/22 01:05*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00398	0.00100	mg/Kg			07/11/22 08:28	1

Client Sample Results

Client: GHD Services Inc. Job ID: 880-16537-1
Project/Site: Merchant Livestock 30 - 12581651 SDG: Lea County NM

Client Sample ID: BH-19 Lab Sample ID: 880-16537-3

Date Collected: 06/30/22 10:50 **Matrix: Solid**
Date Received: 07/01/22 10:46
Sample Depth: 3

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**16.5**	**J**	49.9	15.0	mg/Kg			07/05/22 13:21	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	49.9	15.0	mg/Kg		07/01/22 16:31	07/04/22 17:23	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		07/01/22 16:31	07/04/22 17:23	1
Oil Range Organics (Over C28-C36)	**16.5**	**J B**	49.9	15.0	mg/Kg		07/01/22 16:31	07/04/22 17:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*74*		*70 - 130*	*07/01/22 16:31*	*07/04/22 17:23*	*1*
o-Terphenyl	*88*		*70 - 130*	*07/01/22 16:31*	*07/04/22 17:23*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**572**		5.00	0.858	mg/Kg			07/07/22 12:01	1

Client Sample ID: BH-20 Lab Sample ID: 880-16537-4

Date Collected: 06/30/22 11:00 **Matrix: Solid**
Date Received: 07/01/22 10:46
Sample Depth: 3

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		07/07/22 15:17	07/11/22 01:25	1
Toluene	**0.000562**	**J**	0.00201	0.000459	mg/Kg		07/07/22 15:17	07/11/22 01:25	1
Ethylbenzene	<0.000568	U *1	0.00201	0.000568	mg/Kg		07/07/22 15:17	07/11/22 01:25	1
m-Xylene & p-Xylene	<0.00102	U *1	0.00402	0.00102	mg/Kg		07/07/22 15:17	07/11/22 01:25	1
o-Xylene	<0.000346	U *1	0.00201	0.000346	mg/Kg		07/07/22 15:17	07/11/22 01:25	1
Xylenes, Total	<0.00102	U *1	0.00402	0.00102	mg/Kg		07/07/22 15:17	07/11/22 01:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*07/07/22 15:17*	*07/11/22 01:25*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*07/07/22 15:17*	*07/11/22 01:25*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00102	U	0.00402	0.00102	mg/Kg			07/11/22 08:28	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**16.2**	**J**	50.0	15.0	mg/Kg			07/05/22 13:21	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		07/01/22 16:31	07/04/22 17:44	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		07/01/22 16:31	07/04/22 17:44	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30 - 12581651

Job ID: 880-16537-1
SDG: Lea County NM

Client Sample ID: BH-20

Lab Sample ID: 880-16537-4
Matrix: Solid
Date Collected: 06/30/22 11:00
Date Received: 07/01/22 10:46
Sample Depth: 3

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oll Range Organics (Over C28-C36)	16.2	J B	50.0	15.0	mg/Kg		07/01/22 16:31	07/04/22 17:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*73*		*70 - 130*	*07/01/22 16:31*	*07/04/22 17:44*	*1*
o-Terphenyl	*84*		*70 - 130*	*07/01/22 16:31*	*07/04/22 17:44*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	442		5.00	0.858	mg/Kg			07/07/22 15:59	1

Client Sample ID: BH-21

Lab Sample ID: 880-16537-5
Matrix: Solid
Date Collected: 06/30/22 11:10
Date Received: 07/01/22 10:46
Sample Depth: 3

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		07/07/22 15:17	07/11/22 01:46	1
Toluene	0.00106	J	0.00199	0.000453	mg/Kg		07/07/22 15:17	07/11/22 01:46	1
Ethylbenzene	<0.000562	U *1	0.00199	0.000562	mg/Kg		07/07/22 15:17	07/11/22 01:46	1
m-Xylene & p-Xylene	<0.00100	U *1	0.00398	0.00100	mg/Kg		07/07/22 15:17	07/11/22 01:46	1
o-Xylene	0.000351	J *1	0.00199	0.000342	mg/Kg		07/07/22 15:17	07/11/22 01:46	1
Xylenes, Total	<0.00100	U *1	0.00398	0.00100	mg/Kg		07/07/22 15:17	07/11/22 01:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*	*07/07/22 15:17*	*07/11/22 01:46*	*1*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*	*07/07/22 15:17*	*07/11/22 01:46*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.00141	J	0.00398	0.00100	mg/Kg			07/11/22 08:28	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	41.2	J	50.0	15.0	mg/Kg			07/05/22 13:21	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	17.9	J B	50.0	15.0	mg/Kg		07/01/22 16:31	07/04/22 18:06	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		07/01/22 16:31	07/04/22 18:06	1
Oll Range Organics (Over C28-C36)	23.3	J B	50.0	15.0	mg/Kg		07/01/22 16:31	07/04/22 18:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*85*		*70 - 130*	*07/01/22 16:31*	*07/04/22 18:06*	*1*
o-Terphenyl	*92*		*70 - 130*	*07/01/22 16:31*	*07/04/22 18:06*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30 - 12581651

Job ID: 880-16537-1
SDG: Lea County NM

Client Sample ID: BH-21

Lab Sample ID: 880-16537-5
Matrix: Solid
Date Collected: 06/30/22 11:10
Date Received: 07/01/22 10:46
Sample Depth: 3

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**498**		5.04	0.865	mg/Kg			07/07/22 16:07	1

Client Sample ID: BH-44

Lab Sample ID: 880-16537-6
Matrix: Solid
Date Collected: 06/30/22 11:20
Date Received: 07/01/22 10:46
Sample Depth: 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000381	U	0.00198	0.000381	mg/Kg		07/07/22 15:17	07/11/22 02:06	1
Toluene	**0.000485**	**J**	0.00198	0.000451	mg/Kg		07/07/22 15:17	07/11/22 02:06	1
Ethylbenzene	<0.000559	U *1	0.00198	0.000559	mg/Kg		07/07/22 15:17	07/11/22 02:06	1
m-Xylene & p-Xylene	<0.00100	U *1	0.00396	0.00100	mg/Kg		07/07/22 15:17	07/11/22 02:06	1
o-Xylene	<0.000341	U *1	0.00198	0.000341	mg/Kg		07/07/22 15:17	07/11/22 02:06	1
Xylenes, Total	<0.00100	U *1	0.00396	0.00100	mg/Kg		07/07/22 15:17	07/11/22 02:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*	*07/07/22 15:17*	*07/11/22 02:06*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*07/07/22 15:17*	*07/11/22 02:06*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00396	0.00100	mg/Kg			07/11/22 08:28	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**16.2**	**J**	49.9	15.0	mg/Kg			07/05/22 13:21	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	49.9	15.0	mg/Kg		07/01/22 16:31	07/04/22 18:28	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		07/01/22 16:31	07/04/22 18:28	1
Oil Range Organics (Over C28-C36)	**16.2**	**J B**	49.9	15.0	mg/Kg		07/01/22 16:31	07/04/22 18:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*85*		*70 - 130*	*07/01/22 16:31*	*07/04/22 18:28*	*1*
o-Terphenyl	*103*		*70 - 130*	*07/01/22 16:31*	*07/04/22 18:28*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**866**		4.99	0.857	mg/Kg			07/07/22 16:15	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30 - 12581651

Job ID: 880-16537-1
SDG: Lea County NM

Client Sample ID: BH-46

Date Collected: 06/30/22 11:30
Date Received: 07/01/22 10:46
Sample Depth: 4

Lab Sample ID: 880-16537-7
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000384	U	0.00200	0.000384	mg/Kg		07/07/22 15:17	07/11/22 02:27	1
Toluene	**0.000974**	**J**	0.00200	0.000455	mg/Kg		07/07/22 15:17	07/11/22 02:27	1
Ethylbenzene	<0.000564	U *1	0.00200	0.000564	mg/Kg		07/07/22 15:17	07/11/22 02:27	1
m-Xylene & p-Xylene	<0.00101	U *1	0.00399	0.00101	mg/Kg		07/07/22 15:17	07/11/22 02:27	1
o-Xylene	<0.000343	U *1	0.00200	0.000343	mg/Kg		07/07/22 15:17	07/11/22 02:27	1
Xylenes, Total	<0.00101	U *1	0.00399	0.00101	mg/Kg		07/07/22 15:17	07/11/22 02:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*	*07/07/22 15:17*	*07/11/22 02:27*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*07/07/22 15:17*	*07/11/22 02:27*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg			07/11/22 08:28	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**29.7**	**J**	49.8	14.9	mg/Kg			07/05/22 13:21	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**29.7**	**J B**	49.8	14.9	mg/Kg		07/01/22 16:31	07/04/22 18:49	1
Diesel Range Organics (Over C10-C28)	<14.9	U	49.8	14.9	mg/Kg		07/01/22 16:31	07/04/22 18:49	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		07/01/22 16:31	07/04/22 18:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*84*		*70 - 130*	*07/01/22 16:31*	*07/04/22 18:49*	*1*
o-Terphenyl	*99*		*70 - 130*	*07/01/22 16:31*	*07/04/22 18:49*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1900**		24.9	4.27	mg/Kg			07/07/22 16:23	5

Client Sample ID: SW-17

Date Collected: 06/30/22 11:40
Date Received: 07/01/22 10:46

Lab Sample ID: 880-16537-8
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		07/07/22 15:17	07/11/22 02:47	1
Toluene	<0.000459	U	0.00201	0.000459	mg/Kg		07/07/22 15:17	07/11/22 02:47	1
Ethylbenzene	<0.000568	U *1	0.00201	0.000568	mg/Kg		07/07/22 15:17	07/11/22 02:47	1
m-Xylene & p-Xylene	<0.00102	U *1	0.00402	0.00102	mg/Kg		07/07/22 15:17	07/11/22 02:47	1
o-Xylene	<0.000346	U *1	0.00201	0.000346	mg/Kg		07/07/22 15:17	07/11/22 02:47	1
Xylenes, Total	<0.00102	U *1	0.00402	0.00102	mg/Kg		07/07/22 15:17	07/11/22 02:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*	*07/07/22 15:17*	*07/11/22 02:47*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*07/07/22 15:17*	*07/11/22 02:47*	*1*

Eurofins Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30 - 12581651

Job ID: 880-16537-1
SDG: Lea County NM

Client Sample ID: SW-17

Date Collected: 06/30/22 11:40
Date Received: 07/01/22 10:46

Lab Sample ID: 880-16537-8

Matrix: Solid

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00102	U	0.00402	0.00102	mg/Kg			07/11/22 08:28	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**15.0**	**J**	50.0	15.0	mg/Kg			07/05/22 13:21	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		07/01/22 16:31	07/04/22 19:10	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		07/01/22 16:31	07/04/22 19:10	1
Oil Range Organics (Over C28-C36)	**15.0**	**J B**	50.0	15.0	mg/Kg		07/01/22 16:31	07/04/22 19:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*73*		*70 - 130*	*07/01/22 16:31*	*07/04/22 19:10*	*1*
o-Terphenyl	*85*		*70 - 130*	*07/01/22 16:31*	*07/04/22 19:10*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1830**		24.8	4.26	mg/Kg			07/07/22 16:31	5

Surrogate Summary

Client: GHD Services Inc. Job ID: 880-16537-1
Project/Site: Merchant Livestock 30 - 12581651 SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-16537-1	BH-17	121	95
880-16537-2	BH-18	102	81
880-16537-3	BH-19	118	97
880-16537-4	BH-20	116	94
880-16537-5	BH-21	118	85
880-16537-6	BH-44	115	93
880-16537-7	BH-46	115	91
880-16537-8	SW-17	120	92
LCS 880-29220/1-A	Lab Control Sample	110	101
LCSD 880-29220/2-A	Lab Control Sample Dup	105	98
MB 880-29220/5-A	Method Blank	103	94

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-16537-1	BH-17	77	88
880-16537-2	BH-18	76	91
880-16537-3	BH-19	74	88
880-16537-4	BH-20	73	84
880-16537-5	BH-21	85	92
880-16537-6	BH-44	85	103
880-16537-7	BH-46	84	99
880-16537-8	SW-17	73	85
LCS 880-28906/2-A	Lab Control Sample	93	99
LCSD 880-28906/3-A	Lab Control Sample Dup	105	113
MB 880-28906/1-A	Method Blank	85	101

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30 - 12581651

Job ID: 880-16537-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-29220/5-A
Matrix: Solid
Analysis Batch: 29366

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 29220

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		07/07/22 15:17	07/10/22 18:54	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		07/07/22 15:17	07/10/22 18:54	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		07/07/22 15:17	07/10/22 18:54	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		07/07/22 15:17	07/10/22 18:54	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		07/07/22 15:17	07/10/22 18:54	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		07/07/22 15:17	07/10/22 18:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*07/07/22 15:17*	*07/10/22 18:54*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*07/07/22 15:17*	*07/10/22 18:54*	*1*

Lab Sample ID: LCS 880-29220/1-A
Matrix: Solid
Analysis Batch: 29366

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 29220

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1122		mg/Kg		112	70 - 130		
Toluene			0.100	0.1093		mg/Kg		109	70 - 130		
Ethylbenzene			0.100	0.1142		mg/Kg		114	70 - 130		
m-Xylene & p-Xylene			0.200	0.2357		mg/Kg		118	70 - 130		
o-Xylene			0.100	0.1180		mg/Kg		118	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 880-29220/2-A
Matrix: Solid
Analysis Batch: 29366

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 29220

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09305		mg/Kg		93	70 - 130	19	35
Toluene			0.100	0.08303		mg/Kg		83	70 - 130	27	35
Ethylbenzene			0.100	0.07760	*1	mg/Kg		78	70 - 130	38	35
m-Xylene & p-Xylene			0.200	0.1584	*1	mg/Kg		79	70 - 130	39	35
o-Xylene			0.100	0.08117	*1	mg/Kg		81	70 - 130	37	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

QC Sample Results

Client: GHD Services Inc. Job ID: 880-16537-1
Project/Site: Merchant Livestock 30 - 12581651 SDG: Lea County NM

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-28906/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 28973 **Prep Batch: 28906**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	19.62	J	50.0	15.0	mg/Kg		07/01/22 16:31	07/04/22 11:12	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		07/01/22 16:31	07/04/22 11:12	1
Oil Range Organics (Over C28-C36)	20.52	J	50.0	15.0	mg/Kg		07/01/22 16:31	07/04/22 11:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*85*		*70 - 130*	*07/01/22 16:31*	*07/04/22 11:12*	*1*
o-Terphenyl	*101*		*70 - 130*	*07/01/22 16:31*	*07/04/22 11:12*	*1*

Lab Sample ID: LCS 880-28906/2-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 28973 **Prep Batch: 28906**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	815.5		mg/Kg		82	70 - 130
Diesel Range Organics (Over C10-C28)	1000	936.0		mg/Kg		94	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*93*		*70 - 130*
o-Terphenyl	*99*		*70 - 130*

Lab Sample ID: LCSD 880-28906/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 28973 **Prep Batch: 28906**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	873.9		mg/Kg		87	70 - 130	7	20
Diesel Range Organics (Over C10-C28)	1000	1077		mg/Kg		108	70 - 130	14	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*105*		*70 - 130*
o-Terphenyl	*113*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-28926/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Soluble**
Analysis Batch: 29146

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.858	U	5.00	0.858	mg/Kg			07/07/22 06:39	1

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30 - 12581651

Job ID: 880-16537-1
SDG: Lea County NM

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-28926/2-A
Matrix: Solid
Analysis Batch: 29146

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	239.6		mg/Kg		96	90 - 110

Lab Sample ID: LCSD 880-28926/3-A
Matrix: Solid
Analysis Batch: 29146

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	241.3		mg/Kg		97	90 - 110	1	20

Lab Sample ID: 880-16537-1 MS
Matrix: Solid
Analysis Batch: 29146

Client Sample ID: BH-17
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	521	F1	250	743.7	F1	mg/Kg		89	90 - 110

Lab Sample ID: 880-16537-1 MSD
Matrix: Solid
Analysis Batch: 29146

Client Sample ID: BH-17
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	521	F1	250	759.5		mg/Kg		95	90 - 110	2	20

QC Association Summary

Client: GHD Services Inc. Job ID: 880-16537-1
Project/Site: Merchant Livestock 30 - 12581651 SDG: Lea County NM

GC VOA

Prep Batch: 29220

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16537-1	BH-17	Total/NA	Solid	5035	
880-16537-2	BH-18	Total/NA	Solid	5035	
880-16537-3	BH-19	Total/NA	Solid	5035	
880-16537-4	BH-20	Total/NA	Solid	5035	
880-16537-5	BH-21	Total/NA	Solid	5035	
880-16537-6	BH-44	Total/NA	Solid	5035	
880-16537-7	BH-46	Total/NA	Solid	5035	
880-16537-8	SW-17	Total/NA	Solid	5035	
MB 880-29220/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-29220/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-29220/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 29366

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16537-1	BH-17	Total/NA	Solid	8021B	29220
880-16537-2	BH-18	Total/NA	Solid	8021B	29220
880-16537-3	BH-19	Total/NA	Solid	8021B	29220
880-16537-4	BH-20	Total/NA	Solid	8021B	29220
880-16537-5	BH-21	Total/NA	Solid	8021B	29220
880-16537-6	BH-44	Total/NA	Solid	8021B	29220
880-16537-7	BH-46	Total/NA	Solid	8021B	29220
880-16537-8	SW-17	Total/NA	Solid	8021B	29220
MB 880-29220/5-A	Method Blank	Total/NA	Solid	8021B	29220
LCS 880-29220/1-A	Lab Control Sample	Total/NA	Solid	8021B	29220
LCSD 880-29220/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	29220

Analysis Batch: 29385

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16537-1	BH-17	Total/NA	Solid	Total BTEX	
880-16537-2	BH-18	Total/NA	Solid	Total BTEX	
880-16537-3	BH-19	Total/NA	Solid	Total BTEX	
880-16537-4	BH-20	Total/NA	Solid	Total BTEX	
880-16537-5	BH-21	Total/NA	Solid	Total BTEX	
880-16537-6	BH-44	Total/NA	Solid	Total BTEX	
880-16537-7	BH-46	Total/NA	Solid	Total BTEX	
880-16537-8	SW-17	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 28906

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16537-1	BH-17	Total/NA	Solid	8015NM Prep	
880-16537-2	BH-18	Total/NA	Solid	8015NM Prep	
880-16537-3	BH-19	Total/NA	Solid	8015NM Prep	
880-16537-4	BH-20	Total/NA	Solid	8015NM Prep	
880-16537-5	BH-21	Total/NA	Solid	8015NM Prep	
880-16537-6	BH-44	Total/NA	Solid	8015NM Prep	
880-16537-7	BH-46	Total/NA	Solid	8015NM Prep	
880-16537-8	SW-17	Total/NA	Solid	8015NM Prep	
MB 880-28906/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-28906/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: GHD Services Inc. Job ID: 880-16537-1
Project/Site: Merchant Livestock 30 - 12581651 SDG: Lea County NM

GC Semi VOA (Continued)

Prep Batch: 28906 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-28906/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 28973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16537-1	BH-17	Total/NA	Solid	8015B NM	28906
880-16537-2	BH-18	Total/NA	Solid	8015B NM	28906
880-16537-3	BH-19	Total/NA	Solid	8015B NM	28906
880-16537-4	BH-20	Total/NA	Solid	8015B NM	28906
880-16537-5	BH-21	Total/NA	Solid	8015B NM	28906
880-16537-6	BH-44	Total/NA	Solid	8015B NM	28906
880-16537-7	BH-46	Total/NA	Solid	8015B NM	28906
880-16537-8	SW-17	Total/NA	Solid	8015B NM	28906
MB 880-28906/1-A	Method Blank	Total/NA	Solid	8015B NM	28906
LCS 880-28906/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	28906
LCSD 880-28906/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	28906

Analysis Batch: 29041

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16537-1	BH-17	Total/NA	Solid	8015 NM	
880-16537-2	BH-18	Total/NA	Solid	8015 NM	
880-16537-3	BH-19	Total/NA	Solid	8015 NM	
880-16537-4	BH-20	Total/NA	Solid	8015 NM	
880-16537-5	BH-21	Total/NA	Solid	8015 NM	
880-16537-6	BH-44	Total/NA	Solid	8015 NM	
880-16537-7	BH-46	Total/NA	Solid	8015 NM	
880-16537-8	SW-17	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 28926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16537-1	BH-17	Soluble	Solid	DI Leach	
880-16537-2	BH-18	Soluble	Solid	DI Leach	
880-16537-3	BH-19	Soluble	Solid	DI Leach	
880-16537-4	BH-20	Soluble	Solid	DI Leach	
880-16537-5	BH-21	Soluble	Solid	DI Leach	
880-16537-6	BH-44	Soluble	Solid	DI Leach	
880-16537-7	BH-46	Soluble	Solid	DI Leach	
880-16537-8	SW-17	Soluble	Solid	DI Leach	
MB 880-28926/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-28926/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-28926/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-16537-1 MS	BH-17	Soluble	Solid	DI Leach	
880-16537-1 MSD	BH-17	Soluble	Solid	DI Leach	

Analysis Batch: 29146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16537-1	BH-17	Soluble	Solid	300.0	28926
880-16537-2	BH-18	Soluble	Solid	300.0	28926
880-16537-3	BH-19	Soluble	Solid	300.0	28926
880-16537-4	BH-20	Soluble	Solid	300.0	28926

QC Association Summary

Client: GHD Services Inc. Job ID: 880-16537-1
Project/Site: Merchant Livestock 30 - 12581651 SDG: Lea County NM

HPLC/IC (Continued)

Analysis Batch: 29146 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16537-5	BH-21	Soluble	Solid	300.0	28926
880-16537-6	BH-44	Soluble	Solid	300.0	28926
880-16537-7	BH-46	Soluble	Solid	300.0	28926
880-16537-8	SW-17	Soluble	Solid	300.0	28926
MB 880-28926/1-A	Method Blank	Soluble	Solid	300.0	28926
LCS 880-28926/2-A	Lab Control Sample	Soluble	Solid	300.0	28926
LCSD 880-28926/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	28926
880-16537-1 MS	BH-17	Soluble	Solid	300.0	28926
880-16537-1 MSD	BH-17	Soluble	Solid	300.0	28926

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30 - 12581651

Job ID: 880-16537-1
SDG: Lea County NM

Client Sample ID: BH-17
Date Collected: 06/30/22 10:30
Date Received: 07/01/22 10:46

Lab Sample ID: 880-16537-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	29220	07/07/22 15:17	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	29366	07/11/22 00:24	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29385	07/11/22 08:28	MR	XEN MID
Total/NA	Analysis	8015 NM		1			29041	07/05/22 13:21	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	28906	07/01/22 16:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28973	07/04/22 16:18	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	28926	07/02/22 12:28	SMC	XEN MID
Soluble	Analysis	300.0		1			29146	07/07/22 10:23	CH	XEN MID

Client Sample ID: BH-18
Date Collected: 06/30/22 10:40
Date Received: 07/01/22 10:46

Lab Sample ID: 880-16537-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.49 g	5 mL	29220	07/07/22 15:17	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	29366	07/11/22 00:45	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29385	07/11/22 08:28	MR	XEN MID
Total/NA	Analysis	8015 NM		1			29041	07/05/22 13:21	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	28906	07/01/22 16:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28973	07/04/22 17:01	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	28926	07/02/22 12:28	SMC	XEN MID
Soluble	Analysis	300.0		1			29146	07/07/22 11:53	CH	XEN MID

Client Sample ID: BH-19
Date Collected: 06/30/22 10:50
Date Received: 07/01/22 10:46

Lab Sample ID: 880-16537-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	29220	07/07/22 15:17	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	29366	07/11/22 01:05	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29385	07/11/22 08:28	MR	XEN MID
Total/NA	Analysis	8015 NM		1			29041	07/05/22 13:21	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	28906	07/01/22 16:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28973	07/04/22 17:23	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	28926	07/02/22 12:28	SMC	XEN MID
Soluble	Analysis	300.0		1			29146	07/07/22 12:01	CH	XEN MID

Client Sample ID: BH-20
Date Collected: 06/30/22 11:00
Date Received: 07/01/22 10:46

Lab Sample ID: 880-16537-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	29220	07/07/22 15:17	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	29366	07/11/22 01:25	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29385	07/11/22 08:28	MR	XEN MID

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30 - 12581651

Job ID: 880-16537-1
SDG: Lea County NM

Client Sample ID: BH-20
Date Collected: 06/30/22 11:00
Date Received: 07/01/22 10:46

Lab Sample ID: 880-16537-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			29041	07/05/22 13:21	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	28906	07/01/22 16:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28973	07/04/22 17:44	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	28926	07/02/22 12:28	SMC	XEN MID
Soluble	Analysis	300.0		1			29146	07/07/22 15:59	CH	XEN MID

Client Sample ID: BH-21
Date Collected: 06/30/22 11:10
Date Received: 07/01/22 10:46

Lab Sample ID: 880-16537-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	29220	07/07/22 15:17	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	29366	07/11/22 01:46	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29385	07/11/22 08:28	MR	XEN MID
Total/NA	Analysis	8015 NM		1			29041	07/05/22 13:21	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	28906	07/01/22 16:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28973	07/04/22 18:06	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	28926	07/02/22 12:28	SMC	XEN MID
Soluble	Analysis	300.0		1			29146	07/07/22 16:07	CH	XEN MID

Client Sample ID: BH-44
Date Collected: 06/30/22 11:20
Date Received: 07/01/22 10:46

Lab Sample ID: 880-16537-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	29220	07/07/22 15:17	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	29366	07/11/22 02:06	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29385	07/11/22 08:28	MR	XEN MID
Total/NA	Analysis	8015 NM		1			29041	07/05/22 13:21	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	28906	07/01/22 16:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28973	07/04/22 18:28	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	28926	07/02/22 12:28	SMC	XEN MID
Soluble	Analysis	300.0		1			29146	07/07/22 16:15	CH	XEN MID

Client Sample ID: BH-46
Date Collected: 06/30/22 11:30
Date Received: 07/01/22 10:46

Lab Sample ID: 880-16537-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	29220	07/07/22 15:17	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	29366	07/11/22 02:27	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29385	07/11/22 08:28	MR	XEN MID
Total/NA	Analysis	8015 NM		1			29041	07/05/22 13:21	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	28906	07/01/22 16:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28973	07/04/22 18:49	AJ	XEN MID

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30 - 12581651

Job ID: 880-16537-1
SDG: Lea County NM

Client Sample ID: BH-46
Date Collected: 06/30/22 11:30
Date Received: 07/01/22 10:46

Lab Sample ID: 880-16537-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.03 g	50 mL	28926	07/02/22 12:28	SMC	XEN MID
Soluble	Analysis	300.0		5			29146	07/07/22 16:23	CH	XEN MID

Client Sample ID: SW-17
Date Collected: 06/30/22 11:40
Date Received: 07/01/22 10:46

Lab Sample ID: 880-16537-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	29220	07/07/22 15:17	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	29366	07/11/22 02:47	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29385	07/11/22 08:28	MR	XEN MID
Total/NA	Analysis	8015 NM		1			29041	07/05/22 13:21	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	28906	07/01/22 16:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28973	07/04/22 19:10	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	28926	07/02/22 12:28	SMC	XEN MID
Soluble	Analysis	300.0		5			29146	07/07/22 16:31	CH	XEN MID

Laboratory References:

XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: GHD Services Inc.
Job ID: 880-16537-1
Project/Site: Merchant Livestock 30 - 12581651
SDG: Lea County NM

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30 - 12581651

Job ID: 880-16537-1
SDG: Lea County NM

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5035	Closed System Purge and Trap	SW846	XEN MID
8015NM Prep	Microextraction	SW846	XEN MID
DI Leach	Deionized Water Leaching Procedure	ASTM	XEN MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30 - 12581651

Job ID: 880-16537-1
SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-16537-1	BH-17	Solid	06/30/22 10:30	07/01/22 10:46	3
880-16537-2	BH-18	Solid	06/30/22 10:40	07/01/22 10:46	3
880-16537-3	BH-19	Solid	06/30/22 10:50	07/01/22 10:46	3
880-16537-4	BH-20	Solid	06/30/22 11:00	07/01/22 10:46	3
880-16537-5	BH-21	Solid	06/30/22 11:10	07/01/22 10:46	3
880-16537-6	BH-44	Solid	06/30/22 11:20	07/01/22 10:46	4
880-16537-7	BH-46	Solid	06/30/22 11:30	07/01/22 10:46	4
880-16537-8	SW-17	Solid	06/30/22 11:40	07/01/22 10:46	

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Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Becky.Haskell@GHD.com
Company Name: GHD
Company Address: 2135 S. Loop 250 W.
City/State/Zip: Midland, TX 79703
Telephone No: 432-686-0086
Fax No:
Sampler Signature:
e-mail: Heath.Boyd@GHD.com

Project Name: Merchant Livestock 30
Project #: 12581651
Project Loc: Lea County, NM
PO #:
Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #: 880-16537 Chain of Custody

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge; GW=Groundwater S=Soil/Solid; NP=Non-Potable Specify Other	Analyze For: TPH 8015B	TPH 8015M 418.1	TPH TX 1005	TPH TX 1006	Cations (Ca Mg Na, K)	Anions (Cl SO4 Alkalinity)	SAR / ESP / CEC	TCLP Metals As Ag Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semivolatiles	TOTAL BTEX 8021B/5030 or BTEX 8260	RCI	N O R M.	Chloride M 300		RUSH TAT (Pre-Schedule) 24 48 72 hrs	Standard TAT
	BH-17	3'		6/30/22	1030		1							✓		S	X										X			X			X
	BH-18				1040		1							✓		S	X										X			X			X
	BH-19				1050		1							✓		S	X										X			X			X
	BH-20				1100		1							✓		S	X										X			X			X
	BH-21	↓			1110		1							✓		S	X										X			X			X
	BH-44	4'			1120		1							✓		S	X										X			X			X
	BH-46				1130		1							✓		S	X										X			X			X
	SW-17	↓	Surf	↓	1140		1							✓		S	X										X			X			X

Special Instructions: Please Email: Becky.Heath Nikki.Mishler@cdevinc.com

Direct Bill to: Centennial Resource Development Attn: Nikki

Relinquished by	Date	Time	Received by	Date	Time
	6/30/22			6-30	2'48
Relinquished by	Date	Time	Received by	Date	Time
			KRAMER	7.1.22	1046
Relinquished by	Date	Time	Received by ELOT	Date	Time

Laboratory Comments

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep ?	Y	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt	As Read	Corrected
	2.6	2.4 °C

7/11/2022

Received by OCD: 10/31/2022 6:36:00 AM

Released to Imaging: 11/28/2022 9:20:24 AM

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 880-16537-1
SDG Number: Lea County NM

Login Number: 16537
List Number: 1
Creator: Kramer, Jessica

List Source: Eurofins Midland

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-16613-1
Laboratory Sample Delivery Group: Lea County, NM
Client Project/Site: Merchant Livestock 30

For:
GHD Services Inc.
2135 South Loop 250 West
Midland, Texas 79703

Attn: Becky Haskell

Authorized for release by:
7/14/2022 5:53:40 PM

Debbie Simmons, Project Manager
(832)986-6768
Debbie.Simmons@et.eurofinsus.com

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Laboratory Job ID: 880-16613-1
SDG: Lea County, NM

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Definitions/Glossary

Client: GHD Services Inc. Job ID: 880-16613-1
Project/Site: Merchant Livestock 30 SDG: Lea County, NM

Qualifiers

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16613-1
SDG: Lea County, NM

Job ID: 880-16613-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-16613-1

Receipt
The samples were received on 7/6/2022 11:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.1°C

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-29095 and analytical batch 880-29112 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: BH-27 (880-16613-6). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The method blank for preparation batch 880-29095 and analytical batch 880-29112 contained Gasoline Range Organics (GRO)-C6-C10 and OII Range Organics (Over C28-C36) above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16613-1
SDG: Lea County, NM

Client Sample ID: BH-22

Date Collected: 07/01/22 07:50
Date Received: 07/06/22 11:00
Sample Depth: 3'

Lab Sample ID: 880-16613-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000382	U	0.00198	0.000382	mg/Kg		07/12/22 15:00	07/13/22 13:40	1
Toluene	<0.000452	U	0.00198	0.000452	mg/Kg		07/12/22 15:00	07/13/22 13:40	1
Ethylbenzene	<0.000561	U	0.00198	0.000561	mg/Kg		07/12/22 15:00	07/13/22 13:40	1
m-Xylene & p-Xylene	<0.00100	U	0.00397	0.00100	mg/Kg		07/12/22 15:00	07/13/22 13:40	1
o-Xylene	<0.000341	U	0.00198	0.000341	mg/Kg		07/12/22 15:00	07/13/22 13:40	1
Xylenes, Total	<0.00100	U	0.00397	0.00100	mg/Kg		07/12/22 15:00	07/13/22 13:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*07/12/22 15:00*	*07/13/22 13:40*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*07/12/22 15:00*	*07/13/22 13:40*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00397	0.00100	mg/Kg			07/13/22 16:03	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**20.8**	**J**	49.8	14.9	mg/Kg			07/07/22 09:01	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<14.9	U	49.8	14.9	mg/Kg		07/06/22 13:15	07/07/22 03:08	1
Diesel Range Organics (Over C10-C28)	<14.9	U	49.8	14.9	mg/Kg		07/06/22 13:15	07/07/22 03:08	1
Oil Range Organics (Over C28-C36)	**20.8**	**J B**	49.8	14.9	mg/Kg		07/06/22 13:15	07/07/22 03:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*86*		*70 - 130*	*07/06/22 13:15*	*07/07/22 03:08*	*1*
o-Terphenyl	*84*		*70 - 130*	*07/06/22 13:15*	*07/07/22 03:08*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**104**		4.99	0.857	mg/Kg			07/10/22 10:15	1

Client Sample ID: BH-23

Date Collected: 07/01/22 08:00
Date Received: 07/06/22 11:00
Sample Depth: 3'

Lab Sample ID: 880-16613-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		07/12/22 15:00	07/13/22 14:01	1
Toluene	<0.000458	U	0.00201	0.000458	mg/Kg		07/12/22 15:00	07/13/22 14:01	1
Ethylbenzene	<0.000567	U	0.00201	0.000567	mg/Kg		07/12/22 15:00	07/13/22 14:01	1
m-Xylene & p-Xylene	<0.00101	U	0.00402	0.00101	mg/Kg		07/12/22 15:00	07/13/22 14:01	1
o-Xylene	<0.000345	U	0.00201	0.000345	mg/Kg		07/12/22 15:00	07/13/22 14:01	1
Xylenes, Total	<0.00101	U	0.00402	0.00101	mg/Kg		07/12/22 15:00	07/13/22 14:01	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16613-1
SDG: Lea County, NM

Client Sample ID: BH-23
Date Collected: 07/01/22 08:00
Date Received: 07/06/22 11:00
Sample Depth: 3'

Lab Sample ID: 880-16613-2
Matrix: Solid

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*07/12/22 15:00*	*07/13/22 14:01*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*07/12/22 15:00*	*07/13/22 14:01*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00402	0.00101	mg/Kg			07/13/22 16:03	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**19.5**	**J**	49.8	14.9	mg/Kg			07/07/22 09:01	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<14.9	U	49.8	14.9	mg/Kg		07/06/22 13:15	07/07/22 03:28	1
Diesel Range Organics (Over C10-C28)	<14.9	U	49.8	14.9	mg/Kg		07/06/22 13:15	07/07/22 03:28	1
Oil Range Organics (Over C28-C36)	**19.5**	**J B**	49.8	14.9	mg/Kg		07/06/22 13:15	07/07/22 03:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*91*		*70 - 130*	*07/06/22 13:15*	*07/07/22 03:28*	*1*
o-Terphenyl	*84*		*70 - 130*	*07/06/22 13:15*	*07/07/22 03:28*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**84.6**		5.01	0.860	mg/Kg			07/10/22 10:43	1

Client Sample ID: BH-24
Date Collected: 07/01/22 08:10
Date Received: 07/06/22 11:00
Sample Depth: 3'

Lab Sample ID: 880-16613-3
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000384	U	0.00200	0.000384	mg/Kg		07/12/22 15:00	07/13/22 14:21	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		07/12/22 15:00	07/13/22 14:21	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		07/12/22 15:00	07/13/22 14:21	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		07/12/22 15:00	07/13/22 14:21	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		07/12/22 15:00	07/13/22 14:21	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		07/12/22 15:00	07/13/22 14:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*07/12/22 15:00*	*07/13/22 14:21*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*07/12/22 15:00*	*07/13/22 14:21*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg			07/13/22 16:03	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16613-1
SDG: Lea County, NM

Client Sample ID: BH-24

Lab Sample ID: 880-16613-3
Matrix: Solid
Date Collected: 07/01/22 08:10
Date Received: 07/06/22 11:00
Sample Depth: 3'

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**19.1**	**J**	49.9	15.0	mg/Kg			07/07/22 09:01	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	49.9	15.0	mg/Kg		07/06/22 13:15	07/07/22 03:49	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		07/06/22 13:15	07/07/22 03:49	1
Oil Range Organics (Over C28-C36)	**19.1**	**J B**	49.9	15.0	mg/Kg		07/06/22 13:15	07/07/22 03:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*07/06/22 13:15*	*07/07/22 03:49*	*1*
o-Terphenyl	*84*		*70 - 130*	*07/06/22 13:15*	*07/07/22 03:49*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**100**		4.99	0.857	mg/Kg			07/10/22 10:52	1

Client Sample ID: BH-25

Lab Sample ID: 880-16613-4
Matrix: Solid
Date Collected: 07/01/22 08:20
Date Received: 07/06/22 11:00
Sample Depth: 3'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		07/12/22 15:00	07/13/22 14:42	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		07/12/22 15:00	07/13/22 14:42	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		07/12/22 15:00	07/13/22 14:42	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		07/12/22 15:00	07/13/22 14:42	1
o-Xylene	<0.000342	U	0.00199	0.000342	mg/Kg		07/12/22 15:00	07/13/22 14:42	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		07/12/22 15:00	07/13/22 14:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*07/12/22 15:00*	*07/13/22 14:42*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*07/12/22 15:00*	*07/13/22 14:42*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00398	0.00100	mg/Kg			07/13/22 16:03	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**37.6**	**J**	50.0	15.0	mg/Kg			07/07/22 09:01	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**17.2**	**J B**	50.0	15.0	mg/Kg		07/06/22 13:15	07/07/22 04:09	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		07/06/22 13:15	07/07/22 04:09	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16613-1
SDG: Lea County, NM

Client Sample ID: BH-25

Date Collected: 07/01/22 08:20
Date Received: 07/06/22 11:00
Sample Depth: 3'

Lab Sample ID: 880-16613-4
Matrix: Solid

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (Over C28-C36)	**20.4**	**J B**	50.0	15.0	mg/Kg		07/06/22 13:15	07/07/22 04:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*07/06/22 13:15*	*07/07/22 04:09*	*1*
o-Terphenyl	*86*		*70 - 130*	*07/06/22 13:15*	*07/07/22 04:09*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2960**		25.3	4.33	mg/Kg			07/10/22 11:01	5

Client Sample ID: BH-26

Date Collected: 07/01/22 08:30
Date Received: 07/06/22 11:00
Sample Depth: 3'

Lab Sample ID: 880-16613-5
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		07/12/22 15:00	07/13/22 15:02	1
Toluene	<0.000459	U	0.00201	0.000459	mg/Kg		07/12/22 15:00	07/13/22 15:02	1
Ethylbenzene	<0.000568	U	0.00201	0.000568	mg/Kg		07/12/22 15:00	07/13/22 15:02	1
m-Xylene & p-Xylene	<0.00102	U	0.00402	0.00102	mg/Kg		07/12/22 15:00	07/13/22 15:02	1
o-Xylene	<0.000346	U	0.00201	0.000346	mg/Kg		07/12/22 15:00	07/13/22 15:02	1
Xylenes, Total	<0.00102	U	0.00402	0.00102	mg/Kg		07/12/22 15:00	07/13/22 15:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*07/12/22 15:00*	*07/13/22 15:02*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*07/12/22 15:00*	*07/13/22 15:02*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00102	U	0.00402	0.00102	mg/Kg			07/13/22 16:03	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**22.1**	**J**	50.0	15.0	mg/Kg			07/07/22 09:01	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		07/06/22 13:15	07/07/22 04:29	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		07/06/22 13:15	07/07/22 04:29	1
Oil Range Organics (Over C28-C36)	**22.1**	**J B**	50.0	15.0	mg/Kg		07/06/22 13:15	07/07/22 04:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*92*		*70 - 130*	*07/06/22 13:15*	*07/07/22 04:29*	*1*
o-Terphenyl	*84*		*70 - 130*	*07/06/22 13:15*	*07/07/22 04:29*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16613-1
SDG: Lea County, NM

Client Sample ID: BH-26

Lab Sample ID: 880-16613-5
Matrix: Solid
Date Collected: 07/01/22 08:30
Date Received: 07/06/22 11:00
Sample Depth: 3'

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2040**		24.9	4.27	mg/Kg			07/10/22 11:11	5

Client Sample ID: BH-27

Lab Sample ID: 880-16613-6
Matrix: Solid
Date Collected: 07/01/22 08:40
Date Received: 07/06/22 11:00
Sample Depth: 3'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000389	U	0.00202	0.000389	mg/Kg		07/12/22 15:00	07/13/22 16:25	1
Toluene	<0.000461	U	0.00202	0.000461	mg/Kg		07/12/22 15:00	07/13/22 16:25	1
Ethylbenzene	<0.000571	U	0.00202	0.000571	mg/Kg		07/12/22 15:00	07/13/22 16:25	1
m-Xylene & p-Xylene	<0.00102	U	0.00404	0.00102	mg/Kg		07/12/22 15:00	07/13/22 16:25	1
o-Xylene	<0.000347	U	0.00202	0.000347	mg/Kg		07/12/22 15:00	07/13/22 16:25	1
Xylenes, Total	<0.00102	U	0.00404	0.00102	mg/Kg		07/12/22 15:00	07/13/22 16:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*07/12/22 15:00*	*07/13/22 16:25*	*1*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*	*07/12/22 15:00*	*07/13/22 16:25*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00102	U	0.00404	0.00102	mg/Kg			07/13/22 16:03	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**24.1**	**J**	49.9	15.0	mg/Kg			07/07/22 09:01	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	49.9	15.0	mg/Kg		07/06/22 13:15	07/07/22 04:50	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		07/06/22 13:15	07/07/22 04:50	1
Oil Range Organics (Over C28-C36)	**24.1**	**J B**	49.9	15.0	mg/Kg		07/06/22 13:15	07/07/22 04:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*148*	*S1+*	*70 - 130*	*07/06/22 13:15*	*07/07/22 04:50*	*1*
o-Terphenyl	*135*	*S1+*	*70 - 130*	*07/06/22 13:15*	*07/07/22 04:50*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1860**		25.1	4.30	mg/Kg			07/10/22 11:20	5

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16613-1
SDG: Lea County, NM

Client Sample ID: BH-28

Lab Sample ID: 880-16613-7
Matrix: Solid
Date Collected: 07/01/22 08:50
Date Received: 07/06/22 11:00
Sample Depth: 3'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000384	U	0.00200	0.000384	mg/Kg		07/12/22 15:00	07/13/22 16:45	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		07/12/22 15:00	07/13/22 16:45	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		07/12/22 15:00	07/13/22 16:45	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		07/12/22 15:00	07/13/22 16:45	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		07/12/22 15:00	07/13/22 16:45	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		07/12/22 15:00	07/13/22 16:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*07/12/22 15:00*	*07/13/22 16:45*	*1*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*07/12/22 15:00*	*07/13/22 16:45*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg			07/13/22 16:03	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**20.1**	**J**	49.8	14.9	mg/Kg			07/07/22 09:01	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<14.9	U	49.8	14.9	mg/Kg		07/06/22 13:15	07/07/22 05:10	1
Diesel Range Organics (Over C10-C28)	<14.9	U	49.8	14.9	mg/Kg		07/06/22 13:15	07/07/22 05:10	1
Oil Range Organics (Over C28-C36)	**20.1**	**J B**	49.8	14.9	mg/Kg		07/06/22 13:15	07/07/22 05:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*07/06/22 13:15*	*07/07/22 05:10*	*1*
o-Terphenyl	*86*		*70 - 130*	*07/06/22 13:15*	*07/07/22 05:10*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**437**		4.98	0.855	mg/Kg			07/10/22 11:29	1

Client Sample ID: BH-29

Lab Sample ID: 880-16613-8
Matrix: Solid
Date Collected: 07/01/22 09:00
Date Received: 07/06/22 11:00
Sample Depth: 3'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		07/12/22 15:00	07/13/22 17:06	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		07/12/22 15:00	07/13/22 17:06	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		07/12/22 15:00	07/13/22 17:06	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		07/12/22 15:00	07/13/22 17:06	1
o-Xylene	<0.000342	U	0.00199	0.000342	mg/Kg		07/12/22 15:00	07/13/22 17:06	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		07/12/22 15:00	07/13/22 17:06	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16613-1
SDG: Lea County, NM

Client Sample ID: BH-29

Date Collected: 07/01/22 09:00
Date Received: 07/06/22 11:00
Sample Depth: 3'

Lab Sample ID: 880-16613-8

Matrix: Solid

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*07/12/22 15:00*	*07/13/22 17:06*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*07/12/22 15:00*	*07/13/22 17:06*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00398	0.00100	mg/Kg			07/13/22 16:03	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**37.9**	**J**	49.9	15.0	mg/Kg			07/07/22 09:01	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**18.8**	**J B**	49.9	15.0	mg/Kg		07/06/22 13:15	07/07/22 05:30	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		07/06/22 13:15	07/07/22 05:30	1
Oil Range Organics (Over C28-C36)	**19.1**	**J B**	49.9	15.0	mg/Kg		07/06/22 13:15	07/07/22 05:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*07/06/22 13:15*	*07/07/22 05:30*	*1*
o-Terphenyl	*86*		*70 - 130*	*07/06/22 13:15*	*07/07/22 05:30*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1280**		25.0	4.29	mg/Kg			07/10/22 11:57	5

Surrogate Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16613-1
SDG: Lea County, NM

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-16613-1	BH-22	107	94
880-16613-2	BH-23	105	84
880-16613-3	BH-24	109	89
880-16613-4	BH-25	104	92
880-16613-5	BH-26	106	91
880-16613-6	BH-27	99	85
880-16613-7	BH-28	107	82
880-16613-8	BH-29	106	93
LCS 880-29559/1-A	Lab Control Sample	95	96
LCSD 880-29559/2-A	Lab Control Sample Dup	98	97
MB 880-29559/5-A	Method Blank	96	86

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-16613-1	BH-22	86	84
880-16613-2	BH-23	91	84
880-16613-3	BH-24	88	84
880-16613-4	BH-25	83	86
880-16613-5	BH-26	92	84
880-16613-6	BH-27	148 S1+	135 S1+
880-16613-7	BH-28	88	86
880-16613-8	BH-29	88	86
LCS 880-29095/2-A	Lab Control Sample	99	94
LCSD 880-29095/3-A	Lab Control Sample Dup	114	110
MB 880-29095/1-A	Method Blank	121	135 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16613-1
SDG: Lea County, NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-29559/5-A
Matrix: Solid
Analysis Batch: 29613

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 29559

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		07/12/22 15:00	07/13/22 11:36	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		07/12/22 15:00	07/13/22 11:36	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		07/12/22 15:00	07/13/22 11:36	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		07/12/22 15:00	07/13/22 11:36	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		07/12/22 15:00	07/13/22 11:36	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		07/12/22 15:00	07/13/22 11:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*07/12/22 15:00*	*07/13/22 11:36*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*07/12/22 15:00*	*07/13/22 11:36*	*1*

Lab Sample ID: LCS 880-29559/1-A
Matrix: Solid
Analysis Batch: 29613

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 29559

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09421		mg/Kg		94	70 - 130		
Toluene			0.100	0.09503		mg/Kg		95	70 - 130		
Ethylbenzene			0.100	0.09532		mg/Kg		95	70 - 130		
m-Xylene & p-Xylene			0.200	0.1898		mg/Kg		95	70 - 130		
o-Xylene			0.100	0.1047		mg/Kg		105	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: LCSD 880-29559/2-A
Matrix: Solid
Analysis Batch: 29613

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 29559

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09284		mg/Kg		93	70 - 130	1	35
Toluene			0.100	0.09348		mg/Kg		93	70 - 130	2	35
Ethylbenzene			0.100	0.09465		mg/Kg		95	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.1887		mg/Kg		94	70 - 130	1	35
o-Xylene			0.100	0.1040		mg/Kg		104	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16613-1
SDG: Lea County, NM

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-29095/1-A
Matrix: Solid
Analysis Batch: 29112

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 29095

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	25.82	J	50.0	15.0	mg/Kg		07/06/22 07:48	07/06/22 20:53	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		07/06/22 07:48	07/06/22 20:53	1
Oil Range Organics (Over C28-C36)	44.08	J	50.0	15.0	mg/Kg		07/06/22 07:48	07/06/22 20:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*121*		*70 - 130*	*07/06/22 07:48*	*07/06/22 20:53*	*1*
o-Terphenyl	*135*	*S1+*	*70 - 130*	*07/06/22 07:48*	*07/06/22 20:53*	*1*

Lab Sample ID: LCS 880-29095/2-A
Matrix: Solid
Analysis Batch: 29112

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 29095

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	756.1		mg/Kg		76	70 - 130
Diesel Range Organics (Over C10-C28)	1000	918.2		mg/Kg		92	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*99*		*70 - 130*
o-Terphenyl	*94*		*70 - 130*

Lab Sample ID: LCSD 880-29095/3-A
Matrix: Solid
Analysis Batch: 29112

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 29095

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	891.9		mg/Kg		89	70 - 130	16	20
Diesel Range Organics (Over C10-C28)	1000	1028		mg/Kg		103	70 - 130	11	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*114*		*70 - 130*
o-Terphenyl	*110*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-29145/1-A
Matrix: Solid
Analysis Batch: 29314

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.858	U	5.00	0.858	mg/Kg			07/10/22 08:52	1

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16613-1
SDG: Lea County, NM

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-29145/2-A
Matrix: Solid
Analysis Batch: 29314

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	242.6		mg/Kg		97	90 - 110		

Lab Sample ID: LCSD 880-29145/3-A
Matrix: Solid
Analysis Batch: 29314

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	243.2		mg/Kg		97	90 - 110	0	20

Lab Sample ID: 880-16613-7 MS
Matrix: Solid
Analysis Batch: 29314

Client Sample ID: BH-28
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	437		249	686.9		mg/Kg		101	90 - 110		

Lab Sample ID: 880-16613-7 MSD
Matrix: Solid
Analysis Batch: 29314

Client Sample ID: BH-28
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	437		249	693.9		mg/Kg		103	90 - 110	1	20

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16613-1
SDG: Lea County, NM

GC VOA

Prep Batch: 29559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16613-1	BH-22	Total/NA	Solid	5035	
880-16613-2	BH-23	Total/NA	Solid	5035	
880-16613-3	BH-24	Total/NA	Solid	5035	
880-16613-4	BH-25	Total/NA	Solid	5035	
880-16613-5	BH-26	Total/NA	Solid	5035	
880-16613-6	BH-27	Total/NA	Solid	5035	
880-16613-7	BH-28	Total/NA	Solid	5035	
880-16613-8	BH-29	Total/NA	Solid	5035	
MB 880-29559/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-29559/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-29559/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 29613

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16613-1	BH-22	Total/NA	Solid	8021B	29559
880-16613-2	BH-23	Total/NA	Solid	8021B	29559
880-16613-3	BH-24	Total/NA	Solid	8021B	29559
880-16613-4	BH-25	Total/NA	Solid	8021B	29559
880-16613-5	BH-26	Total/NA	Solid	8021B	29559
880-16613-6	BH-27	Total/NA	Solid	8021B	29559
880-16613-7	BH-28	Total/NA	Solid	8021B	29559
880-16613-8	BH-29	Total/NA	Solid	8021B	29559
MB 880-29559/5-A	Method Blank	Total/NA	Solid	8021B	29559
LCS 880-29559/1-A	Lab Control Sample	Total/NA	Solid	8021B	29559
LCSD 880-29559/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	29559

Analysis Batch: 29685

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16613-1	BH-22	Total/NA	Solid	Total BTEX	
880-16613-2	BH-23	Total/NA	Solid	Total BTEX	
880-16613-3	BH-24	Total/NA	Solid	Total BTEX	
880-16613-4	BH-25	Total/NA	Solid	Total BTEX	
880-16613-5	BH-26	Total/NA	Solid	Total BTEX	
880-16613-6	BH-27	Total/NA	Solid	Total BTEX	
880-16613-7	BH-28	Total/NA	Solid	Total BTEX	
880-16613-8	BH-29	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 29095

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16613-1	BH-22	Total/NA	Solid	8015NM Prep	
880-16613-2	BH-23	Total/NA	Solid	8015NM Prep	
880-16613-3	BH-24	Total/NA	Solid	8015NM Prep	
880-16613-4	BH-25	Total/NA	Solid	8015NM Prep	
880-16613-5	BH-26	Total/NA	Solid	8015NM Prep	
880-16613-6	BH-27	Total/NA	Solid	8015NM Prep	
880-16613-7	BH-28	Total/NA	Solid	8015NM Prep	
880-16613-8	BH-29	Total/NA	Solid	8015NM Prep	
MB 880-29095/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-29095/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: GHD Services Inc. Job ID: 880-16613-1
Project/Site: Merchant Livestock 30 SDG: Lea County, NM

GC Semi VOA (Continued)

Prep Batch: 29095 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-29095/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 29112

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16613-1	BH-22	Total/NA	Solid	8015B NM	29095
880-16613-2	BH-23	Total/NA	Solid	8015B NM	29095
880-16613-3	BH-24	Total/NA	Solid	8015B NM	29095
880-16613-4	BH-25	Total/NA	Solid	8015B NM	29095
880-16613-5	BH-26	Total/NA	Solid	8015B NM	29095
880-16613-6	BH-27	Total/NA	Solid	8015B NM	29095
880-16613-7	BH-28	Total/NA	Solid	8015B NM	29095
880-16613-8	BH-29	Total/NA	Solid	8015B NM	29095
MB 880-29095/1-A	Method Blank	Total/NA	Solid	8015B NM	29095
LCS 880-29095/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	29095
LCSD 880-29095/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	29095

Analysis Batch: 29180

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16613-1	BH-22	Total/NA	Solid	8015 NM	
880-16613-2	BH-23	Total/NA	Solid	8015 NM	
880-16613-3	BH-24	Total/NA	Solid	8015 NM	
880-16613-4	BH-25	Total/NA	Solid	8015 NM	
880-16613-5	BH-26	Total/NA	Solid	8015 NM	
880-16613-6	BH-27	Total/NA	Solid	8015 NM	
880-16613-7	BH-28	Total/NA	Solid	8015 NM	
880-16613-8	BH-29	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 29145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16613-1	BH-22	Soluble	Solid	DI Leach	
880-16613-2	BH-23	Soluble	Solid	DI Leach	
880-16613-3	BH-24	Soluble	Solid	DI Leach	
880-16613-4	BH-25	Soluble	Solid	DI Leach	
880-16613-5	BH-26	Soluble	Solid	DI Leach	
880-16613-6	BH-27	Soluble	Solid	DI Leach	
880-16613-7	BH-28	Soluble	Solid	DI Leach	
880-16613-8	BH-29	Soluble	Solid	DI Leach	
MB 880-29145/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-29145/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-29145/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-16613-7 MS	BH-28	Soluble	Solid	DI Leach	
880-16613-7 MSD	BH-28	Soluble	Solid	DI Leach	

Analysis Batch: 29314

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16613-1	BH-22	Soluble	Solid	300.0	29145
880-16613-2	BH-23	Soluble	Solid	300.0	29145
880-16613-3	BH-24	Soluble	Solid	300.0	29145
880-16613-4	BH-25	Soluble	Solid	300.0	29145

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16613-1
SDG: Lea County, NM

HPLC/IC (Continued)

Analysis Batch: 29314 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16613-5	BH-26	Soluble	Solid	300.0	29145
880-16613-6	BH-27	Soluble	Solid	300.0	29145
880-16613-7	BH-28	Soluble	Solid	300.0	29145
880-16613-8	BH-29	Soluble	Solid	300.0	29145
MB 880-29145/1-A	Method Blank	Soluble	Solid	300.0	29145
LCS 880-29145/2-A	Lab Control Sample	Soluble	Solid	300.0	29145
LCSD 880-29145/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	29145
880-16613-7 MS	BH-28	Soluble	Solid	300.0	29145
880-16613-7 MSD	BH-28	Soluble	Solid	300.0	29145

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16613-1
SDG: Lea County, NM

Client Sample ID: BH-22
Date Collected: 07/01/22 07:50
Date Received: 07/06/22 11:00

Lab Sample ID: 880-16613-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	29559	07/12/22 15:00	MR	XEN MID
Total/NA	Analysis	8021B		1	5 g	5 mL	29613	07/13/22 13:40	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29685	07/13/22 16:03	SM	XEN MID
Total/NA	Analysis	8015 NM		1			29180	07/07/22 09:01	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	29095	07/06/22 13:15	AM	XEN MID
Total/NA	Analysis	8015B NM		1			29112	07/07/22 03:08	SM	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	29145	07/06/22 12:37	SMC	XEN MID
Soluble	Analysis	300.0		1			29314	07/10/22 10:15	CH	XEN MID

Client Sample ID: BH-23
Date Collected: 07/01/22 08:00
Date Received: 07/06/22 11:00

Lab Sample ID: 880-16613-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	29559	07/12/22 15:00	MR	XEN MID
Total/NA	Analysis	8021B		1	5 g	5 mL	29613	07/13/22 14:01	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29685	07/13/22 16:03	SM	XEN MID
Total/NA	Analysis	8015 NM		1			29180	07/07/22 09:01	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	29095	07/06/22 13:15	AM	XEN MID
Total/NA	Analysis	8015B NM		1			29112	07/07/22 03:28	SM	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	29145	07/06/22 12:37	SMC	XEN MID
Soluble	Analysis	300.0		1			29314	07/10/22 10:43	CH	XEN MID

Client Sample ID: BH-24
Date Collected: 07/01/22 08:10
Date Received: 07/06/22 11:00

Lab Sample ID: 880-16613-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	29559	07/12/22 15:00	MR	XEN MID
Total/NA	Analysis	8021B		1	5 g	5 mL	29613	07/13/22 14:21	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29685	07/13/22 16:03	SM	XEN MID
Total/NA	Analysis	8015 NM		1			29180	07/07/22 09:01	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	29095	07/06/22 13:15	AM	XEN MID
Total/NA	Analysis	8015B NM		1			29112	07/07/22 03:49	SM	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	29145	07/06/22 12:37	SMC	XEN MID
Soluble	Analysis	300.0		1			29314	07/10/22 10:52	CH	XEN MID

Client Sample ID: BH-25
Date Collected: 07/01/22 08:20
Date Received: 07/06/22 11:00

Lab Sample ID: 880-16613-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	29559	07/12/22 15:00	MR	XEN MID
Total/NA	Analysis	8021B		1	5 g	5 mL	29613	07/13/22 14:42	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29685	07/13/22 16:03	SM	XEN MID

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16613-1
SDG: Lea County, NM

Client Sample ID: BH-25
Date Collected: 07/01/22 08:20
Date Received: 07/06/22 11:00

Lab Sample ID: 880-16613-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			29180	07/07/22 09:01	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	29095	07/06/22 13:15	AM	XEN MID
Total/NA	Analysis	8015B NM		1			29112	07/07/22 04:09	SM	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	29145	07/06/22 12:37	SMC	XEN MID
Soluble	Analysis	300.0		5			29314	07/10/22 11:01	CH	XEN MID

Client Sample ID: BH-26
Date Collected: 07/01/22 08:30
Date Received: 07/06/22 11:00

Lab Sample ID: 880-16613-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	29559	07/12/22 15:00	MR	XEN MID
Total/NA	Analysis	8021B		1	5 g	5 mL	29613	07/13/22 15:02	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29685	07/13/22 16:03	SM	XEN MID
Total/NA	Analysis	8015 NM		1			29180	07/07/22 09:01	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	29095	07/06/22 13:15	AM	XEN MID
Total/NA	Analysis	8015B NM		1			29112	07/07/22 04:29	SM	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	29145	07/06/22 12:37	SMC	XEN MID
Soluble	Analysis	300.0		5			29314	07/10/22 11:11	CH	XEN MID

Client Sample ID: BH-27
Date Collected: 07/01/22 08:40
Date Received: 07/06/22 11:00

Lab Sample ID: 880-16613-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	29559	07/12/22 15:00	MR	XEN MID
Total/NA	Analysis	8021B		1	5 g	5 mL	29613	07/13/22 16:25	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29685	07/13/22 16:03	SM	XEN MID
Total/NA	Analysis	8015 NM		1			29180	07/07/22 09:01	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	29095	07/06/22 13:15	AM	XEN MID
Total/NA	Analysis	8015B NM		1			29112	07/07/22 04:50	SM	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	29145	07/06/22 12:37	SMC	XEN MID
Soluble	Analysis	300.0		5			29314	07/10/22 11:20	CH	XEN MID

Client Sample ID: BH-28
Date Collected: 07/01/22 08:50
Date Received: 07/06/22 11:00

Lab Sample ID: 880-16613-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	29559	07/12/22 15:00	MR	XEN MID
Total/NA	Analysis	8021B		1	5 g	5 mL	29613	07/13/22 16:45	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29685	07/13/22 16:03	SM	XEN MID
Total/NA	Analysis	8015 NM		1			29180	07/07/22 09:01	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	29095	07/06/22 13:15	AM	XEN MID
Total/NA	Analysis	8015B NM		1			29112	07/07/22 05:10	SM	XEN MID

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16613-1
SDG: Lea County, NM

Client Sample ID: BH-28
Date Collected: 07/01/22 08:50
Date Received: 07/06/22 11:00

Lab Sample ID: 880-16613-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.02 g	50 mL	29145	07/06/22 12:37	SMC	XEN MID
Soluble	Analysis	300.0		1			29314	07/10/22 11:29	CH	XEN MID

Client Sample ID: BH-29
Date Collected: 07/01/22 09:00
Date Received: 07/06/22 11:00

Lab Sample ID: 880-16613-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	29559	07/12/22 15:00	MR	XEN MID
Total/NA	Analysis	8021B		1	5 g	5 mL	29613	07/13/22 17:06	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29685	07/13/22 16:03	SM	XEN MID
Total/NA	Analysis	8015 NM		1			29180	07/07/22 09:01	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	29095	07/06/22 13:15	AM	XEN MID
Total/NA	Analysis	8015B NM		1			29112	07/07/22 05:30	SM	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	29145	07/06/22 12:37	SMC	XEN MID
Soluble	Analysis	300.0		5			29314	07/10/22 11:57	CH	XEN MID

Laboratory References:
XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: GHD Services Inc. Job ID: 880-16613-1
Project/Site: Merchant Livestock 30 SDG: Lea County, NM

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16613-1
SDG: Lea County, NM

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5035	Closed System Purge and Trap	SW846	XEN MID
8015NM Prep	Microextraction	SW846	XEN MID
DI Leach	Deionized Water Leaching Procedure	ASTM	XEN MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-16613-1
SDG: Lea County, NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-16613-1	BH-22	Solid	07/01/22 07:50	07/06/22 11:00	3'
880-16613-2	BH-23	Solid	07/01/22 08:00	07/06/22 11:00	3'
880-16613-3	BH-24	Solid	07/01/22 08:10	07/06/22 11:00	3'
880-16613-4	BH-25	Solid	07/01/22 08:20	07/06/22 11:00	3'
880-16613-5	BH-26	Solid	07/01/22 08:30	07/06/22 11:00	3'
880-16613-6	BH-27	Solid	07/01/22 08:40	07/06/22 11:00	3'
880-16613-7	BH-28	Solid	07/01/22 08:50	07/06/22 11:00	3'
880-16613-8	BH-29	Solid	07/01/22 09:00	07/06/22 11:00	3'

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Xenco Laboratories

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The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765
Phone: 432-563-1800
Fax: 432-563-1713

7/14/2022

Project Manager: Becky.Haskell@GHD.com
Company Name: GHD
Company Address: 2135 S. Loop 250 W.
City/State/Zip: Midland, TX 79703
Telephone No: 432-686-0086
Fax No:
Sampler Signature:
e-mail: Heath.Boyd@GHD.com

880-16613 Chain of Custody

Project Name: Merchant Livestock 30
Project #: 12581651
Project Loc: Lea County, NM
PO #:
Report Format: ☑ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #: Tracking # 5635 0960 1914

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP / TOTAL: TPH 418.1	8015M	TPH TX 1005	TX 1006	Cations (Ca Mg Na K)	Anions (Cl SO4 Alkalinity)	SAR / ESP / CEC	Metals As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	8015B	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M	Chloride 300m			PUSH TAT (Pre-Schedule) 24 48 72 hrs	Standard TAT
	BH-22		3'	7/1/22	750		1									5	X										X			X					X
	BH-23				800		1										X										X			X					X
	BH-24				810		1										X										X			X					X
	BH-25				820		1										X										X			X					X
	BH-26				830		1										X										X			X					X
	BH-27				840		1										X										X			X					X
	BH-28				850		1										X										X			X					X
	BH-29		X	Y	900		1									Y	X										X			X					X

Special Instructions: Please Email: Heath, Becky / Direct Bill to Centennial Production Resources Attn Nikki. Nikki.Mishler@

Relinquished by	Date	Time	Received by	Date	Time
	7/5/22	1340		7/5/22	1:42
Relinquished by	7/5/22	2127	Received by ELOT	7/7/22	11:00
Relinquished by	Date	Time	Received by ELOT	Date	Time

Laboratory Comments

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep ?	Y	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt	As Read	Corrected
	3.5	3.1 Ice °C

Received by OCD: 10/31/2022 6:36:00 AM

Released to Imaging: 11/28/2022 9:20:24 AM

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 880-16613-1
SDG Number: Lea County, NM

Login Number: 16613
List Number: 1
Creator: Teel, Brianna

List Source: Eurofins Midland

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-17202-1
Laboratory Sample Delivery Group: 12581651
Client Project/Site: Merchant Livestock 30

For:
GHD Services Inc.
2135 South Loop 250 West
Midland, Texas 79703

Attn: Becky Haskell

Authorized for release by:
7/29/2022 6:50:15 PM

Debbie Simmons, Project Manager
(832)986-6768
Debbie.Simmons@et.eurofinsus.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Laboratory Job ID: 880-17202-1
SDG: 12581651

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Definitions/Glossary

Client: GHD Services Inc. Job ID: 880-17202-1
Project/Site: Merchant Livestock 30 SDG: 12581651

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17202-1
SDG: 12581651

Job ID: 880-17202-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-17202-1

Comments
No additional comments.

Receipt
The samples were received on 7/21/2022 10:45 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.5º C.

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 880-30589 and analytical batch 880-30859 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-30859 recovered above the upper control limit for Benzene, Toluene, Ethylbenzene, m-Xylene & p-Xylene, o-Xylene and 1,4-Difluorobenzene (Surr). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-30669 and analytical batch 880-30859 was outside the upper control limits.

Method 8021B: Surrogate recovery for the following samples were outside control limits: (LCSD 880-30589/2-A) and (880-17202-A-1-D MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-30589 and analytical batch 880-30859 was outside the upper control limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: BH-32A (880-17202-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method 8015B NM: Surrogate recovery for the following sample was outside control limits: BH-33A (880-17202-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015B NM: The method blank for preparation batch 880-30624 and analytical batch 880-30643 contained Gasoline Range Organics (GRO)-C6-C10, Diesel Range Organics (Over C10-C28) and OII Range Organics (Over C28-C36) above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17202-1
SDG: 12581651

Client Sample ID: BH-32A

Date Collected: 07/20/22 11:10
Date Received: 07/21/22 10:45

Lab Sample ID: 880-17202-1

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		07/25/22 12:06	07/29/22 02:57	1
Toluene	**0.000509**	**J**	0.00201	0.000458	mg/Kg		07/25/22 12:06	07/29/22 02:57	1
Ethylbenzene	<0.000567	U F1	0.00201	0.000567	mg/Kg		07/25/22 12:06	07/29/22 02:57	1
m-Xylene & p-Xylene	<0.00101	U F1	0.00402	0.00101	mg/Kg		07/25/22 12:06	07/29/22 02:57	1
o-Xylene	<0.000345	U F1	0.00201	0.000345	mg/Kg		07/25/22 12:06	07/29/22 02:57	1
Xylenes, Total	<0.00101	U	0.00402	0.00101	mg/Kg		07/25/22 12:06	07/29/22 02:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*137*	*S1+*	*70 - 130*	*07/25/22 12:06*	*07/29/22 02:57*	*1*
1,4-Difluorobenzene (Surr)	*64*	*S1-*	*70 - 130*	*07/25/22 12:06*	*07/29/22 02:57*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00402	0.00101	mg/Kg			07/29/22 09:30	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**79.3**		49.9	15.0	mg/Kg			07/27/22 10:58	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**29.8**	**J B**	49.9	15.0	mg/Kg		07/25/22 16:28	07/26/22 16:27	1
Diesel Range Organics (Over C10-C28)	**17.1**	**J B**	49.9	15.0	mg/Kg		07/25/22 16:28	07/26/22 16:27	1
Oil Range Organics (Over C28-C36)	**32.4**	**J B**	49.9	15.0	mg/Kg		07/25/22 16:28	07/26/22 16:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*84*		*70 - 130*	*07/25/22 16:28*	*07/26/22 16:27*	*1*
o-Terphenyl	*89*		*70 - 130*	*07/25/22 16:28*	*07/26/22 16:27*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**79.4**		4.99	0.857	mg/Kg			07/26/22 13:07	1

Client Sample ID: BH-33A

Date Collected: 07/20/22 11:20
Date Received: 07/21/22 10:45

Lab Sample ID: 880-17202-2

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000386	U	0.00200	0.000386	mg/Kg		07/25/22 12:06	07/29/22 03:23	1
Toluene	<0.000457	U	0.00200	0.000457	mg/Kg		07/25/22 12:06	07/29/22 03:23	1
Ethylbenzene	<0.000566	U	0.00200	0.000566	mg/Kg		07/25/22 12:06	07/29/22 03:23	1
m-Xylene & p-Xylene	<0.00101	U	0.00401	0.00101	mg/Kg		07/25/22 12:06	07/29/22 03:23	1
o-Xylene	<0.000345	U	0.00200	0.000345	mg/Kg		07/25/22 12:06	07/29/22 03:23	1
Xylenes, Total	<0.00101	U	0.00401	0.00101	mg/Kg		07/25/22 12:06	07/29/22 03:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*	*07/25/22 12:06*	*07/29/22 03:23*	*1*
1,4-Difluorobenzene (Surr)	*129*		*70 - 130*	*07/25/22 12:06*	*07/29/22 03:23*	*1*

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Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17202-1
SDG: 12581651

Client Sample ID: BH-33A
Date Collected: 07/20/22 11:20
Date Received: 07/21/22 10:45

Lab Sample ID: 880-17202-2
Matrix: Solid

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00401	0.00101	mg/Kg			07/29/22 09:30	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**73.0**		50.0	15.0	mg/Kg			07/27/22 10:58	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**20.6**	**J B**	50.0	15.0	mg/Kg		07/25/22 16:28	07/26/22 16:48	1
Diesel Range Organics (Over C10-C28)	**22.6**	**J B**	50.0	15.0	mg/Kg		07/25/22 16:28	07/26/22 16:48	1
Oil Range Organics (Over C28-C36)	**29.8**	**J B**	50.0	15.0	mg/Kg		07/25/22 16:28	07/26/22 16:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*72*		*70 - 130*	*07/25/22 16:28*	*07/26/22 16:48*	*1*
o-Terphenyl	*67*	*S1-*	*70 - 130*	*07/25/22 16:28*	*07/26/22 16:48*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**505**		5.00	0.858	mg/Kg			07/26/22 13:31	1

Client Sample ID: BH-35A
Date Collected: 07/20/22 11:30
Date Received: 07/21/22 10:45

Lab Sample ID: 880-17202-3
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		07/25/22 12:06	07/29/22 03:49	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		07/25/22 12:06	07/29/22 03:49	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		07/25/22 12:06	07/29/22 03:49	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		07/25/22 12:06	07/29/22 03:49	1
o-Xylene	<0.000342	U	0.00199	0.000342	mg/Kg		07/25/22 12:06	07/29/22 03:49	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		07/25/22 12:06	07/29/22 03:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*123*		*70 - 130*	*07/25/22 12:06*	*07/29/22 03:49*	*1*
1,4-Difluorobenzene (Surr)	*123*		*70 - 130*	*07/25/22 12:06*	*07/29/22 03:49*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00398	0.00100	mg/Kg			07/29/22 09:30	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**59.9**		50.0	15.0	mg/Kg			07/27/22 10:58	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**16.2**	**J B**	50.0	15.0	mg/Kg		07/25/22 16:28	07/26/22 17:10	1

Eurofins Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17202-1
SDG: 12581651

Client Sample ID: BH-35A
Date Collected: 07/20/22 11:30
Date Received: 07/21/22 10:45

Lab Sample ID: 880-17202-3
Matrix: Solid

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	17.9	J B	50.0	15.0	mg/Kg		07/25/22 16:28	07/26/22 17:10	1
Oil Range Organics (Over C28-C36)	25.8	J B	50.0	15.0	mg/Kg		07/25/22 16:28	07/26/22 17:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*85*		*70 - 130*	*07/25/22 16:28*	*07/26/22 17:10*	*1*
o-Terphenyl	*92*		*70 - 130*	*07/25/22 16:28*	*07/26/22 17:10*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	134		4.97	0.853	mg/Kg			07/26/22 13:39	1

Client Sample ID: BH-36A
Date Collected: 07/20/22 11:40
Date Received: 07/21/22 10:45

Lab Sample ID: 880-17202-4
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000382	U	0.00198	0.000382	mg/Kg		07/25/22 12:06	07/29/22 04:16	1
Toluene	<0.000452	U	0.00198	0.000452	mg/Kg		07/25/22 12:06	07/29/22 04:16	1
Ethylbenzene	<0.000561	U	0.00198	0.000561	mg/Kg		07/25/22 12:06	07/29/22 04:16	1
m-Xylene & p-Xylene	<0.00100	U	0.00397	0.00100	mg/Kg		07/25/22 12:06	07/29/22 04:16	1
o-Xylene	<0.000341	U	0.00198	0.000341	mg/Kg		07/25/22 12:06	07/29/22 04:16	1
Xylenes, Total	<0.00100	U	0.00397	0.00100	mg/Kg		07/25/22 12:06	07/29/22 04:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*128*		*70 - 130*	*07/25/22 12:06*	*07/29/22 04:16*	*1*
1,4-Difluorobenzene (Surr)	*118*		*70 - 130*	*07/25/22 12:06*	*07/29/22 04:16*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00397	0.00100	mg/Kg			07/29/22 09:30	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	73.2		50.0	15.0	mg/Kg			07/27/22 10:58	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	29.9	J B	50.0	15.0	mg/Kg		07/25/22 16:28	07/26/22 17:32	1
Diesel Range Organics (Over C10-C28)	18.3	J B	50.0	15.0	mg/Kg		07/25/22 16:28	07/26/22 17:32	1
Oil Range Organics (Over C28-C36)	25.0	J B	50.0	15.0	mg/Kg		07/25/22 16:28	07/26/22 17:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*78*		*70 - 130*	*07/25/22 16:28*	*07/26/22 17:32*	*1*
o-Terphenyl	*85*		*70 - 130*	*07/25/22 16:28*	*07/26/22 17:32*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17202-1
SDG: 12581651

Client Sample ID: BH-36A
Date Collected: 07/20/22 11:40
Date Received: 07/21/22 10:45

Lab Sample ID: 880-17202-4
Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**160**		4.96	0.851	mg/Kg			07/26/22 13:47	1

Client Sample ID: BH-37A
Date Collected: 07/20/22 11:50
Date Received: 07/21/22 10:45

Lab Sample ID: 880-17202-5
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000384	U	0.00200	0.000384	mg/Kg		07/25/22 12:06	07/29/22 04:42	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		07/25/22 12:06	07/29/22 04:42	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		07/25/22 12:06	07/29/22 04:42	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		07/25/22 12:06	07/29/22 04:42	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		07/25/22 12:06	07/29/22 04:42	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		07/25/22 12:06	07/29/22 04:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*126*		*70 - 130*	*07/25/22 12:06*	*07/29/22 04:42*	*1*
1,4-Difluorobenzene (Surr)	*124*		*70 - 130*	*07/25/22 12:06*	*07/29/22 04:42*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg			07/29/22 09:30	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**62.8**		50.0	15.0	mg/Kg			07/27/22 10:58	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**19.3**	**J B**	50.0	15.0	mg/Kg		07/25/22 16:28	07/26/22 17:53	1
Diesel Range Organics (Over C10-C28)	**20.3**	**J B**	50.0	15.0	mg/Kg		07/25/22 16:28	07/26/22 17:53	1
OII Range Organics (Over C28-C36)	**23.2**	**J B**	50.0	15.0	mg/Kg		07/25/22 16:28	07/26/22 17:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*76*		*70 - 130*	*07/25/22 16:28*	*07/26/22 17:53*	*1*
o-Terphenyl	*73*		*70 - 130*	*07/25/22 16:28*	*07/26/22 17:53*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**643**		4.95	0.850	mg/Kg			07/26/22 13:54	1

Surrogate Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17202-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-17202-1	BH-32A	137 S1+	64 S1-
880-17202-1 MS	BH-32A	352 S1+	298 S1+
880-17202-1 MSD	BH-32A	129	107
880-17202-2	BH-33A	124	129
880-17202-3	BH-35A	123	123
880-17202-4	BH-36A	128	118
880-17202-5	BH-37A	126	124
LCS 880-30589/1-A	Lab Control Sample	123	101
LCSD 880-30589/2-A	Lab Control Sample Dup	131 S1+	113
MB 880-30589/5-A	Method Blank	107	62 S1-
MB 880-30669/5-A	Method Blank	91	63 S1-

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-17202-1	BH-32A	84	89
880-17202-2	BH-33A	72	67 S1-
880-17202-3	BH-35A	85	92
880-17202-4	BH-36A	78	85
880-17202-5	BH-37A	76	73
LCS 880-30624/2-A	Lab Control Sample	113	109
LCSD 880-30624/3-A	Lab Control Sample Dup	101	101
MB 880-30624/1-A	Method Blank	82	87

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17202-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-30589/5-A
Matrix: Solid
Analysis Batch: 30859

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30589

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0000770	U	0.000400	0.0000770	mg/Kg		07/25/22 12:06	07/29/22 02:31	1
Toluene	<0.0000912	U	0.000400	0.0000912	mg/Kg		07/25/22 12:06	07/29/22 02:31	1
Ethylbenzene	<0.000113	U	0.000400	0.000113	mg/Kg		07/25/22 12:06	07/29/22 02:31	1
m-Xylene & p-Xylene	<0.000202	U	0.000800	0.000202	mg/Kg		07/25/22 12:06	07/29/22 02:31	1
o-Xylene	<0.0000688	U	0.000400	0.0000688	mg/Kg		07/25/22 12:06	07/29/22 02:31	1
Xylenes, Total	<0.000202	U	0.000800	0.000202	mg/Kg		07/25/22 12:06	07/29/22 02:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*07/25/22 12:06*	*07/29/22 02:31*	*1*
1,4-Difluorobenzene (Surr)	*62*	*S1-*	*70 - 130*	*07/25/22 12:06*	*07/29/22 02:31*	*1*

Lab Sample ID: LCS 880-30589/1-A
Matrix: Solid
Analysis Batch: 30859

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30589

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1106		mg/Kg		111	70 - 130
Toluene	0.100	0.1060		mg/Kg		106	70 - 130
Ethylbenzene	0.100	0.1050		mg/Kg		105	70 - 130
m-Xylene & p-Xylene	0.200	0.2101		mg/Kg		105	70 - 130
o-Xylene	0.100	0.1245		mg/Kg		125	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*123*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 880-30589/2-A
Matrix: Solid
Analysis Batch: 30859

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30589

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1160		mg/Kg		116	70 - 130	5	35
Toluene	0.100	0.1083		mg/Kg		108	70 - 130	2	35
Ethylbenzene	0.100	0.1026		mg/Kg		103	70 - 130	2	35
m-Xylene & p-Xylene	0.200	0.2112		mg/Kg		106	70 - 130	1	35
o-Xylene	0.100	0.1264		mg/Kg		126	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*131*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*

Lab Sample ID: 880-17202-1 MS
Matrix: Solid
Analysis Batch: 30859

Client Sample ID: BH-32A
Prep Type: Total/NA
Prep Batch: 30589

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.000387	U	0.101	0.09818		mg/Kg		98	70 - 130
Toluene	0.000509	J	0.101	0.09360		mg/Kg		93	70 - 130

Eurofins Midland

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17202-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 880-17202-1 MS
Matrix: Solid
Analysis Batch: 30859

Client Sample ID: BH-32A
Prep Type: Total/NA
Prep Batch: 30589

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.000567	U F1	0.101	0.07292		mg/Kg		72	70 - 130
m-Xylene & p-Xylene	<0.00101	U F1	0.201	0.1277	F1	mg/Kg		63	70 - 130
o-Xylene	<0.000345	U F1	0.101	0.1418	F1	mg/Kg		141	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*352*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*298*	*S1+*	*70 - 130*

Lab Sample ID: 880-17202-1 MSD
Matrix: Solid
Analysis Batch: 30859

Client Sample ID: BH-32A
Prep Type: Total/NA
Prep Batch: 30589

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.000387	U	0.100	0.09685		mg/Kg		97	70 - 130	1	35
Toluene	0.000509	J	0.100	0.07927		mg/Kg		79	70 - 130	17	35
Ethylbenzene	<0.000567	U F1	0.100	0.06937	F1	mg/Kg		69	70 - 130	5	35
m-Xylene & p-Xylene	<0.00101	U F1	0.200	0.1122	F1	mg/Kg		56	70 - 130	13	35
o-Xylene	<0.000345	U F1	0.100	0.1004		mg/Kg		100	70 - 130	34	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*129*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: MB 880-30669/5-A
Matrix: Solid
Analysis Batch: 30859

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30669

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		07/26/22 10:50	07/28/22 12:54	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		07/26/22 10:50	07/28/22 12:54	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		07/26/22 10:50	07/28/22 12:54	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		07/26/22 10:50	07/28/22 12:54	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		07/26/22 10:50	07/28/22 12:54	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		07/26/22 10:50	07/28/22 12:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*	*07/26/22 10:50*	*07/28/22 12:54*	*1*
1,4-Difluorobenzene (Surr)	*63*	*S1-*	*70 - 130*	*07/26/22 10:50*	*07/28/22 12:54*	*1*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-30624/1-A
Matrix: Solid
Analysis Batch: 30643

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30624

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	24.97	J	50.0	15.0	mg/Kg		07/25/22 16:28	07/26/22 09:44	1

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17202-1
SDG: 12581651

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-30624/1-A
Matrix: Solid
Analysis Batch: 30643

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30624

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	20.63	J	50.0	15.0	mg/Kg		07/25/22 16:28	07/26/22 09:44	1
OII Range Organics (Over C28-C36)	17.07	J	50.0	15.0	mg/Kg		07/25/22 16:28	07/26/22 09:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*82*		*70 - 130*	*07/25/22 16:28*	*07/26/22 09:44*	*1*
o-Terphenyl	*87*		*70 - 130*	*07/25/22 16:28*	*07/26/22 09:44*	*1*

Lab Sample ID: LCS 880-30624/2-A
Matrix: Solid
Analysis Batch: 30643

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30624

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	922.1		mg/Kg		92	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1096		mg/Kg		110	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*113*		*70 - 130*
o-Terphenyl	*109*		*70 - 130*

Lab Sample ID: LCSD 880-30624/3-A
Matrix: Solid
Analysis Batch: 30643

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30624

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	836.9		mg/Kg		84	70 - 130	10	20
Diesel Range Organics (Over C10-C28)			1000	975.9		mg/Kg		98	70 - 130	12	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*101*		*70 - 130*
o-Terphenyl	*101*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-30258/1-A
Matrix: Solid
Analysis Batch: 30583

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.858	U	5.00	0.858	mg/Kg			07/26/22 12:44	1

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17202-1
SDG: 12581651

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-30258/2-A
Matrix: Solid
Analysis Batch: 30583

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	271.7		mg/Kg		109	90 - 110		

Lab Sample ID: LCSD 880-30258/3-A
Matrix: Solid
Analysis Batch: 30583

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	270.6		mg/Kg		108	90 - 110	0	20

Lab Sample ID: 880-17202-1 MS
Matrix: Solid
Analysis Batch: 30583

Client Sample ID: BH-32A
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	79.4		250	351.5		mg/Kg		109	90 - 110		

Lab Sample ID: 880-17202-1 MSD
Matrix: Solid
Analysis Batch: 30583

Client Sample ID: BH-32A
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	79.4		250	351.8		mg/Kg		109	90 - 110	0	20

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17202-1
SDG: 12581651

GC VOA

Prep Batch: 30589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17202-1	BH-32A	Total/NA	Solid	5035	
880-17202-2	BH-33A	Total/NA	Solid	5035	
880-17202-3	BH-35A	Total/NA	Solid	5035	
880-17202-4	BH-36A	Total/NA	Solid	5035	
880-17202-5	BH-37A	Total/NA	Solid	5035	
MB 880-30589/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-30589/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-30589/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-17202-1 MS	BH-32A	Total/NA	Solid	5035	
880-17202-1 MSD	BH-32A	Total/NA	Solid	5035	

Prep Batch: 30669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-30669/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 30859

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17202-1	BH-32A	Total/NA	Solid	8021B	30589
880-17202-2	BH-33A	Total/NA	Solid	8021B	30589
880-17202-3	BH-35A	Total/NA	Solid	8021B	30589
880-17202-4	BH-36A	Total/NA	Solid	8021B	30589
880-17202-5	BH-37A	Total/NA	Solid	8021B	30589
MB 880-30589/5-A	Method Blank	Total/NA	Solid	8021B	30589
MB 880-30669/5-A	Method Blank	Total/NA	Solid	8021B	30669
LCS 880-30589/1-A	Lab Control Sample	Total/NA	Solid	8021B	30589
LCSD 880-30589/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	30589
880-17202-1 MS	BH-32A	Total/NA	Solid	8021B	30589
880-17202-1 MSD	BH-32A	Total/NA	Solid	8021B	30589

Analysis Batch: 30973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17202-1	BH-32A	Total/NA	Solid	Total BTEX	
880-17202-2	BH-33A	Total/NA	Solid	Total BTEX	
880-17202-3	BH-35A	Total/NA	Solid	Total BTEX	
880-17202-4	BH-36A	Total/NA	Solid	Total BTEX	
880-17202-5	BH-37A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 30624

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17202-1	BH-32A	Total/NA	Solid	8015NM Prep	
880-17202-2	BH-33A	Total/NA	Solid	8015NM Prep	
880-17202-3	BH-35A	Total/NA	Solid	8015NM Prep	
880-17202-4	BH-36A	Total/NA	Solid	8015NM Prep	
880-17202-5	BH-37A	Total/NA	Solid	8015NM Prep	
MB 880-30624/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-30624/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-30624/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17202-1
SDG: 12581651

GC Semi VOA

Analysis Batch: 30643

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17202-1	BH-32A	Total/NA	Solid	8015B NM	30624
880-17202-2	BH-33A	Total/NA	Solid	8015B NM	30624
880-17202-3	BH-35A	Total/NA	Solid	8015B NM	30624
880-17202-4	BH-36A	Total/NA	Solid	8015B NM	30624
880-17202-5	BH-37A	Total/NA	Solid	8015B NM	30624
MB 880-30624/1-A	Method Blank	Total/NA	Solid	8015B NM	30624
LCS 880-30624/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	30624
LCSD 880-30624/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	30624

Analysis Batch: 30799

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17202-1	BH-32A	Total/NA	Solid	8015 NM	
880-17202-2	BH-33A	Total/NA	Solid	8015 NM	
880-17202-3	BH-35A	Total/NA	Solid	8015 NM	
880-17202-4	BH-36A	Total/NA	Solid	8015 NM	
880-17202-5	BH-37A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 30258

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17202-1	BH-32A	Soluble	Solid	DI Leach	
880-17202-2	BH-33A	Soluble	Solid	DI Leach	
880-17202-3	BH-35A	Soluble	Solid	DI Leach	
880-17202-4	BH-36A	Soluble	Solid	DI Leach	
880-17202-5	BH-37A	Soluble	Solid	DI Leach	
MB 880-30258/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-30258/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-30258/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-17202-1 MS	BH-32A	Soluble	Solid	DI Leach	
880-17202-1 MSD	BH-32A	Soluble	Solid	DI Leach	

Analysis Batch: 30583

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17202-1	BH-32A	Soluble	Solid	300.0	30258
880-17202-2	BH-33A	Soluble	Solid	300.0	30258
880-17202-3	BH-35A	Soluble	Solid	300.0	30258
880-17202-4	BH-36A	Soluble	Solid	300.0	30258
880-17202-5	BH-37A	Soluble	Solid	300.0	30258
MB 880-30258/1-A	Method Blank	Soluble	Solid	300.0	30258
LCS 880-30258/2-A	Lab Control Sample	Soluble	Solid	300.0	30258
LCSD 880-30258/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	30258
880-17202-1 MS	BH-32A	Soluble	Solid	300.0	30258
880-17202-1 MSD	BH-32A	Soluble	Solid	300.0	30258

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17202-1
SDG: 12581651

Client Sample ID: BH-32A
Date Collected: 07/20/22 11:10
Date Received: 07/21/22 10:45

Lab Sample ID: 880-17202-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	30589	07/25/22 12:06	EL	XEN MID
Total/NA	Analysis	8021B		1			30859	07/29/22 02:57	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30973	07/29/22 09:30	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30799	07/27/22 10:58	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	30624	07/25/22 16:28	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30643	07/26/22 16:27	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	30258	07/21/22 13:14	SMC	XEN MID
Soluble	Analysis	300.0		1			30583	07/26/22 13:07	CH	XEN MID

Client Sample ID: BH-33A
Date Collected: 07/20/22 11:20
Date Received: 07/21/22 10:45

Lab Sample ID: 880-17202-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	30589	07/25/22 12:06	EL	XEN MID
Total/NA	Analysis	8021B		1			30859	07/29/22 03:23	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30973	07/29/22 09:30	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30799	07/27/22 10:58	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	30624	07/25/22 16:28	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30643	07/26/22 16:48	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	30258	07/21/22 13:14	SMC	XEN MID
Soluble	Analysis	300.0		1			30583	07/26/22 13:31	CH	XEN MID

Client Sample ID: BH-35A
Date Collected: 07/20/22 11:30
Date Received: 07/21/22 10:45

Lab Sample ID: 880-17202-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	30589	07/25/22 12:06	EL	XEN MID
Total/NA	Analysis	8021B		1			30859	07/29/22 03:49	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30973	07/29/22 09:30	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30799	07/27/22 10:58	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	30624	07/25/22 16:28	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30643	07/26/22 17:10	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	30258	07/21/22 13:14	SMC	XEN MID
Soluble	Analysis	300.0		1			30583	07/26/22 13:39	CH	XEN MID

Client Sample ID: BH-36A
Date Collected: 07/20/22 11:40
Date Received: 07/21/22 10:45

Lab Sample ID: 880-17202-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	30589	07/25/22 12:06	EL	XEN MID
Total/NA	Analysis	8021B		1			30859	07/29/22 04:16	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30973	07/29/22 09:30	SM	XEN MID

Eurofins Midland

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17202-1
SDG: 12581651

Client Sample ID: BH-36A
Date Collected: 07/20/22 11:40
Date Received: 07/21/22 10:45

Lab Sample ID: 880-17202-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			30799	07/27/22 10:58	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	30624	07/25/22 16:28	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30643	07/26/22 17:32	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	30258	07/21/22 13:14	SMC	XEN MID
Soluble	Analysis	300.0		1			30583	07/26/22 13:47	CH	XEN MID

Client Sample ID: BH-37A
Date Collected: 07/20/22 11:50
Date Received: 07/21/22 10:45

Lab Sample ID: 880-17202-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	30589	07/25/22 12:06	EL	XEN MID
Total/NA	Analysis	8021B		1			30859	07/29/22 04:42	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30973	07/29/22 09:30	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30799	07/27/22 10:58	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	30624	07/25/22 16:28	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30643	07/26/22 17:53	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	30258	07/21/22 13:14	SMC	XEN MID
Soluble	Analysis	300.0		1			30583	07/26/22 13:54	CH	XEN MID

Laboratory References:

XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: GHD Services Inc. Job ID: 880-17202-1
Project/Site: Merchant Livestock 30 SDG: 12581651

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17202-1
SDG: 12581651

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5035	Closed System Purge and Trap	SW846	XEN MID
8015NM Prep	Microextraction	SW846	XEN MID
DI Leach	Deionized Water Leaching Procedure	ASTM	XEN MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17202-1
SDG: 12581651

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-17202-1	BH-32A	Solid	07/20/22 11:10	07/21/22 10:45
880-17202-2	BH-33A	Solid	07/20/22 11:20	07/21/22 10:45
880-17202-3	BH-35A	Solid	07/20/22 11:30	07/21/22 10:45
880-17202-4	BH-36A	Solid	07/20/22 11:40	07/21/22 10:45
880-17202-5	BH-37A	Solid	07/20/22 11:50	07/21/22 10:45

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Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND AN.

12600 West I-20 East
Odessa, Texas 79765

880-17202 Chain of Custody

7/29/2022

Project Manager: Becky.Haskell@GHD.com
Company Name: GHD
Company Address: 2135 S. Loop 250 W
City/State/Zip: Midland, TX 79703
Telephone No: 432-686-0086
Fax No:
Sampler Signature:
e-mail: Heath.Boyd@GHD.com

Project Name: Merchant Livestock 30
Project #: 12581651
Project Loc: Lea County, NM
PO #:
Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #:

(lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP / TOTAL: TPH 418.1	8015M	8015B	TPH TX 1005	TX 1006	Cations (Ca Mg Na, K)	Anions (Cl SO4 Alkalinity)	SAR / ESP / CEC	Metals As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Chloride 300 M			RUSH TAT (Pre-Schedule) 24 48 72 hrs	Standard TAT
	BH-32A			7/20/22	1110		1									S	X										X			X				X	X
	BH-33A				1120		1										X										X			X				X	X
	BH-35A				1130		1										X										X			X				X	X
	BH-36A				1140		1										X										X			X				X	X
	BH-37A			X	1150		1									X	X										X			X				X	X

Special Instructions: Please Email Becky, Heath, Nikki.Mishler@cdevinc.com T.Murrey@GHD.com

Direct Bill to: Centennial Resources Production
Attn to Nikki (Standard TAT Please)

Relinquished by	Date	Time	Received by	Date	Time
	7/20/22	1425		7-20-22	2.24
Relinquished by	Date	Time	Received by	Date	Time
	7-20-22	2:30		7/21/22	10:45
Relinquished by	Date	Time	Received by ELOT		

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep ?	Y	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt:	As Read	Corrected
	1.3	1.5 °C

Received by OCD: 10/31/2022 6:36:00 AM

Released to Imaging: 11/28/2022 9:20:24 AM

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 880-17202-1
SDG Number: 12581651

Login Number: 17202
List Number: 1
Creator: Rodriguez, Leticia

List Source: Eurofins Midland

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-17261-1
Laboratory Sample Delivery Group: 12581651
Client Project/Site: Merchant Livestock 30

For:
GHD Services Inc.
2135 South Loop 250 West
Midland, Texas 79703

Attn: Becky Haskell

Authorized for release by:
7/26/2022 1:59:40 PM

Debbie Simmons, Project Manager
(832)986-6768
Debbie.Simmons@et.eurofinsus.com

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Laboratory Job ID: 880-17261-1
SDG: 12581651

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Definitions/Glossary

Client: GHD Services Inc. Job ID: 880-17261-1
Project/Site: Merchant Livestock 30 SDG: 12581651

Qualifiers

GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17261-1
SDG: 12581651

Job ID: 880-17261-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-17261-1

Comments
No additional comments.

Receipt
The samples were received on 7/22/2022 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.5º C.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
Method 8015B NM: Surrogate recovery for the following sample was outside control limits: (CCV 880-30514/19). Evidence of matrix interferences is not obvious.

Method 8015B NM: Surrogate recovery for the following sample was outside control limits: (CCV 880-30514/30). Evidence of matrix interferences is not obvious.

Method 8015B NM: The method blank for preparation batch 880-30506 and analytical batch 880-30514 contained Gasoline Range Organics (GRO)-C6-C10 and Oil Range Organics (Over C28-C36) above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015B NM: The laboratory control sample (LCS) associated with preparation batch 880-30506 and analytical batch 880-30514 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8015B NM: CCV biased low for gasoline range hydrocarbons, however an acceptable CCV was analyzed within the 12 hour window, therefore data was qualified and reported.

(CCV 880-30514/30)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17261-1
SDG: 12581651

Client Sample ID: BH-38A

Date Collected: 07/21/22 10:30
Date Received: 07/22/22 10:00

Lab Sample ID: 880-17261-1

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		07/22/22 10:18	07/24/22 07:52	1
Toluene	**0.00124**	**J**	0.00199	0.000453	mg/Kg		07/22/22 10:18	07/24/22 07:52	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		07/22/22 10:18	07/24/22 07:52	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		07/22/22 10:18	07/24/22 07:52	1
o-Xylene	<0.000342	U	0.00199	0.000342	mg/Kg		07/22/22 10:18	07/24/22 07:52	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		07/22/22 10:18	07/24/22 07:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*07/22/22 10:18*	*07/24/22 07:52*	*1*
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*	*07/22/22 10:18*	*07/24/22 07:52*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.00124**	**J**	0.00398	0.00100	mg/Kg			07/25/22 11:06	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**38.7**	**J**	49.9	15.0	mg/Kg			07/26/22 09:20	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**20.3**	**J B**	49.9	15.0	mg/Kg		07/25/22 08:52	07/25/22 17:13	1
Diesel Range Organics (Over C10-C28)	<15.0	U *+	49.9	15.0	mg/Kg		07/25/22 08:52	07/25/22 17:13	1
Oil Range Organics (Over C28-C36)	**18.4**	**J B**	49.9	15.0	mg/Kg		07/25/22 08:52	07/25/22 17:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*89*		*70 - 130*	*07/25/22 08:52*	*07/25/22 17:13*	*1*
o-Terphenyl	*103*		*70 - 130*	*07/25/22 08:52*	*07/25/22 17:13*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**266**		5.03	0.863	mg/Kg			07/25/22 08:09	1

Client Sample ID: BH-45A

Date Collected: 07/21/22 10:50
Date Received: 07/22/22 10:00

Lab Sample ID: 880-17261-2

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000384	U	0.00200	0.000384	mg/Kg		07/22/22 10:18	07/24/22 08:13	1
Toluene	**0.000649**	**J**	0.00200	0.000455	mg/Kg		07/22/22 10:18	07/24/22 08:13	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		07/22/22 10:18	07/24/22 08:13	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		07/22/22 10:18	07/24/22 08:13	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		07/22/22 10:18	07/24/22 08:13	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		07/22/22 10:18	07/24/22 08:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*07/22/22 10:18*	*07/24/22 08:13*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*07/22/22 10:18*	*07/24/22 08:13*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17261-1
SDG: 12581651

Client Sample ID: BH-45A
Date Collected: 07/21/22 10:50
Date Received: 07/22/22 10:00

Lab Sample ID: 880-17261-2
Matrix: Solid

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg			07/25/22 11:06	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**34.7**	**J**	50.0	15.0	mg/Kg			07/26/22 09:20	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**19.1**	**J B**	50.0	15.0	mg/Kg		07/25/22 08:52	07/25/22 17:35	1
Diesel Range Organics (Over C10-C28)	<15.0	U *+	50.0	15.0	mg/Kg		07/25/22 08:52	07/25/22 17:35	1
Oil Range Organics (Over C28-C36)	**15.6**	**J B**	50.0	15.0	mg/Kg		07/25/22 08:52	07/25/22 17:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*07/25/22 08:52*	*07/25/22 17:35*	*1*
o-Terphenyl	*101*		*70 - 130*	*07/25/22 08:52*	*07/25/22 17:35*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**179**		4.95	0.850	mg/Kg			07/25/22 08:32	1

Client Sample ID: BH-46A
Date Collected: 07/21/22 11:00
Date Received: 07/22/22 10:00

Lab Sample ID: 880-17261-3
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		07/22/22 10:18	07/24/22 08:33	1
Toluene	**0.00115**	**J**	0.00201	0.000459	mg/Kg		07/22/22 10:18	07/24/22 08:33	1
Ethylbenzene	<0.000568	U	0.00201	0.000568	mg/Kg		07/22/22 10:18	07/24/22 08:33	1
m-Xylene & p-Xylene	<0.00102	U	0.00402	0.00102	mg/Kg		07/22/22 10:18	07/24/22 08:33	1
o-Xylene	<0.000346	U	0.00201	0.000346	mg/Kg		07/22/22 10:18	07/24/22 08:33	1
Xylenes, Total	<0.00102	U	0.00402	0.00102	mg/Kg		07/22/22 10:18	07/24/22 08:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*07/22/22 10:18*	*07/24/22 08:33*	*1*
1,4-Difluorobenzene (Surr)	*77*		*70 - 130*	*07/22/22 10:18*	*07/24/22 08:33*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.00115**	**J**	0.00402	0.00102	mg/Kg			07/25/22 11:06	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**34.6**	**J**	50.0	15.0	mg/Kg			07/26/22 09:20	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**18.3**	**J B**	50.0	15.0	mg/Kg		07/25/22 08:52	07/25/22 17:55	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17261-1
SDG: 12581651

Client Sample ID: BH-46A
Date Collected: 07/21/22 11:00
Date Received: 07/22/22 10:00

Lab Sample ID: 880-17261-3
Matrix: Solid

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<15.0	U *+	50.0	15.0	mg/Kg		07/25/22 08:52	07/25/22 17:55	1
Oil Range Organics (Over C28-C36)	**16.3**	**J B**	50.0	15.0	mg/Kg		07/25/22 08:52	07/25/22 17:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*87*		*70 - 130*	*07/25/22 08:52*	*07/25/22 17:55*	*1*
o-Terphenyl	*100*		*70 - 130*	*07/25/22 08:52*	*07/25/22 17:55*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**124**		4.95	0.850	mg/Kg			07/25/22 08:40	1

Client Sample ID: BH-47A
Date Collected: 07/21/22 11:10
Date Received: 07/22/22 10:00

Lab Sample ID: 880-17261-4
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		07/22/22 10:18	07/24/22 08:54	1
Toluene	**0.000561**	**J**	0.00199	0.000453	mg/Kg		07/22/22 10:18	07/24/22 08:54	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		07/22/22 10:18	07/24/22 08:54	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		07/22/22 10:18	07/24/22 08:54	1
o-Xylene	<0.000342	U	0.00199	0.000342	mg/Kg		07/22/22 10:18	07/24/22 08:54	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		07/22/22 10:18	07/24/22 08:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*	*07/22/22 10:18*	*07/24/22 08:54*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*07/22/22 10:18*	*07/24/22 08:54*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00398	0.00100	mg/Kg			07/25/22 11:06	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**39.8**	**J**	49.9	15.0	mg/Kg			07/26/22 09:20	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**24.2**	**J B**	49.9	15.0	mg/Kg		07/25/22 08:52	07/25/22 18:16	1
Diesel Range Organics (Over C10-C28)	<15.0	U *+	49.9	15.0	mg/Kg		07/25/22 08:52	07/25/22 18:16	1
Oil Range Organics (Over C28-C36)	**15.6**	**J B**	49.9	15.0	mg/Kg		07/25/22 08:52	07/25/22 18:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*07/25/22 08:52*	*07/25/22 18:16*	*1*
o-Terphenyl	*100*		*70 - 130*	*07/25/22 08:52*	*07/25/22 18:16*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17261-1
SDG: 12581651

Client Sample ID: BH-47A

Date Collected: 07/21/22 11:10
Date Received: 07/22/22 10:00

Lab Sample ID: 880-17261-4

Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	45.8		5.02	0.862	mg/Kg			07/25/22 08:48	1

Surrogate Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17261-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)									
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)								
880-17261-1	BH-38A	97	80								
880-17261-2	BH-45A	110	86								
880-17261-3	BH-46A	107	77								
880-17261-4	BH-47A	115	86								
LCS 880-30361/1-A	Lab Control Sample	128	98								
LCSD 880-30361/2-A	Lab Control Sample Dup	117	99								
MB 880-30361/5-A	Method Blank	104	85								
MB 880-30426/5-A	Method Blank	94	86								

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)									
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)								
880-17261-1	BH-38A	89	103								
880-17261-2	BH-45A	91	101								
880-17261-3	BH-46A	87	100								
880-17261-4	BH-47A	91	100								
LCS 880-30506/2-A	Lab Control Sample	110	111								
LCSD 880-30506/3-A	Lab Control Sample Dup	122	126								
MB 880-30506/1-A	Method Blank	94	111								

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17261-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-30361/5-A
Matrix: Solid
Analysis Batch: 30473

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30361

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		07/22/22 10:18	07/24/22 01:23	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		07/22/22 10:18	07/24/22 01:23	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		07/22/22 10:18	07/24/22 01:23	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		07/22/22 10:18	07/24/22 01:23	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		07/22/22 10:18	07/24/22 01:23	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		07/22/22 10:18	07/24/22 01:23	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*07/22/22 10:18*	*07/24/22 01:23*	*1*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*	*07/22/22 10:18*	*07/24/22 01:23*	*1*

Lab Sample ID: LCS 880-30361/1-A
Matrix: Solid
Analysis Batch: 30473

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30361

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09697		mg/Kg		97	70 - 130
Toluene	0.100	0.1018		mg/Kg		102	70 - 130
Ethylbenzene	0.100	0.1105		mg/Kg		111	70 - 130
m-Xylene & p-Xylene	0.200	0.2303		mg/Kg		115	70 - 130
o-Xylene	0.100	0.1290		mg/Kg		129	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*128*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: LCSD 880-30361/2-A
Matrix: Solid
Analysis Batch: 30473

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30361

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.07948		mg/Kg		79	70 - 130	20	35
Toluene	0.100	0.08370		mg/Kg		84	70 - 130	20	35
Ethylbenzene	0.100	0.09040		mg/Kg		90	70 - 130	20	35
m-Xylene & p-Xylene	0.200	0.1865		mg/Kg		93	70 - 130	21	35
o-Xylene	0.100	0.1072		mg/Kg		107	70 - 130	18	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: MB 880-30426/5-A
Matrix: Solid
Analysis Batch: 30473

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30426

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		07/22/22 15:06	07/23/22 14:49	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		07/22/22 15:06	07/23/22 14:49	1

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17261-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 880-30426/5-A
Matrix: Solid
Analysis Batch: 30473

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30426

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		07/22/22 15:06	07/23/22 14:49	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		07/22/22 15:06	07/23/22 14:49	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		07/22/22 15:06	07/23/22 14:49	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		07/22/22 15:06	07/23/22 14:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*07/22/22 15:06*	*07/23/22 14:49*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*07/22/22 15:06*	*07/23/22 14:49*	*1*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-30506/1-A
Matrix: Solid
Analysis Batch: 30514

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30506

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	16.24	J	50.0	15.0	mg/Kg		07/25/22 08:52	07/25/22 11:08	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		07/25/22 08:52	07/25/22 11:08	1
Oil Range Organics (Over C28-C36)	38.48	J	50.0	15.0	mg/Kg		07/25/22 08:52	07/25/22 11:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*94*		*70 - 130*	*07/25/22 08:52*	*07/25/22 11:08*	*1*
o-Terphenyl	*111*		*70 - 130*	*07/25/22 08:52*	*07/25/22 11:08*	*1*

Lab Sample ID: LCS 880-30506/2-A
Matrix: Solid
Analysis Batch: 30514

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30506

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1023		mg/Kg		102	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1154		mg/Kg		115	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*110*		*70 - 130*
o-Terphenyl	*111*		*70 - 130*

Lab Sample ID: LCSD 880-30506/3-A
Matrix: Solid
Analysis Batch: 30514

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30506

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1152		mg/Kg		115	70 - 130	12	20
Diesel Range Organics (Over C10-C28)	1000	1374	*+	mg/Kg		137	70 - 130	17	20

Eurofins Midland

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17261-1
SDG: 12581651

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCSD 880-30506/3-A
Matrix: Solid
Analysis Batch: 30514

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30506

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	122		70 - 130
o-Terphenyl	126		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-30403/1-A
Matrix: Solid
Analysis Batch: 30490

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.858	U	5.00	0.858	mg/Kg			07/25/22 07:45	1

Lab Sample ID: LCS 880-30403/2-A
Matrix: Solid
Analysis Batch: 30490

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	269.8		mg/Kg		108	90 - 110		

Lab Sample ID: LCSD 880-30403/3-A
Matrix: Solid
Analysis Batch: 30490

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	273.4		mg/Kg		109	90 - 110	1	20

Lab Sample ID: 880-17261-1 MS
Matrix: Solid
Analysis Batch: 30490

Client Sample ID: BH-38A
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	266		252	528.8		mg/Kg		104	90 - 110		

Lab Sample ID: 880-17261-1 MSD
Matrix: Solid
Analysis Batch: 30490

Client Sample ID: BH-38A
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	266		252	543.4		mg/Kg		110	90 - 110	3	20

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17261-1
SDG: 12581651

GC VOA

Prep Batch: 30361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17261-1	BH-38A	Total/NA	Solid	5035	
880-17261-2	BH-45A	Total/NA	Solid	5035	
880-17261-3	BH-46A	Total/NA	Solid	5035	
880-17261-4	BH-47A	Total/NA	Solid	5035	
MB 880-30361/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-30361/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-30361/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Prep Batch: 30426

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-30426/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 30473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17261-1	BH-38A	Total/NA	Solid	8021B	30361
880-17261-2	BH-45A	Total/NA	Solid	8021B	30361
880-17261-3	BH-46A	Total/NA	Solid	8021B	30361
880-17261-4	BH-47A	Total/NA	Solid	8021B	30361
MB 880-30361/5-A	Method Blank	Total/NA	Solid	8021B	30361
MB 880-30426/5-A	Method Blank	Total/NA	Solid	8021B	30426
LCS 880-30361/1-A	Lab Control Sample	Total/NA	Solid	8021B	30361
LCSD 880-30361/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	30361

Analysis Batch: 30569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17261-1	BH-38A	Total/NA	Solid	Total BTEX	
880-17261-2	BH-45A	Total/NA	Solid	Total BTEX	
880-17261-3	BH-46A	Total/NA	Solid	Total BTEX	
880-17261-4	BH-47A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 30506

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17261-1	BH-38A	Total/NA	Solid	8015NM Prep	
880-17261-2	BH-45A	Total/NA	Solid	8015NM Prep	
880-17261-3	BH-46A	Total/NA	Solid	8015NM Prep	
880-17261-4	BH-47A	Total/NA	Solid	8015NM Prep	
MB 880-30506/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-30506/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-30506/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 30514

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17261-1	BH-38A	Total/NA	Solid	8015B NM	30506
880-17261-2	BH-45A	Total/NA	Solid	8015B NM	30506
880-17261-3	BH-46A	Total/NA	Solid	8015B NM	30506
880-17261-4	BH-47A	Total/NA	Solid	8015B NM	30506
MB 880-30506/1-A	Method Blank	Total/NA	Solid	8015B NM	30506
LCS 880-30506/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	30506
LCSD 880-30506/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	30506

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17261-1
SDG: 12581651

GC Semi VOA

Analysis Batch: 30661

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17261-1	BH-38A	Total/NA	Solid	8015 NM	
880-17261-2	BH-45A	Total/NA	Solid	8015 NM	
880-17261-3	BH-46A	Total/NA	Solid	8015 NM	
880-17261-4	BH-47A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 30403

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17261-1	BH-38A	Soluble	Solid	DI Leach	
880-17261-2	BH-45A	Soluble	Solid	DI Leach	
880-17261-3	BH-46A	Soluble	Solid	DI Leach	
880-17261-4	BH-47A	Soluble	Solid	DI Leach	
MB 880-30403/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-30403/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-30403/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-17261-1 MS	BH-38A	Soluble	Solid	DI Leach	
880-17261-1 MSD	BH-38A	Soluble	Solid	DI Leach	

Analysis Batch: 30490

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17261-1	BH-38A	Soluble	Solid	300.0	30403
880-17261-2	BH-45A	Soluble	Solid	300.0	30403
880-17261-3	BH-46A	Soluble	Solid	300.0	30403
880-17261-4	BH-47A	Soluble	Solid	300.0	30403
MB 880-30403/1-A	Method Blank	Soluble	Solid	300.0	30403
LCS 880-30403/2-A	Lab Control Sample	Soluble	Solid	300.0	30403
LCSD 880-30403/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	30403
880-17261-1 MS	BH-38A	Soluble	Solid	300.0	30403
880-17261-1 MSD	BH-38A	Soluble	Solid	300.0	30403

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17261-1
SDG: 12581651

Client Sample ID: BH-38A
Date Collected: 07/21/22 10:30
Date Received: 07/22/22 10:00

Lab Sample ID: 880-17261-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	30361	07/22/22 10:18	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30473	07/24/22 07:52	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30569	07/25/22 11:06	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30661	07/26/22 09:20	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	30506	07/25/22 08:52	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30514	07/25/22 17:13	AJ	XEN MID
Soluble	Leach	DI Leach			4.97 g	50 mL	30403	07/22/22 12:06	SMC	XEN MID
Soluble	Analysis	300.0		1			30490	07/25/22 08:09	CH	XEN MID

Client Sample ID: BH-45A
Date Collected: 07/21/22 10:50
Date Received: 07/22/22 10:00

Lab Sample ID: 880-17261-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	30361	07/22/22 10:18	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30473	07/24/22 08:13	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30569	07/25/22 11:06	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30661	07/26/22 09:20	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	30506	07/25/22 08:52	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30514	07/25/22 17:35	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	30403	07/22/22 12:06	SMC	XEN MID
Soluble	Analysis	300.0		1			30490	07/25/22 08:32	CH	XEN MID

Client Sample ID: BH-46A
Date Collected: 07/21/22 11:00
Date Received: 07/22/22 10:00

Lab Sample ID: 880-17261-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	30361	07/22/22 10:18	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30473	07/24/22 08:33	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30569	07/25/22 11:06	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30661	07/26/22 09:20	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	30506	07/25/22 08:52	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30514	07/25/22 17:55	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	30403	07/22/22 12:06	SMC	XEN MID
Soluble	Analysis	300.0		1			30490	07/25/22 08:40	CH	XEN MID

Client Sample ID: BH-47A
Date Collected: 07/21/22 11:10
Date Received: 07/22/22 10:00

Lab Sample ID: 880-17261-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	30361	07/22/22 10:18	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30473	07/24/22 08:54	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30569	07/25/22 11:06	SM	XEN MID

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17261-1
SDG: 12581651

Client Sample ID: BH-47A
Date Collected: 07/21/22 11:10
Date Received: 07/22/22 10:00

Lab Sample ID: 880-17261-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			30661	07/26/22 09:20	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	30506	07/25/22 08:52	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30514	07/25/22 18:16	AJ	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	30403	07/22/22 12:06	SMC	XEN MID
Soluble	Analysis	300.0		1			30490	07/25/22 08:48	CH	XEN MID

Laboratory References:

XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: GHD Services Inc. Job ID: 880-17261-1
Project/Site: Merchant Livestock 30 SDG: 12581651

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17261-1
SDG: 12581651

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5035	Closed System Purge and Trap	SW846	XEN MID
8015NM Prep	Microextraction	SW846	XEN MID
DI Leach	Deionized Water Leaching Procedure	ASTM	XEN MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17261-1
SDG: 12581651

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-17261-1	BH-38A	Solid	07/21/22 10:30	07/22/22 10:00
880-17261-2	BH-45A	Solid	07/21/22 10:50	07/22/22 10:00
880-17261-3	BH-46A	Solid	07/21/22 11:00	07/22/22 10:00
880-17261-4	BH-47A	Solid	07/21/22 11:10	07/22/22 10:00

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Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

172601

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

7/26/2022

Project Manager: Becky.Haskell@GHD.com
Company Name: GHD
Company Address: 2135 S. Loop 250 W
City/State/Zip: Midland, TX 79703
Telephone No: 432-686-0086
Fax No:
Sampler Signature:
e-mail: Heath.Boyd@GHD.com

Project Name: 12581651
Project #: Merchant Livestock 30
Project Loc: Lea County, NM
PO #:
Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #:

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP / TOTAL: TPH 418.1	8015M	TPH TX1005	TX1006	Cations (Ca Mg Na, K)	Anions (Cl SO4 Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	8015B	BTEX 8021B/5030 or BTEX 8260	RCI	N O R M	Chloride 300 ml		RUSH TAT (Pre-Schedule) 24 48 72 hrs	Standard TAT
	BH-38A			7/21/22	1030		1									S	X										X			X			
	BH-45A				1050		1									S	X										X			X		X	
	BH-46A				1100		1									S	X										X			X		X	
	BH-47A			X	1110		1									S	X										X			X		X	

880-17261 Chain of Custody

Special Instructions: Please email: Becky, Heath, Ty.Murrey@GHD.com Nikki.Mishler@CDEVinc.com

Direct Bill to: Centennial Resources Production Attn to Nikki

Relinquished by	Date	Time	Received by	Date	Time
	7/21/22	1515		7-21-22	3:10
	7-21-22	3:20		7/22/22	10:00
	Date	Time	Received by ELOT	Date	Time

Laboratory Comments.

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep ?	Y	
by Courier? UPS DHL FedEx Lone Star		

Temperature Upon Receipt: As Read 1.3 Corrected 1.5 °C

Received by OCD: 10/31/2022 6:36:00 AM

Released to Imaging: 11/28/2022 9:20:24 AM

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 880-17261-1
SDG Number: 12581651

Login Number: 17261
List Number: 1
Creator: Rodriguez, Leticia

List Source: Eurofins Midland

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-17347-1
Laboratory Sample Delivery Group: 12581651
Client Project/Site: Merchant Livestock 30

For:
GHD Services Inc.
2135 South Loop 250 West
Midland, Texas 79703

Attn: Becky Haskell

Authorized for release by:
7/27/2022 3:45:05 PM

Debbie Simmons, Project Manager
(832)986-6768
Debbie.Simmons@et.eurofinsus.com

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Laboratory Job ID: 880-17347-1
SDG: 12581651

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Definitions/Glossary

Client: GHD Services Inc. Job ID: 880-17347-1
Project/Site: Merchant Livestock 30 SDG: 12581651

Qualifiers

GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17347-1
SDG: 12581651

Job ID: 880-17347-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-17347-1

Comments
No additional comments.

Receipt
The samples were received on 7/26/2022 8:14 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.4º C.

GC VOA
Method 8021B: The continuing calibration verification (CCV) associated with batch 880-30657 recovered under the lower control limit for Benzene, Toluene, Ethylbenzene, m-Xylene & p-Xylene, o-Xylene and Xylenes, Total. The samples associated with this CCV were ran within12 hours of passing CCV; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method 8015B NM: The method blank for preparation batch 880-30658 and analytical batch 880-30649 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17347-1
SDG: 12581651

Client Sample ID: BH-44A
Date Collected: 07/22/22 11:45
Date Received: 07/26/22 08:14

Lab Sample ID: 880-17347-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		07/26/22 09:25	07/26/22 17:10	1
Toluene	**0.000553**	**J**	0.00199	0.000454	mg/Kg		07/26/22 09:25	07/26/22 17:10	1
Ethylbenzene	<0.000563	U	0.00199	0.000563	mg/Kg		07/26/22 09:25	07/26/22 17:10	1
m-Xylene & p-Xylene	<0.00101	U	0.00398	0.00101	mg/Kg		07/26/22 09:25	07/26/22 17:10	1
o-Xylene	<0.000343	U	0.00199	0.000343	mg/Kg		07/26/22 09:25	07/26/22 17:10	1
Xylenes, Total	<0.00101	U	0.00398	0.00101	mg/Kg		07/26/22 09:25	07/26/22 17:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*	*07/26/22 09:25*	*07/26/22 17:10*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*07/26/22 09:25*	*07/26/22 17:10*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00398	0.00101	mg/Kg			07/27/22 09:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**48.5**	**J**	50.0	15.0	mg/Kg			07/27/22 09:04	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**48.5**	**J B**	50.0	15.0	mg/Kg		07/26/22 08:35	07/26/22 18:18	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		07/26/22 08:35	07/26/22 18:18	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		07/26/22 08:35	07/26/22 18:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*75*		*70 - 130*	*07/26/22 08:35*	*07/26/22 18:18*	*1*
o-Terphenyl	*86*		*70 - 130*	*07/26/22 08:35*	*07/26/22 18:18*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**552**		4.95	0.850	mg/Kg			07/26/22 15:20	1

Client Sample ID: SW-18
Date Collected: 07/22/22 12:20
Date Received: 07/26/22 08:14

Lab Sample ID: 880-17347-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		07/26/22 09:25	07/26/22 17:31	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		07/26/22 09:25	07/26/22 17:31	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		07/26/22 09:25	07/26/22 17:31	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		07/26/22 09:25	07/26/22 17:31	1
o-Xylene	<0.000342	U	0.00199	0.000342	mg/Kg		07/26/22 09:25	07/26/22 17:31	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		07/26/22 09:25	07/26/22 17:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*07/26/22 09:25*	*07/26/22 17:31*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*07/26/22 09:25*	*07/26/22 17:31*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17347-1
SDG: 12581651

Client Sample ID: SW-18
Date Collected: 07/22/22 12:20
Date Received: 07/26/22 08:14

Lab Sample ID: 880-17347-2
Matrix: Solid

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00398	0.00100	mg/Kg			07/27/22 09:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**47.4**	**J**	49.9	15.0	mg/Kg			07/27/22 09:04	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**47.4**	**J B**	49.9	15.0	mg/Kg		07/26/22 08:35	07/26/22 18:39	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		07/26/22 08:35	07/26/22 18:39	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		07/26/22 08:35	07/26/22 18:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*74*		*70 - 130*	*07/26/22 08:35*	*07/26/22 18:39*	*1*
o-Terphenyl	*83*		*70 - 130*	*07/26/22 08:35*	*07/26/22 18:39*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**786**		24.8	4.26	mg/Kg			07/26/22 15:29	5

Client Sample ID: SW-19
Date Collected: 07/22/22 12:30
Date Received: 07/26/22 08:14

Lab Sample ID: 880-17347-3
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		07/26/22 09:25	07/26/22 17:51	1
Toluene	<0.000458	U	0.00201	0.000458	mg/Kg		07/26/22 09:25	07/26/22 17:51	1
Ethylbenzene	<0.000567	U	0.00201	0.000567	mg/Kg		07/26/22 09:25	07/26/22 17:51	1
m-Xylene & p-Xylene	<0.00101	U	0.00402	0.00101	mg/Kg		07/26/22 09:25	07/26/22 17:51	1
o-Xylene	<0.000345	U	0.00201	0.000345	mg/Kg		07/26/22 09:25	07/26/22 17:51	1
Xylenes, Total	<0.00101	U	0.00402	0.00101	mg/Kg		07/26/22 09:25	07/26/22 17:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*07/26/22 09:25*	*07/26/22 17:51*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*07/26/22 09:25*	*07/26/22 17:51*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00402	0.00101	mg/Kg			07/27/22 09:48	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**45.7**	**J**	49.8	14.9	mg/Kg			07/27/22 09:04	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**45.7**	**J B**	49.8	14.9	mg/Kg		07/26/22 08:35	07/26/22 19:00	1
Diesel Range Organics (Over C10-C28)	<14.9	U	49.8	14.9	mg/Kg		07/26/22 08:35	07/26/22 19:00	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17347-1
SDG: 12581651

Client Sample ID: SW-19

Date Collected: 07/22/22 12:30
Date Received: 07/26/22 08:14

Lab Sample ID: 880-17347-3

Matrix: Solid

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oll Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		07/26/22 08:35	07/26/22 19:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*74*		*70 - 130*	*07/26/22 08:35*	*07/26/22 19:00*	*1*
o-Terphenyl	*85*		*70 - 130*	*07/26/22 08:35*	*07/26/22 19:00*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**762**		4.99	0.857	mg/Kg			07/26/22 15:38	1

Surrogate Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17347-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-17347-1	BH-44A	111	92
880-17347-2	SW-18	112	90
880-17347-3	SW-19	110	88
LCS 880-30562/1-A	Lab Control Sample	106	94
LCS 880-30664/1-A	Lab Control Sample	105	95
LCSD 880-30562/2-A	Lab Control Sample Dup	104	94
LCSD 880-30664/2-A	Lab Control Sample Dup	108	98
MB 880-30562/5-A	Method Blank	90	84
MB 880-30664/5-A	Method Blank	100	87

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-17347-1	BH-44A	75	86
880-17347-2	SW-18	74	83
880-17347-3	SW-19	74	85
LCS 880-30658/2-A	Lab Control Sample	106	111
LCSD 880-30658/3-A	Lab Control Sample Dup	94	101
MB 880-30658/1-A	Method Blank	74	83

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17347-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-30562/5-A
Matrix: Solid
Analysis Batch: 30657

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30562

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		07/25/22 10:57	07/26/22 22:37	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		07/25/22 10:57	07/26/22 22:37	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		07/25/22 10:57	07/26/22 22:37	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		07/25/22 10:57	07/26/22 22:37	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		07/25/22 10:57	07/26/22 22:37	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		07/25/22 10:57	07/26/22 22:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*07/25/22 10:57*	*07/26/22 22:37*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*07/25/22 10:57*	*07/26/22 22:37*	*1*

Lab Sample ID: LCS 880-30562/1-A
Matrix: Solid
Analysis Batch: 30657

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30562

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09490		mg/Kg		95	70 - 130
Toluene	0.100	0.09745		mg/Kg		97	70 - 130
Ethylbenzene	0.100	0.1000		mg/Kg		100	70 - 130
m-Xylene & p-Xylene	0.200	0.2002		mg/Kg		100	70 - 130
o-Xylene	0.100	0.1107		mg/Kg		111	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: LCSD 880-30562/2-A
Matrix: Solid
Analysis Batch: 30657

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30562

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1003		mg/Kg		100	70 - 130	6	35
Toluene	0.100	0.1020		mg/Kg		102	70 - 130	5	35
Ethylbenzene	0.100	0.1039		mg/Kg		104	70 - 130	4	35
m-Xylene & p-Xylene	0.200	0.2077		mg/Kg		104	70 - 130	4	35
o-Xylene	0.100	0.1145		mg/Kg		114	70 - 130	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: MB 880-30664/5-A
Matrix: Solid
Analysis Batch: 30657

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30664

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		07/26/22 09:25	07/26/22 12:01	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		07/26/22 09:25	07/26/22 12:01	1

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17347-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 880-30664/5-A
Matrix: Solid
Analysis Batch: 30657

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30664

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		07/26/22 09:25	07/26/22 12:01	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		07/26/22 09:25	07/26/22 12:01	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		07/26/22 09:25	07/26/22 12:01	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		07/26/22 09:25	07/26/22 12:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*07/26/22 09:25*	*07/26/22 12:01*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*07/26/22 09:25*	*07/26/22 12:01*	*1*

Lab Sample ID: LCS 880-30664/1-A
Matrix: Solid
Analysis Batch: 30657

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30664

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09358		mg/Kg		94	70 - 130
Toluene	0.100	0.09382		mg/Kg		94	70 - 130
Ethylbenzene	0.100	0.09803		mg/Kg		98	70 - 130
m-Xylene & p-Xylene	0.200	0.1983		mg/Kg		99	70 - 130
o-Xylene	0.100	0.1073		mg/Kg		107	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: LCSD 880-30664/2-A
Matrix: Solid
Analysis Batch: 30657

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30664

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09765		mg/Kg		98	70 - 130	4	35
Toluene	0.100	0.09676		mg/Kg		97	70 - 130	3	35
Ethylbenzene	0.100	0.1016		mg/Kg		102	70 - 130	4	35
m-Xylene & p-Xylene	0.200	0.2052		mg/Kg		103	70 - 130	3	35
o-Xylene	0.100	0.1117		mg/Kg		112	70 - 130	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-30658/1-A
Matrix: Solid
Analysis Batch: 30649

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30658

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	24.43	J	50.0	15.0	mg/Kg		07/26/22 08:35	07/26/22 10:49	1

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17347-1
SDG: 12581651

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-30658/1-A
Matrix: Solid
Analysis Batch: 30649

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30658

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		07/26/22 08:35	07/26/22 10:49	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		07/26/22 08:35	07/26/22 10:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*74*		*70 - 130*	*07/26/22 08:35*	*07/26/22 10:49*	*1*
o-Terphenyl	*83*		*70 - 130*	*07/26/22 08:35*	*07/26/22 10:49*	*1*

Lab Sample ID: LCS 880-30658/2-A
Matrix: Solid
Analysis Batch: 30649

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30658

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1058		mg/Kg		106	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1146		mg/Kg		115	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*106*		*70 - 130*
o-Terphenyl	*111*		*70 - 130*

Lab Sample ID: LCSD 880-30658/3-A
Matrix: Solid
Analysis Batch: 30649

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30658

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1120		mg/Kg		112	70 - 130	6	20
Diesel Range Organics (Over C10-C28)			1000	1009		mg/Kg		101	70 - 130	13	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*94*		*70 - 130*
o-Terphenyl	*101*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-30597/1-A
Matrix: Solid
Analysis Batch: 30701

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.858	U	5.00	0.858	mg/Kg			07/26/22 13:20	1

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17347-1
SDG: 12581651

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-30597/2-A
Matrix: Solid
Analysis Batch: 30701

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	256.4		mg/Kg		103	90 - 110

Lab Sample ID: LCSD 880-30597/3-A
Matrix: Solid
Analysis Batch: 30701

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	257.9		mg/Kg		103	90 - 110	1	20

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17347-1
SDG: 12581651

GC VOA

Prep Batch: 30562

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-30562/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-30562/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-30562/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 30657

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17347-1	BH-44A	Total/NA	Solid	8021B	30664
880-17347-2	SW-18	Total/NA	Solid	8021B	30664
880-17347-3	SW-19	Total/NA	Solid	8021B	30664
MB 880-30562/5-A	Method Blank	Total/NA	Solid	8021B	30562
MB 880-30664/5-A	Method Blank	Total/NA	Solid	8021B	30664
LCS 880-30562/1-A	Lab Control Sample	Total/NA	Solid	8021B	30562
LCS 880-30664/1-A	Lab Control Sample	Total/NA	Solid	8021B	30664
LCSD 880-30562/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	30562
LCSD 880-30664/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	30664

Prep Batch: 30664

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17347-1	BH-44A	Total/NA	Solid	5035	
880-17347-2	SW-18	Total/NA	Solid	5035	
880-17347-3	SW-19	Total/NA	Solid	5035	
MB 880-30664/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-30664/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-30664/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 30785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17347-1	BH-44A	Total/NA	Solid	Total BTEX	
880-17347-2	SW-18	Total/NA	Solid	Total BTEX	
880-17347-3	SW-19	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 30649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17347-1	BH-44A	Total/NA	Solid	8015B NM	30658
880-17347-2	SW-18	Total/NA	Solid	8015B NM	30658
880-17347-3	SW-19	Total/NA	Solid	8015B NM	30658
MB 880-30658/1-A	Method Blank	Total/NA	Solid	8015B NM	30658
LCS 880-30658/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	30658
LCSD 880-30658/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	30658

Prep Batch: 30658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17347-1	BH-44A	Total/NA	Solid	8015NM Prep	
880-17347-2	SW-18	Total/NA	Solid	8015NM Prep	
880-17347-3	SW-19	Total/NA	Solid	8015NM Prep	
MB 880-30658/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-30658/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-30658/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17347-1
SDG: 12581651

GC Semi VOA

Analysis Batch: 30769

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17347-1	BH-44A	Total/NA	Solid	8015 NM	
880-17347-2	SW-18	Total/NA	Solid	8015 NM	
880-17347-3	SW-19	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 30597

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17347-1	BH-44A	Soluble	Solid	DI Leach	
880-17347-2	SW-18	Soluble	Solid	DI Leach	
880-17347-3	SW-19	Soluble	Solid	DI Leach	
MB 880-30597/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-30597/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-30597/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 30701

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17347-1	BH-44A	Soluble	Solid	300.0	30597
880-17347-2	SW-18	Soluble	Solid	300.0	30597
880-17347-3	SW-19	Soluble	Solid	300.0	30597
MB 880-30597/1-A	Method Blank	Soluble	Solid	300.0	30597
LCS 880-30597/2-A	Lab Control Sample	Soluble	Solid	300.0	30597
LCSD 880-30597/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	30597

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17347-1
SDG: 12581651

Client Sample ID: BH-44A
Date Collected: 07/22/22 11:45
Date Received: 07/26/22 08:14

Lab Sample ID: 880-17347-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	30664	07/26/22 09:25	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30657	07/26/22 17:10	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30785	07/27/22 09:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30769	07/27/22 09:04	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	30658	07/26/22 08:35	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30649	07/26/22 18:18	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	30597	07/26/22 12:15	SMC	XEN MID
Soluble	Analysis	300.0		1			30701	07/26/22 15:20	CH	XEN MID

Client Sample ID: SW-18
Date Collected: 07/22/22 12:20
Date Received: 07/26/22 08:14

Lab Sample ID: 880-17347-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	30664	07/26/22 09:25	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30657	07/26/22 17:31	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30785	07/27/22 09:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30769	07/27/22 09:04	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	30658	07/26/22 08:35	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30649	07/26/22 18:39	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	30597	07/26/22 12:15	SMC	XEN MID
Soluble	Analysis	300.0		5			30701	07/26/22 15:29	CH	XEN MID

Client Sample ID: SW-19
Date Collected: 07/22/22 12:30
Date Received: 07/26/22 08:14

Lab Sample ID: 880-17347-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	30664	07/26/22 09:25	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30657	07/26/22 17:51	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30785	07/27/22 09:48	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30769	07/27/22 09:04	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	30658	07/26/22 08:35	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30649	07/26/22 19:00	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	30597	07/26/22 12:15	SMC	XEN MID
Soluble	Analysis	300.0		1			30701	07/26/22 15:38	CH	XEN MID

Laboratory References:
XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: GHD Services Inc.
Job ID: 880-17347-1
Project/Site: Merchant Livestock 30
SDG: 12581651

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17347-1
SDG: 12581651

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5035	Closed System Purge and Trap	SW846	XEN MID
8015NM Prep	Microextraction	SW846	XEN MID
DI Leach	Deionized Water Leaching Procedure	ASTM	XEN MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17347-1
SDG: 12581651

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-17347-1	BH-44A	Solid	07/22/22 11:45	07/26/22 08:14
880-17347-2	SW-18	Solid	07/22/22 12:20	07/26/22 08:14
880-17347-3	SW-19	Solid	07/22/22 12:30	07/26/22 08:14

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Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND AN

12600 West I-20 East
Odessa, Texas 79765

880-17347 Chain of Custody

7/27/2022

Project Manager: Becky.Haskell@GHD.com
Company Name: GHD
Company Address: 2135 S. Loop 250 W.
City/State/Zip: Midland, TX 79703
Telephone No: 432-686-0086
Fax No:
Sampler Signature:
e-mail: Heath.Boyd@GHD.com

Project Name: Merchant Livestock 30
Project #: 12581651
Project Loc: Lea County, NM
PO #:
Report Format: ☑ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #:

Lab # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge	GW=Groundwater S=Soil/Solid	NP=Non-Potable Specify Other	Analyze For: TCLP/TOTAL: TPH 418.1 8015M 8015B	TPH TX 1005 TX 1006	Cations (Ca Mg Na, K)	Anions (Cl SO4 Alkalinity)	SAR / ESP / CEC	Metals As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N O R M	Chloride 300m		PUSH TAT (Pre-Schedule) 24 48 72hrs	Standard TAT
	BH-44A			7/22/22	1145		1										S		X								X			X			
	SW-18				1220		1										S		X								X			X		X	
	SW-19				1230		1										S		X								X			X		X	

Special Instructions: Please Email: Becky.Heath, JT.Murrey@GHD.com N:KLY.Mishler@CDEVinc.com

Direct Bill to: Centennial Resources Production Attn to N:KL:

Relinquished by	Date	Time	Received by	Date	Time
	7/22/22	1415		7-22-22	1425
Relinquished by	Date	Time	Received by	Date	Time
	7-22-22	1425	Received by ELOT	7/26/22	814
Relinquished by	Date	Time		Date	Time

Laboratory Comments

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered		N
by Sampler/Client Rep ?	Y	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt	As Read	Corrected
	12	14 °C

Received by OCD: 10/31/2022 6:36:00 AM

Released to Imaging: 11/28/2022 9:20:24 AM

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 880-17347-1
SDG Number: 12581651

Login Number: 17347
List Number: 1
Creator: Rodriguez, Leticia

List Source: Eurofins Midland

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-17357-1
Laboratory Sample Delivery Group: 12581651
Client Project/Site: Merchant Livestock 30

For:
GHD Services Inc.
2135 South Loop 250 West
Midland, Texas 79703

Attn: Becky Haskell

Authorized for release by:
8/9/2022 7:19:42 AM

Debbie Simmons, Project Manager
(832)986-6768
Debbie.Simmons@et.eurofinsus.com

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Laboratory Job ID: 880-17357-1
SDG: 12581651

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Definitions/Glossary

Client: GHD Services Inc. Job ID: 880-17357-1
Project/Site: Merchant Livestock 30 SDG: 12581651

Qualifiers

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17357-1
SDG: 12581651

Job ID: 880-17357-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-17357-1

Receipt
The samples were received on 7/26/2022 10:40 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.9°C

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
Method 8015MOD_NM: The method blank for preparation batch 880-30965 and analytical batch 880-31053 contained OII Range Organics (Over C28-C36) above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17357-1
SDG: 12581651

Client Sample ID: TP1-S

Date Collected: 07/25/22 11:20
Date Received: 07/26/22 10:40

Lab Sample ID: 880-17357-1

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000384	U	0.00200	0.000384	mg/Kg		08/02/22 14:01	08/05/22 14:59	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		08/02/22 14:01	08/05/22 14:59	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		08/02/22 14:01	08/05/22 14:59	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		08/02/22 14:01	08/05/22 14:59	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		08/02/22 14:01	08/05/22 14:59	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		08/02/22 14:01	08/05/22 14:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*08/02/22 14:01*	*08/05/22 14:59*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*08/02/22 14:01*	*08/05/22 14:59*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg			08/08/22 14:53	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**49.5**	**J**	50.0	15.0	mg/Kg			07/31/22 10:38	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**49.5**	**J**	50.0	15.0	mg/Kg		07/29/22 08:50	07/31/22 02:01	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		07/29/22 08:50	07/31/22 02:01	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		07/29/22 08:50	07/31/22 02:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*82*		*70 - 130*	*07/29/22 08:50*	*07/31/22 02:01*	*1*
o-Terphenyl	*87*		*70 - 130*	*07/29/22 08:50*	*07/31/22 02:01*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**16.5**		5.01	0.860	mg/Kg			07/31/22 16:46	1

Client Sample ID: TP1-1

Date Collected: 07/25/22 11:40
Date Received: 07/26/22 10:40

Lab Sample ID: 880-17357-2

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		08/02/22 14:01	08/05/22 15:20	1
Toluene	<0.000459	U	0.00201	0.000459	mg/Kg		08/02/22 14:01	08/05/22 15:20	1
Ethylbenzene	<0.000568	U	0.00201	0.000568	mg/Kg		08/02/22 14:01	08/05/22 15:20	1
m-Xylene & p-Xylene	<0.00102	U	0.00402	0.00102	mg/Kg		08/02/22 14:01	08/05/22 15:20	1
o-Xylene	<0.000346	U	0.00201	0.000346	mg/Kg		08/02/22 14:01	08/05/22 15:20	1
Xylenes, Total	<0.00102	U	0.00402	0.00102	mg/Kg		08/02/22 14:01	08/05/22 15:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*08/02/22 14:01*	*08/05/22 15:20*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*08/02/22 14:01*	*08/05/22 15:20*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17357-1
SDG: 12581651

Client Sample ID: TP1-1
Date Collected: 07/25/22 11:40
Date Received: 07/26/22 10:40

Lab Sample ID: 880-17357-2
Matrix: Solid

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00102	U	0.00402	0.00102	mg/Kg			08/08/22 14:53	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**47.7**	**J**	49.9	15.0	mg/Kg			07/31/22 10:38	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**47.7**	**J**	49.9	15.0	mg/Kg		07/29/22 08:50	07/31/22 02:21	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		07/29/22 08:50	07/31/22 02:21	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		07/29/22 08:50	07/31/22 02:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*84*		*70 - 130*	*07/29/22 08:50*	*07/31/22 02:21*	*1*
o-Terphenyl	*90*		*70 - 130*	*07/29/22 08:50*	*07/31/22 02:21*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**35.8**		4.98	0.855	mg/Kg			07/31/22 17:14	1

Client Sample ID: TP2-S
Date Collected: 07/25/22 11:50
Date Received: 07/26/22 10:40

Lab Sample ID: 880-17357-3
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000389	U	0.00202	0.000389	mg/Kg		08/02/22 14:01	08/05/22 15:40	1
Toluene	<0.000461	U	0.00202	0.000461	mg/Kg		08/02/22 14:01	08/05/22 15:40	1
Ethylbenzene	<0.000571	U	0.00202	0.000571	mg/Kg		08/02/22 14:01	08/05/22 15:40	1
m-Xylene & p-Xylene	<0.00102	U	0.00404	0.00102	mg/Kg		08/02/22 14:01	08/05/22 15:40	1
o-Xylene	<0.000347	U	0.00202	0.000347	mg/Kg		08/02/22 14:01	08/05/22 15:40	1
Xylenes, Total	<0.00102	U	0.00404	0.00102	mg/Kg		08/02/22 14:01	08/05/22 15:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*08/02/22 14:01*	*08/05/22 15:40*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*08/02/22 14:01*	*08/05/22 15:40*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00102	U	0.00404	0.00102	mg/Kg			08/08/22 14:53	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**48.3**	**J**	50.0	15.0	mg/Kg			07/31/22 10:38	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**48.3**	**J**	50.0	15.0	mg/Kg		07/29/22 08:50	07/31/22 02:41	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		07/29/22 08:50	07/31/22 02:41	1

Eurofins Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17357-1
SDG: 12581651

Client Sample ID: TP2-S
Date Collected: 07/25/22 11:50
Date Received: 07/26/22 10:40

Lab Sample ID: 880-17357-3
Matrix: Solid

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oll Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		07/29/22 08:50	07/31/22 02:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*81*		*70 - 130*	*07/29/22 08:50*	*07/31/22 02:41*	*1*
o-Terphenyl	*90*		*70 - 130*	*07/29/22 08:50*	*07/31/22 02:41*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**171**		4.95	0.850	mg/Kg			07/31/22 17:23	1

Client Sample ID: TP2-1
Date Collected: 07/25/22 12:00
Date Received: 07/26/22 10:40

Lab Sample ID: 880-17357-4
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		08/02/22 14:01	08/05/22 18:31	1
Toluene	<0.000454	U	0.00199	0.000454	mg/Kg		08/02/22 14:01	08/05/22 18:31	1
Ethylbenzene	<0.000563	U	0.00199	0.000563	mg/Kg		08/02/22 14:01	08/05/22 18:31	1
m-Xylene & p-Xylene	<0.00101	U	0.00398	0.00101	mg/Kg		08/02/22 14:01	08/05/22 18:31	1
o-Xylene	<0.000343	U	0.00199	0.000343	mg/Kg		08/02/22 14:01	08/05/22 18:31	1
Xylenes, Total	<0.00101	U	0.00398	0.00101	mg/Kg		08/02/22 14:01	08/05/22 18:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*08/02/22 14:01*	*08/05/22 18:31*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*08/02/22 14:01*	*08/05/22 18:31*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00398	0.00101	mg/Kg			08/08/22 14:53	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**49.0**	**J**	50.0	15.0	mg/Kg			07/31/22 10:38	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**49.0**	**J**	50.0	15.0	mg/Kg		07/29/22 08:50	07/31/22 03:01	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		07/29/22 08:50	07/31/22 03:01	1
Oll Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		07/29/22 08:50	07/31/22 03:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*92*		*70 - 130*	*07/29/22 08:50*	*07/31/22 03:01*	*1*
o-Terphenyl	*104*		*70 - 130*	*07/29/22 08:50*	*07/31/22 03:01*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**227**		5.00	0.858	mg/Kg			07/31/22 17:33	1

Surrogate Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17357-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-17357-1	TP1-S	106	107
880-17357-2	TP1-1	106	102
880-17357-3	TP2-S	99	102
880-17357-4	TP2-1	105	105
LCS 880-31326/1-A	Lab Control Sample	106	98
LCS 880-31571/1-A	Lab Control Sample	106	102
LCS 880-31607/1-A	Lab Control Sample	103	98
LCSD 880-31326/2-A	Lab Control Sample Dup	109	98
LCSD 880-31571/2-A	Lab Control Sample Dup	111	102
LCSD 880-31607/2-A	Lab Control Sample Dup	100	99
MB 880-31326/5-A	Method Blank	92	104
MB 880-31571/5-A	Method Blank	91	103
MB 880-31607/5-A	Method Blank	92	102

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-17357-1	TP1-S	82	87
880-17357-2	TP1-1	84	90
880-17357-3	TP2-S	81	90
880-17357-4	TP2-1	92	104
LCS 880-30965/2-A	Lab Control Sample	101	102
LCSD 880-30965/3-A	Lab Control Sample Dup	93	93
MB 880-30965/1-A	Method Blank	91	101

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17357-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-31326/5-A
Matrix: Solid
Analysis Batch: 31541

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31326

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		08/02/22 14:01	08/05/22 12:07	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		08/02/22 14:01	08/05/22 12:07	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		08/02/22 14:01	08/05/22 12:07	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/02/22 14:01	08/05/22 12:07	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		08/02/22 14:01	08/05/22 12:07	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/02/22 14:01	08/05/22 12:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*08/02/22 14:01*	*08/05/22 12:07*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*08/02/22 14:01*	*08/05/22 12:07*	*1*

Lab Sample ID: LCS 880-31326/1-A
Matrix: Solid
Analysis Batch: 31541

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31326

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1004		mg/Kg		100	70 - 130
Toluene	0.100	0.1071		mg/Kg		107	70 - 130
Ethylbenzene	0.100	0.1123		mg/Kg		112	70 - 130
m-Xylene & p-Xylene	0.200	0.2337		mg/Kg		117	70 - 130
o-Xylene	0.100	0.1138		mg/Kg		114	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: LCSD 880-31326/2-A
Matrix: Solid
Analysis Batch: 31541

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31326

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1040		mg/Kg		104	70 - 130	4	35
Toluene	0.100	0.1128		mg/Kg		113	70 - 130	5	35
Ethylbenzene	0.100	0.1167		mg/Kg		117	70 - 130	4	35
m-Xylene & p-Xylene	0.200	0.2411		mg/Kg		121	70 - 130	3	35
o-Xylene	0.100	0.1178		mg/Kg		118	70 - 130	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: MB 880-31571/5-A
Matrix: Solid
Analysis Batch: 31541

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31571

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		08/05/22 10:52	08/06/22 00:45	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		08/05/22 10:52	08/06/22 00:45	1

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17357-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 880-31571/5-A
Matrix: Solid
Analysis Batch: 31541

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31571

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		08/05/22 10:52	08/06/22 00:45	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/05/22 10:52	08/06/22 00:45	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		08/05/22 10:52	08/06/22 00:45	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/05/22 10:52	08/06/22 00:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*	*08/05/22 10:52*	*08/06/22 00:45*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*08/05/22 10:52*	*08/06/22 00:45*	*1*

Lab Sample ID: LCS 880-31571/1-A
Matrix: Solid
Analysis Batch: 31541

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31571

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1096		mg/Kg		110	70 - 130
Toluene	0.100	0.1067		mg/Kg		107	70 - 130
Ethylbenzene	0.100	0.1107		mg/Kg		111	70 - 130
m-Xylene & p-Xylene	0.200	0.2247		mg/Kg		112	70 - 130
o-Xylene	0.100	0.1114		mg/Kg		111	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: LCSD 880-31571/2-A
Matrix: Solid
Analysis Batch: 31541

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31571

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1076		mg/Kg		108	70 - 130	2	35
Toluene	0.100	0.1077		mg/Kg		108	70 - 130	1	35
Ethylbenzene	0.100	0.1093		mg/Kg		109	70 - 130	1	35
m-Xylene & p-Xylene	0.200	0.2226		mg/Kg		111	70 - 130	1	35
o-Xylene	0.100	0.1110		mg/Kg		111	70 - 130	0	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: MB 880-31607/5-A
Matrix: Solid
Analysis Batch: 31541

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31607

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		08/05/22 14:38	08/06/22 12:22	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		08/05/22 14:38	08/06/22 12:22	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		08/05/22 14:38	08/06/22 12:22	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/05/22 14:38	08/06/22 12:22	1

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17357-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 880-31607/5-A
Matrix: Solid
Analysis Batch: 31541

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31607

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		08/05/22 14:38	08/06/22 12:22	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/05/22 14:38	08/06/22 12:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*08/05/22 14:38*	*08/06/22 12:22*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*08/05/22 14:38*	*08/06/22 12:22*	*1*

Lab Sample ID: LCS 880-31607/1-A
Matrix: Solid
Analysis Batch: 31541

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31607

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.08131		mg/Kg		81	70 - 130
Toluene	0.100	0.08946		mg/Kg		89	70 - 130
Ethylbenzene	0.100	0.09220		mg/Kg		92	70 - 130
m-Xylene & p-Xylene	0.200	0.1908		mg/Kg		95	70 - 130
o-Xylene	0.100	0.09654		mg/Kg		97	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: LCSD 880-31607/2-A
Matrix: Solid
Analysis Batch: 31541

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31607

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09300		mg/Kg		93	70 - 130	13	35
Toluene	0.100	0.09344		mg/Kg		93	70 - 130	4	35
Ethylbenzene	0.100	0.09529		mg/Kg		95	70 - 130	3	35
m-Xylene & p-Xylene	0.200	0.1949		mg/Kg		97	70 - 130	2	35
o-Xylene	0.100	0.09773		mg/Kg		98	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-30965/1-A
Matrix: Solid
Analysis Batch: 31053

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30965

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		07/29/22 08:50	07/30/22 19:51	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		07/29/22 08:50	07/30/22 19:51	1
Oil Range Organics (Over C28-C36)	16.11	J	50.0	15.0	mg/Kg		07/29/22 08:50	07/30/22 19:51	1

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17357-1
SDG: 12581651

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	91		70 - 130	07/29/22 08:50	07/30/22 19:51	1
o-Terphenyl	101		70 - 130	07/29/22 08:50	07/30/22 19:51	1

Lab Sample ID: LCS 880-30965/2-A
Matrix: Solid
Analysis Batch: 31053

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30965

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1058		mg/Kg		106	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1040		mg/Kg		104	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	101		70 - 130
o-Terphenyl	102		70 - 130

Lab Sample ID: LCSD 880-30965/3-A
Matrix: Solid
Analysis Batch: 31053

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30965

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	949.7		mg/Kg		95	70 - 130	11	20
Diesel Range Organics (Over C10-C28)	1000	972.0		mg/Kg		97	70 - 130	7	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	93		70 - 130
o-Terphenyl	93		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-30811/1-A
Matrix: Solid
Analysis Batch: 31000

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.858	U	5.00	0.858	mg/Kg			07/31/22 16:19	1

Lab Sample ID: LCS 880-30811/2-A
Matrix: Solid
Analysis Batch: 31000

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	265.5		mg/Kg		106	90 - 110

Lab Sample ID: LCSD 880-30811/3-A
Matrix: Solid
Analysis Batch: 31000

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	265.4		mg/Kg		106	90 - 110	0	20

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17357-1
SDG: 12581651

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 880-17357-1 MS
Matrix: Solid
Analysis Batch: 31000

Client Sample ID: TP1-S
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	16.5		251	247.7		mg/Kg		92	90 - 110		

Lab Sample ID: 880-17357-1 MSD
Matrix: Solid
Analysis Batch: 31000

Client Sample ID: TP1-S
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	16.5		251	247.9		mg/Kg		92	90 - 110	0	20

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17357-1
SDG: 12581651

GC VOA

Prep Batch: 31326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17357-1	TP1-S	Total/NA	Solid	5035	
880-17357-2	TP1-1	Total/NA	Solid	5035	
880-17357-3	TP2-S	Total/NA	Solid	5035	
880-17357-4	TP2-1	Total/NA	Solid	5035	
MB 880-31326/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-31326/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-31326/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 31541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17357-1	TP1-S	Total/NA	Solid	8021B	31326
880-17357-2	TP1-1	Total/NA	Solid	8021B	31326
880-17357-3	TP2-S	Total/NA	Solid	8021B	31326
880-17357-4	TP2-1	Total/NA	Solid	8021B	31326
MB 880-31326/5-A	Method Blank	Total/NA	Solid	8021B	31326
MB 880-31571/5-A	Method Blank	Total/NA	Solid	8021B	31571
MB 880-31607/5-A	Method Blank	Total/NA	Solid	8021B	31607
LCS 880-31326/1-A	Lab Control Sample	Total/NA	Solid	8021B	31326
LCS 880-31571/1-A	Lab Control Sample	Total/NA	Solid	8021B	31571
LCS 880-31607/1-A	Lab Control Sample	Total/NA	Solid	8021B	31607
LCSD 880-31326/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	31326
LCSD 880-31571/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	31571
LCSD 880-31607/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	31607

Prep Batch: 31571

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-31571/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-31571/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-31571/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Prep Batch: 31607

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-31607/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-31607/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-31607/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 31784

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17357-1	TP1-S	Total/NA	Solid	Total BTEX	
880-17357-2	TP1-1	Total/NA	Solid	Total BTEX	
880-17357-3	TP2-S	Total/NA	Solid	Total BTEX	
880-17357-4	TP2-1	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 30965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17357-1	TP1-S	Total/NA	Solid	8015NM Prep	
880-17357-2	TP1-1	Total/NA	Solid	8015NM Prep	
880-17357-3	TP2-S	Total/NA	Solid	8015NM Prep	
880-17357-4	TP2-1	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17357-1
SDG: 12581651

GC Semi VOA (Continued)

Prep Batch: 30965 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-30965/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-30965/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-30965/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 31053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17357-1	TP1-S	Total/NA	Solid	8015B NM	30965
880-17357-2	TP1-1	Total/NA	Solid	8015B NM	30965
880-17357-3	TP2-S	Total/NA	Solid	8015B NM	30965
880-17357-4	TP2-1	Total/NA	Solid	8015B NM	30965
MB 880-30965/1-A	Method Blank	Total/NA	Solid	8015B NM	30965
LCS 880-30965/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	30965
LCSD 880-30965/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	30965

Analysis Batch: 31123

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17357-1	TP1-S	Total/NA	Solid	8015 NM	
880-17357-2	TP1-1	Total/NA	Solid	8015 NM	
880-17357-3	TP2-S	Total/NA	Solid	8015 NM	
880-17357-4	TP2-1	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 30811

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17357-1	TP1-S	Soluble	Solid	DI Leach	
880-17357-2	TP1-1	Soluble	Solid	DI Leach	
880-17357-3	TP2-S	Soluble	Solid	DI Leach	
880-17357-4	TP2-1	Soluble	Solid	DI Leach	
MB 880-30811/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-30811/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-30811/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-17357-1 MS	TP1-S	Soluble	Solid	DI Leach	
880-17357-1 MSD	TP1-S	Soluble	Solid	DI Leach	

Analysis Batch: 31000

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17357-1	TP1-S	Soluble	Solid	300.0	30811
880-17357-2	TP1-1	Soluble	Solid	300.0	30811
880-17357-3	TP2-S	Soluble	Solid	300.0	30811
880-17357-4	TP2-1	Soluble	Solid	300.0	30811
MB 880-30811/1-A	Method Blank	Soluble	Solid	300.0	30811
LCS 880-30811/2-A	Lab Control Sample	Soluble	Solid	300.0	30811
LCSD 880-30811/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	30811
880-17357-1 MS	TP1-S	Soluble	Solid	300.0	30811
880-17357-1 MSD	TP1-S	Soluble	Solid	300.0	30811

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17357-1
SDG: 12581651

Client Sample ID: TP1-S
Date Collected: 07/25/22 11:20
Date Received: 07/26/22 10:40

Lab Sample ID: 880-17357-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	31326	08/02/22 14:01	MR	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31541	08/05/22 14:59	MR	EETSC M
Total/NA	Analysis	Total BTEX		1			31784	08/08/22 14:53	SM	EETSC M
Total/NA	Analysis	8015 NM		1			31123	07/31/22 10:38	AJ	EETSC M
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	30965	07/29/22 08:50	DM	EETSC M
Total/NA	Analysis	8015B NM		1			31053	07/31/22 02:01	AJ	EETSC M
Soluble	Leach	DI Leach			4.99 g	50 mL	30811	07/27/22 13:03	SMC	EETSC M
Soluble	Analysis	300.0		1			31000	07/31/22 16:46	SMC	EETSC M

Client Sample ID: TP1-1
Date Collected: 07/25/22 11:40
Date Received: 07/26/22 10:40

Lab Sample ID: 880-17357-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	31326	08/02/22 14:01	MR	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31541	08/05/22 15:20	MR	EETSC M
Total/NA	Analysis	Total BTEX		1			31784	08/08/22 14:53	SM	EETSC M
Total/NA	Analysis	8015 NM		1			31123	07/31/22 10:38	AJ	EETSC M
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	30965	07/29/22 08:50	DM	EETSC M
Total/NA	Analysis	8015B NM		1			31053	07/31/22 02:21	AJ	EETSC M
Soluble	Leach	DI Leach			5.02 g	50 mL	30811	07/27/22 13:03	SMC	EETSC M
Soluble	Analysis	300.0		1			31000	07/31/22 17:14	SMC	EETSC M

Client Sample ID: TP2-S
Date Collected: 07/25/22 11:50
Date Received: 07/26/22 10:40

Lab Sample ID: 880-17357-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	31326	08/02/22 14:01	MR	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31541	08/05/22 15:40	MR	EETSC M
Total/NA	Analysis	Total BTEX		1			31784	08/08/22 14:53	SM	EETSC M
Total/NA	Analysis	8015 NM		1			31123	07/31/22 10:38	AJ	EETSC M
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	30965	07/29/22 08:50	DM	EETSC M
Total/NA	Analysis	8015B NM		1			31053	07/31/22 02:41	AJ	EETSC M
Soluble	Leach	DI Leach			5.05 g	50 mL	30811	07/27/22 13:03	SMC	EETSC M
Soluble	Analysis	300.0		1			31000	07/31/22 17:23	SMC	EETSC M

Client Sample ID: TP2-1
Date Collected: 07/25/22 12:00
Date Received: 07/26/22 10:40

Lab Sample ID: 880-17357-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	31326	08/02/22 14:01	MR	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31541	08/05/22 18:31	MR	EETSC M
Total/NA	Analysis	Total BTEX		1			31784	08/08/22 14:53	SM	EETSC M

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17357-1
SDG: 12581651

Client Sample ID: TP2-1
Date Collected: 07/25/22 12:00
Date Received: 07/26/22 10:40

Lab Sample ID: 880-17357-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			31123	07/31/22 10:38	AJ	EETSC MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	30965	07/29/22 08:50	DM	EETSC M
Total/NA	Analysis	8015B NM		1			31053	07/31/22 03:01	AJ	EETSC M
Soluble	Leach	DI Leach			5 g	50 mL	30811	07/27/22 13:03	SMC	EETSC M
Soluble	Analysis	300.0		1			31000	07/31/22 17:33	SMC	EETSC M

Laboratory References:

EETSC MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17357-1
SDG: 12581651

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: GHD Services Inc. Job ID: 880-17357-1
Project/Site: Merchant Livestock 30 SDG: 12581651

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EETSC MID
Total BTEX	Total BTEX Calculation	TAL SOP	EETSC MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EETSC MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EETSC MID
300.0	Anions, Ion Chromatography	MCAWW	EETSC MID
5035	Closed System Purge and Trap	SW846	EETSC MID
8015NM Prep	Microextraction	SW846	EETSC MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EETSC MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EETSC MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17357-1
SDG: 12581651

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-17357-1	TP1-S	Solid	07/25/22 11:20	07/26/22 10:40
880-17357-2	TP1-1	Solid	07/25/22 11:40	07/26/22 10:40
880-17357-3	TP2-S	Solid	07/25/22 11:50	07/26/22 10:40
880-17357-4	TP2-1	Solid	07/25/22 12:00	07/26/22 10:40

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Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND

12600 West I-20 East
Odessa, Texas 79765

880-17357 Chain of Custody

8/9/2022

Project Manager. Becky.Haskell@GHD.com
Company Name GHD
Company Address 2135 S Loop 250 W
City/State/Zip Midland, TX 79703
Telephone No 432-686-0086
Fax No:
Sampler Signature.
e-mail. Heath.Boyd@GHD.com

Project Name. Merchant Livestock 30
Project #: 12581651
Project Loc: Lea County, NM
PO #:
Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #:

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP / TOTAL: TPH 418.1	8015M	8015B	TPH TX 1005	TX 1006	Cations (Ca Mg Na, K)	Anions (Cl SO4 Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N O R M.	Chloride 300 m			RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
	TP1-S			7/25/22	1120		1									S	X										X			X				X	X
	TP1-1			|	1140		1									S	X										X			X					
	TP2-S			|	1150		1									S	X										X			X					
	TP2-1			X	1200		1									S	X										X			X					

Special Instructions: Please Email: Heath, Becky | Direct Bill to: Centennial Resources Production
JT.Murray@GHD.com
Nikki.Mishler@CDEVinc.com
Attn: Nikki

Relinquished by	Date	Time	Received by	Date	Time
	7/25/22	1445			
Relinquished by	Date	Time	Received by	Date	Time
				7/26/22	10:40
Relinquished by	Date	Time	Received by ELOT	Date	Time

Laboratory Comments.

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep ?	Y	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt	As Read	Corrected
	1.7	1.9 °C

Received by OCD: 10/31/2022 6:36:00 AM

Released to Imaging: 11/28/2022 9:20:24 AM

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 880-17357-1
SDG Number: 12581651

Login Number: 17357
List Number: 1
Creator: Rodriguez, Leticia

List Source: Eurofins Midland

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-17510-1
Laboratory Sample Delivery Group: 12581651
Client Project/Site: Merchant Livestock 30

For:
GHD Services Inc.
2135 South Loop 250 West
Midland, Texas 79703

Attn: Becky Haskell

Authorized for release by:
8/9/2022 7:30:51 AM

Debbie Simmons, Project Manager
(832)986-6768
Debbie.Simmons@et.eurofinsus.com

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Laboratory Job ID: 880-17510-1
SDG: 12581651

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Definitions/Glossary

Client: GHD Services Inc. Job ID: 880-17510-1
Project/Site: Merchant Livestock 30 SDG: 12581651

Qualifiers

GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17510-1
SDG: 12581651

Job ID: 880-17510-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-17510-1

Receipt
The samples were received on 7/29/2022 10:10 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.9°C

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: BH-18A (880-17510-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
Method 8015B NM: The method blank for preparation batch 880-31397 and analytical batch 880-31371 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: SW-3A (880-17510-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17510-1
SDG: 12581651

Client Sample ID: SW-3A
Date Collected: 07/27/22 13:30
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17510-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000386	U	0.00200	0.000386	mg/Kg		08/05/22 11:28	08/05/22 19:05	1
Toluene	<0.000457	U	0.00200	0.000457	mg/Kg		08/05/22 11:28	08/05/22 19:05	1
Ethylbenzene	**0.00187**	**J**	0.00200	0.000566	mg/Kg		08/05/22 11:28	08/05/22 19:05	1
m-Xylene & p-Xylene	**0.00528**		0.00401	0.00101	mg/Kg		08/05/22 11:28	08/05/22 19:05	1
o-Xylene	**0.00401**		0.00200	0.000345	mg/Kg		08/05/22 11:28	08/05/22 19:05	1
Xylenes, Total	**0.00929**		0.00401	0.00101	mg/Kg		08/05/22 11:28	08/05/22 19:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*71*		*70 - 130*	*08/05/22 11:28*	*08/05/22 19:05*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*08/05/22 11:28*	*08/05/22 19:05*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.0112**		0.00401	0.00101	mg/Kg			08/08/22 15:42	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**31.7**	**J**	49.9	15.0	mg/Kg			08/03/22 11:13	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**16.4**	**J**	49.9	15.0	mg/Kg		08/02/22 08:40	08/02/22 16:38	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		08/02/22 08:40	08/02/22 16:38	1
Oil Range Organics (Over C28-C36)	**15.3**	**J**	49.9	15.0	mg/Kg		08/02/22 08:40	08/02/22 16:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*67*	*S1-*	*70 - 130*	*08/02/22 08:40*	*08/02/22 16:38*	*1*
o-Terphenyl	*73*		*70 - 130*	*08/02/22 08:40*	*08/02/22 16:38*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**15.7**		4.97	0.853	mg/Kg			08/05/22 23:08	1

Client Sample ID: SW-5A
Date Collected: 07/27/22 13:40
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17510-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		08/05/22 11:28	08/05/22 19:26	1
Toluene	<0.000458	U	0.00201	0.000458	mg/Kg		08/05/22 11:28	08/05/22 19:26	1
Ethylbenzene	**0.000820**	**J**	0.00201	0.000567	mg/Kg		08/05/22 11:28	08/05/22 19:26	1
m-Xylene & p-Xylene	**0.00286**	**J**	0.00402	0.00101	mg/Kg		08/05/22 11:28	08/05/22 19:26	1
o-Xylene	**0.00113**	**J**	0.00201	0.000345	mg/Kg		08/05/22 11:28	08/05/22 19:26	1
Xylenes, Total	**0.00399**	**J**	0.00402	0.00101	mg/Kg		08/05/22 11:28	08/05/22 19:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*08/05/22 11:28*	*08/05/22 19:26*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*08/05/22 11:28*	*08/05/22 19:26*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17510-1
SDG: 12581651

Client Sample ID: SW-5A
Date Collected: 07/27/22 13:40
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17510-2
Matrix: Solid

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.00481		0.00402	0.00101	mg/Kg			08/08/22 15:42	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	35.9	J	49.9	15.0	mg/Kg			08/03/22 11:13	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	17.6	J	49.9	15.0	mg/Kg		08/02/22 08:40	08/02/22 16:59	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		08/02/22 08:40	08/02/22 16:59	1
Oil Range Organics (Over C28-C36)	18.3	J	49.9	15.0	mg/Kg		08/02/22 08:40	08/02/22 16:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*71*		*70 - 130*	*08/02/22 08:40*	*08/02/22 16:59*	*1*
o-Terphenyl	*80*		*70 - 130*	*08/02/22 08:40*	*08/02/22 16:59*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	68.0		4.96	0.851	mg/Kg			08/05/22 23:18	1

Client Sample ID: SW-6A
Date Collected: 07/27/22 13:50
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17510-3
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.000642	J	0.00200	0.000384	mg/Kg		08/05/22 11:28	08/05/22 19:47	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		08/05/22 11:28	08/05/22 19:47	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		08/05/22 11:28	08/05/22 19:47	1
m-Xylene & p-Xylene	0.00110	J	0.00399	0.00101	mg/Kg		08/05/22 11:28	08/05/22 19:47	1
o-Xylene	0.00109	J	0.00200	0.000343	mg/Kg		08/05/22 11:28	08/05/22 19:47	1
Xylenes, Total	0.00219	J	0.00399	0.00101	mg/Kg		08/05/22 11:28	08/05/22 19:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*	*08/05/22 11:28*	*08/05/22 19:47*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*08/05/22 11:28*	*08/05/22 19:47*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.00283	J	0.00399	0.00101	mg/Kg			08/08/22 15:42	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	42.6	J	50.0	15.0	mg/Kg			08/03/22 11:13	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	22.6	J B	50.0	15.0	mg/Kg		08/03/22 09:25	08/04/22 02:38	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17510-1
SDG: 12581651

Client Sample ID: SW-6A
Date Collected: 07/27/22 13:50
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17510-3
Matrix: Solid

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/03/22 09:25	08/04/22 02:38	1
Oil Range Organics (Over C28-C36)	**20.0**	**J**	50.0	15.0	mg/Kg		08/03/22 09:25	08/04/22 02:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*08/03/22 09:25*	*08/04/22 02:38*	*1*
o-Terphenyl	*91*		*70 - 130*	*08/03/22 09:25*	*08/04/22 02:38*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**17.1**		5.01	0.860	mg/Kg			08/05/22 23:27	1

Client Sample ID: BH-18A
Date Collected: 07/27/22 14:00
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17510-4
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		08/05/22 11:28	08/05/22 20:08	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		08/05/22 11:28	08/05/22 20:08	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		08/05/22 11:28	08/05/22 20:08	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		08/05/22 11:28	08/05/22 20:08	1
o-Xylene	**0.000501**	**J**	0.00199	0.000342	mg/Kg		08/05/22 11:28	08/05/22 20:08	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		08/05/22 11:28	08/05/22 20:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*134*	*S1+*	*70 - 130*	*08/05/22 11:28*	*08/05/22 20:08*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*08/05/22 11:28*	*08/05/22 20:08*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00398	0.00100	mg/Kg			08/08/22 15:42	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**45.7**	**J**	49.9	15.0	mg/Kg			08/03/22 11:13	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**24.6**	**J B**	49.9	15.0	mg/Kg		08/03/22 09:25	08/04/22 02:58	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		08/03/22 09:25	08/04/22 02:58	1
Oil Range Organics (Over C28-C36)	**21.1**	**J**	49.9	15.0	mg/Kg		08/03/22 09:25	08/04/22 02:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*93*		*70 - 130*	*08/03/22 09:25*	*08/04/22 02:58*	*1*
o-Terphenyl	*102*		*70 - 130*	*08/03/22 09:25*	*08/04/22 02:58*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17510-1
SDG: 12581651

Client Sample ID: BH-18A

Date Collected: 07/27/22 14:00
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17510-4

Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	28500		249	42.7	mg/Kg			08/05/22 23:36	50

Surrogate Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17510-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-17510-1	SW-3A	71	106
880-17510-1 MS	SW-3A	94	107
880-17510-1 MSD	SW-3A	99	99
880-17510-2	SW-5A	112	91
880-17510-3	SW-6A	122	84
880-17510-4	BH-18A	134 S1+	87
LCS 880-31574/1-A	Lab Control Sample	90	105
LCSD 880-31574/2-A	Lab Control Sample Dup	108	103
MB 880-31574/5-A	Method Blank	94	95

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-17510-1	SW-3A	67 S1-	73
880-17510-2	SW-5A	71	80
880-17510-3	SW-6A	83	91
880-17510-4	BH-18A	93	102
LCS 880-31286/2-A	Lab Control Sample	104	102
LCS 880-31397/2-A	Lab Control Sample	109	107
LCSD 880-31286/3-A	Lab Control Sample Dup	104	108
LCSD 880-31397/3-A	Lab Control Sample Dup	111	110
MB 880-31286/1-A	Method Blank	90	103
MB 880-31397/1-A	Method Blank	96	109

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17510-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-31574/5-A
Matrix: Solid
Analysis Batch: 31617

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31574

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		08/05/22 11:28	08/05/22 18:43	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		08/05/22 11:28	08/05/22 18:43	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		08/05/22 11:28	08/05/22 18:43	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/05/22 11:28	08/05/22 18:43	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		08/05/22 11:28	08/05/22 18:43	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/05/22 11:28	08/05/22 18:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*08/05/22 11:28*	*08/05/22 18:43*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*08/05/22 11:28*	*08/05/22 18:43*	*1*

Lab Sample ID: LCS 880-31574/1-A
Matrix: Solid
Analysis Batch: 31617

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31574

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1178		mg/Kg		118	70 - 130
Toluene	0.100	0.1060		mg/Kg		106	70 - 130
Ethylbenzene	0.100	0.08769		mg/Kg		88	70 - 130
m-Xylene & p-Xylene	0.200	0.1821		mg/Kg		91	70 - 130
o-Xylene	0.100	0.08916		mg/Kg		89	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: LCSD 880-31574/2-A
Matrix: Solid
Analysis Batch: 31617

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31574

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.08890		mg/Kg		89	70 - 130	28	35
Toluene	0.100	0.1103		mg/Kg		110	70 - 130	4	35
Ethylbenzene	0.100	0.1009		mg/Kg		101	70 - 130	14	35
m-Xylene & p-Xylene	0.200	0.2213		mg/Kg		111	70 - 130	19	35
o-Xylene	0.100	0.1081		mg/Kg		108	70 - 130	19	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: 880-17510-1 MS
Matrix: Solid
Analysis Batch: 31617

Client Sample ID: SW-3A
Prep Type: Total/NA
Prep Batch: 31574

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.000386	U	0.100	0.1056		mg/Kg		105	70 - 130
Toluene	<0.000457	U	0.100	0.09624		mg/Kg		96	70 - 130

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17510-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 880-17510-1 MS
Matrix: Solid
Analysis Batch: 31617

Client Sample ID: SW-3A
Prep Type: Total/NA
Prep Batch: 31574

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	0.00187	J	0.100	0.08030		mg/Kg		78	70 - 130
m-Xylene & p-Xylene	0.00528		0.201	0.1651		mg/Kg		80	70 - 130
o-Xylene	0.00401		0.100	0.08112		mg/Kg		77	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: 880-17510-1 MSD
Matrix: Solid
Analysis Batch: 31617

Client Sample ID: SW-3A
Prep Type: Total/NA
Prep Batch: 31574

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.000386	U	0.0998	0.08498		mg/Kg		85	70 - 130	22	35
Toluene	<0.000457	U	0.0998	0.09819		mg/Kg		98	70 - 130	2	35
Ethylbenzene	0.00187	J	0.0998	0.08653		mg/Kg		85	70 - 130	7	35
m-Xylene & p-Xylene	0.00528		0.200	0.1858		mg/Kg		90	70 - 130	12	35
o-Xylene	0.00401		0.0998	0.09094		mg/Kg		87	70 - 130	11	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-31286/1-A
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31286

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		08/02/22 08:40	08/02/22 10:16	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/02/22 08:40	08/02/22 10:16	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/02/22 08:40	08/02/22 10:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*90*		*70 - 130*	*08/02/22 08:40*	*08/02/22 10:16*	*1*
o-Terphenyl	*103*		*70 - 130*	*08/02/22 08:40*	*08/02/22 10:16*	*1*

Lab Sample ID: LCS 880-31286/2-A
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31286

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1060		mg/Kg		106	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1036		mg/Kg		104	70 - 130

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17510-1
SDG: 12581651

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 880-31286/2-A
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31286

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	104		70 - 130
o-Terphenyl	102		70 - 130

Lab Sample ID: LCSD 880-31286/3-A
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31286

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1063		mg/Kg		106	70 - 130	0	20
Diesel Range Organics (Over C10-C28)			1000	1092		mg/Kg		109	70 - 130	5	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	104		70 - 130
o-Terphenyl	108		70 - 130

Lab Sample ID: MB 880-31397/1-A
Matrix: Solid
Analysis Batch: 31371

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31397

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	19.69	J	50.0	15.0	mg/Kg		08/03/22 09:25	08/03/22 19:19	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/03/22 09:25	08/03/22 19:19	1
Oll Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/03/22 09:25	08/03/22 19:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130	08/03/22 09:25	08/03/22 19:19	1
o-Terphenyl	109		70 - 130	08/03/22 09:25	08/03/22 19:19	1

Lab Sample ID: LCS 880-31397/2-A
Matrix: Solid
Analysis Batch: 31371

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31397

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	1052		mg/Kg		105	70 - 130
Diesel Range Organics (Over C10-C28)			1000	1023		mg/Kg		102	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	109		70 - 130
o-Terphenyl	107		70 - 130

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17510-1
SDG: 12581651

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCSD 880-31397/3-A
Matrix: Solid
Analysis Batch: 31371

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31397

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1144		mg/Kg		114	70 - 130	8	20
Diesel Range Organics (Over C10-C28)			1000	1065		mg/Kg		106	70 - 130	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*111*		*70 - 130*
o-Terphenyl	*110*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-31018/1-A
Matrix: Solid
Analysis Batch: 31437

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.858	U	5.00	0.858	mg/Kg			08/05/22 18:34	1

Lab Sample ID: LCS 880-31018/2-A
Matrix: Solid
Analysis Batch: 31437

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	237.8		mg/Kg		95	90 - 110		

Lab Sample ID: LCSD 880-31018/3-A
Matrix: Solid
Analysis Batch: 31437

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	232.1		mg/Kg		93	90 - 110	2	20

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17510-1
SDG: 12581651

GC VOA

Prep Batch: 31574

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17510-1	SW-3A	Total/NA	Solid	5035	
880-17510-2	SW-5A	Total/NA	Solid	5035	
880-17510-3	SW-6A	Total/NA	Solid	5035	
880-17510-4	BH-18A	Total/NA	Solid	5035	
MB 880-31574/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-31574/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-31574/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-17510-1 MS	SW-3A	Total/NA	Solid	5035	
880-17510-1 MSD	SW-3A	Total/NA	Solid	5035	

Analysis Batch: 31617

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17510-1	SW-3A	Total/NA	Solid	8021B	31574
880-17510-2	SW-5A	Total/NA	Solid	8021B	31574
880-17510-3	SW-6A	Total/NA	Solid	8021B	31574
880-17510-4	BH-18A	Total/NA	Solid	8021B	31574
MB 880-31574/5-A	Method Blank	Total/NA	Solid	8021B	31574
LCS 880-31574/1-A	Lab Control Sample	Total/NA	Solid	8021B	31574
LCSD 880-31574/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	31574
880-17510-1 MS	SW-3A	Total/NA	Solid	8021B	31574
880-17510-1 MSD	SW-3A	Total/NA	Solid	8021B	31574

Analysis Batch: 31798

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17510-1	SW-3A	Total/NA	Solid	Total BTEX	
880-17510-2	SW-5A	Total/NA	Solid	Total BTEX	
880-17510-3	SW-6A	Total/NA	Solid	Total BTEX	
880-17510-4	BH-18A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 31239

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17510-1	SW-3A	Total/NA	Solid	8015B NM	31286
880-17510-2	SW-5A	Total/NA	Solid	8015B NM	31286
MB 880-31286/1-A	Method Blank	Total/NA	Solid	8015B NM	31286
LCS 880-31286/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	31286
LCSD 880-31286/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	31286

Prep Batch: 31286

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17510-1	SW-3A	Total/NA	Solid	8015NM Prep	
880-17510-2	SW-5A	Total/NA	Solid	8015NM Prep	
MB 880-31286/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-31286/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-31286/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 31371

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17510-3	SW-6A	Total/NA	Solid	8015B NM	31397
880-17510-4	BH-18A	Total/NA	Solid	8015B NM	31397

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17510-1
SDG: 12581651

GC Semi VOA (Continued)

Analysis Batch: 31371 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-31397/1-A	Method Blank	Total/NA	Solid	8015B NM	31397
LCS 880-31397/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	31397
LCSD 880-31397/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	31397

Prep Batch: 31397

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17510-3	SW-6A	Total/NA	Solid	8015NM Prep	
880-17510-4	BH-18A	Total/NA	Solid	8015NM Prep	
MB 880-31397/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-31397/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-31397/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 31404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17510-1	SW-3A	Total/NA	Solid	8015 NM	
880-17510-2	SW-5A	Total/NA	Solid	8015 NM	
880-17510-3	SW-6A	Total/NA	Solid	8015 NM	
880-17510-4	BH-18A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 31018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17510-1	SW-3A	Soluble	Solid	DI Leach	
880-17510-2	SW-5A	Soluble	Solid	DI Leach	
880-17510-3	SW-6A	Soluble	Solid	DI Leach	
880-17510-4	BH-18A	Soluble	Solid	DI Leach	
MB 880-31018/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-31018/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-31018/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 31437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17510-1	SW-3A	Soluble	Solid	300.0	31018
880-17510-2	SW-5A	Soluble	Solid	300.0	31018
880-17510-3	SW-6A	Soluble	Solid	300.0	31018
880-17510-4	BH-18A	Soluble	Solid	300.0	31018
MB 880-31018/1-A	Method Blank	Soluble	Solid	300.0	31018
LCS 880-31018/2-A	Lab Control Sample	Soluble	Solid	300.0	31018
LCSD 880-31018/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	31018

Lab Chronicle

Client: GHD Services Inc. Job ID: 880-17510-1
Project/Site: Merchant Livestock 30 SDG: 12581651

Client Sample ID: SW-3A — Lab Sample ID: 880-17510-1
Date Collected: 07/27/22 13:30 **Matrix: Solid**
Date Received: 07/29/22 10:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	31574	08/05/22 11:28	MR	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31617	08/05/22 19:05	MR	EETSC M
Total/NA	Analysis	Total BTEX		1			31798	08/08/22 15:42	SM	EETSC M
Total/NA	Analysis	8015 NM		1			31404	08/03/22 11:13	SM	EETSC M
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	31286	08/02/22 08:40	DM	EETSC M
Total/NA	Analysis	8015B NM		1			31239	08/02/22 16:38	SM	EETSC M
Soluble	Leach	DI Leach			5.03 g	50 mL	31018	07/29/22 14:10	SMC	EETSC M
Soluble	Analysis	300.0		1			31437	08/05/22 23:08	SM	EETSC M

Client Sample ID: SW-5A — Lab Sample ID: 880-17510-2
Date Collected: 07/27/22 13:40 **Matrix: Solid**
Date Received: 07/29/22 10:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	31574	08/05/22 11:28	MR	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31617	08/05/22 19:26	MR	EETSC M
Total/NA	Analysis	Total BTEX		1			31798	08/08/22 15:42	SM	EETSC M
Total/NA	Analysis	8015 NM		1			31404	08/03/22 11:13	SM	EETSC M
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	31286	08/02/22 08:40	DM	EETSC M
Total/NA	Analysis	8015B NM		1			31239	08/02/22 16:59	SM	EETSC M
Soluble	Leach	DI Leach			5.04 g	50 mL	31018	07/29/22 14:10	SMC	EETSC M
Soluble	Analysis	300.0		1			31437	08/05/22 23:18	SM	EETSC M

Client Sample ID: SW-6A — Lab Sample ID: 880-17510-3
Date Collected: 07/27/22 13:50 **Matrix: Solid**
Date Received: 07/29/22 10:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	31574	08/05/22 11:28	MR	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31617	08/05/22 19:47	MR	EETSC M
Total/NA	Analysis	Total BTEX		1			31798	08/08/22 15:42	SM	EETSC M
Total/NA	Analysis	8015 NM		1			31404	08/03/22 11:13	SM	EETSC M
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	31397	08/03/22 09:25	DM	EETSC M
Total/NA	Analysis	8015B NM		1			31371	08/04/22 02:38	AJ	EETSC M
Soluble	Leach	DI Leach			4.99 g	50 mL	31018	07/29/22 14:10	SMC	EETSC M
Soluble	Analysis	300.0		1			31437	08/05/22 23:27	SM	EETSC M

Client Sample ID: BH-18A — Lab Sample ID: 880-17510-4
Date Collected: 07/27/22 14:00 **Matrix: Solid**
Date Received: 07/29/22 10:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	31574	08/05/22 11:28	MR	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31617	08/05/22 20:08	MR	EETSC M
Total/NA	Analysis	Total BTEX		1			31798	08/08/22 15:42	SM	EETSC M

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17510-1
SDG: 12581651

Client Sample ID: BH-18A
Date Collected: 07/27/22 14:00
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17510-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			31404	08/03/22 11:13	SM	EETSC MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	31397	08/03/22 09:25	DM	EETSC M
Total/NA	Analysis	8015B NM		1			31371	08/04/22 02:58	AJ	EETSC M
Soluble	Leach	DI Leach			5.02 g	50 mL	31018	07/29/22 14:10	SMC	EETSC M
Soluble	Analysis	300.0		50			31437	08/05/22 23:36	SM	EETSC M

Laboratory References:
EETSC MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17510-1
SDG: 12581651

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17510-1
SDG: 12581651

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EETSC MID
Total BTEX	Total BTEX Calculation	TAL SOP	EETSC MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EETSC MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EETSC MID
300.0	Anions, Ion Chromatography	MCAWW	EETSC MID
5035	Closed System Purge and Trap	SW846	EETSC MID
8015NM Prep	Microextraction	SW846	EETSC MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EETSC MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EETSC MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17510-1
SDG: 12581651

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-17510-1	SW-3A	Solid	07/27/22 13:30	07/29/22 10:10
880-17510-2	SW-5A	Solid	07/27/22 13:40	07/29/22 10:10
880-17510-3	SW-6A	Solid	07/27/22 13:50	07/29/22 10:10
880-17510-4	BH-18A	Solid	07/27/22 14:00	07/29/22 10:10

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Xenco Laboratories

The Environmental Lab of Texas

880-17510 Chain of Custody

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

17510

8/9/2022

Project Manager: Becky. Haskell@GHD.com
Company Name: GHD
Company Address: 2135 S. Loop 250 W.
City/State/Zip: Midland, TX 79703
Telephone No: 432-686-0086
Fax No:
Sampler Signature:
e-mail: Heath.Boyd@GHD.com

Project Name: Merchant Livestock 30
Project #: 12581651
Project Loc: Lea County, NM
PO #:
Report Format: ☑ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #:

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP / TOTAL: TPH 418.1 8015M 8015B	TPH TX 1005 TX 1006	Cations (Ca Mg Na K)	Anions (Cl SO4 Alkalinity)	SAR / ESP / CEC	Metals As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Chloride 300.0			RUSH TAT (Pre-Schedule) 24 48 72 hrs	Standard TAT
	SW-3A			7/27/22	1330		1									S	X							X			X				X
	SW-5A				1340		1									S	X							X			X				X
	SW-6A				1350		1									S	X							X			X				X
	BH-18A			X	1400		1									S	X							X			X				X

Special Instructions: Please Email' Becky, Heath, Nikki.mishler@cdevinc.com JT.Murney@GHD.com

Direct Bill to: Centennial Resources Production

Attn: Nikki

Relinquished by	Date	Time	Received by	Date	Time
	7/27/22	1645			
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by ELOT	Date	Time
				7/29/22	1010

Laboratory Comments.

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep ?	Y	N

by Courier? UPS DHL FedEx Lone Star

	As Read	Corrected
Temperature Upon Receipt	1.7	1.9 °C

Received by OCD: 10/31/2022 6:36:00 AM

Released to Imaging: 11/28/2022 9:20:24 AM

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 880-17510-1
SDG Number: 12581651

Login Number: 17510
List Number: 1
Creator: Rodriguez, Leticia

List Source: Eurofins Midland

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-17530-1
Laboratory Sample Delivery Group: Lea County NM
Client Project/Site: Merchant Livestock 30

For:
GHD Services Inc.
2135 South Loop 250 West
Midland, Texas 79703

Attn: Becky Haskell

Authorized for release by:
8/9/2022 7:58:01 AM

Debbie Simmons, Project Manager
(832)986-6768
Debbie.Simmons@et.eurofinsus.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Laboratory Job ID: 880-17530-1
SDG: Lea County NM

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Definitions/Glossary

Client: GHD Services Inc. Job ID: 880-17530-1
Project/Site: Merchant Livestock 30 SDG: Lea County NM

Qualifiers

GC VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*1	LCS/LCSD RPD exceeds control limits.
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17530-1
SDG: Lea County NM

Job ID: 880-17530-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-17530-1

Comments
No additional comments.

Receipt
The samples were received on 7/29/2022 10:10 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.9º C.

GC VOA
Method 8021B: LCSD biased low. Since only an acceptable LCS is required per the method, the data has been qualified and reported.

(LCSD 880-31569/2-A)

Method 8021B: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-31569 and analytical batch 880-31653 recovered outside control limits for the following analytes: Benzene, Toluene, Ethylbenzene, m-Xylene & p-Xylene, o-Xylene and Xylenes, Total.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-31680 and analytical batch 880-31685 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample duplicate (LCSD) recovery was within acceptance limits.

Method 8021B: o-Xylene biased high in LCS. Since only an acceptable LCS or LCSD is required per the method, the data has been qualified and reported.

(LCS 880-31680/1-A)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method 8015B NM: The method blank for preparation batch 880-31417 and analytical batch 880-31455 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015B NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-31417 and analytical batch 880-31455 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8015B NM: Surrogate recovery for the following sample was outside control limits: BH-6A (880-17530-6). Evidence of matrix interferences is not obvious.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17530-1
SDG: Lea County NM

Client Sample ID: SW-13A

Date Collected: 07/27/22 10:40
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17530-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U *- *1	0.00201	0.000387	mg/Kg		08/05/22 10:43	08/07/22 18:24	1
Toluene	<0.000458	U *- *1	0.00201	0.000458	mg/Kg		08/05/22 10:43	08/07/22 18:24	1
Ethylbenzene	<0.000567	U *- *1	0.00201	0.000567	mg/Kg		08/05/22 10:43	08/07/22 18:24	1
m-Xylene & p-Xylene	<0.00101	U *- *1	0.00402	0.00101	mg/Kg		08/05/22 10:43	08/07/22 18:24	1
o-Xylene	<0.000345	U *- *1	0.00201	0.000345	mg/Kg		08/05/22 10:43	08/07/22 18:24	1
Xylenes, Total	<0.00101	U *- *1	0.00402	0.00101	mg/Kg		08/05/22 10:43	08/07/22 18:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*	*08/05/22 10:43*	*08/07/22 18:24*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*08/05/22 10:43*	*08/07/22 18:24*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00402	0.00101	mg/Kg			08/08/22 15:30	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	49.9	15.0	mg/Kg			08/04/22 09:51	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	49.9	15.0	mg/Kg		08/03/22 13:28	08/04/22 11:08	1
Diesel Range Organics (Over C10-C28)	<15.0	U F1	49.9	15.0	mg/Kg		08/03/22 13:28	08/04/22 11:08	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		08/03/22 13:28	08/04/22 11:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*08/03/22 13:28*	*08/04/22 11:08*	*1*
o-Terphenyl	*109*		*70 - 130*	*08/03/22 13:28*	*08/04/22 11:08*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**136**		5.01	0.860	mg/Kg			08/05/22 02:58	1

Client Sample ID: SW-17A

Date Collected: 07/27/22 10:50
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17530-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000384	U *- *1	0.00200	0.000384	mg/Kg		08/05/22 10:43	08/07/22 18:51	1
Toluene	<0.000455	U *- *1	0.00200	0.000455	mg/Kg		08/05/22 10:43	08/07/22 18:51	1
Ethylbenzene	<0.000564	U *- *1	0.00200	0.000564	mg/Kg		08/05/22 10:43	08/07/22 18:51	1
m-Xylene & p-Xylene	<0.00101	U *- *1	0.00399	0.00101	mg/Kg		08/05/22 10:43	08/07/22 18:51	1
o-Xylene	<0.000343	U *- *1	0.00200	0.000343	mg/Kg		08/05/22 10:43	08/07/22 18:51	1
Xylenes, Total	<0.00101	U *- *1	0.00399	0.00101	mg/Kg		08/05/22 10:43	08/07/22 18:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*08/05/22 10:43*	*08/07/22 18:51*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*08/05/22 10:43*	*08/07/22 18:51*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17530-1
SDG: Lea County NM

Client Sample ID: SW-17A

Lab Sample ID: 880-17530-2
Matrix: Solid
Date Collected: 07/27/22 10:50
Date Received: 07/29/22 10:10

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg			08/08/22 15:30	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	49.9	15.0	mg/Kg			08/04/22 09:51	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	49.9	15.0	mg/Kg		08/03/22 13:28	08/04/22 12:14	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		08/03/22 13:28	08/04/22 12:14	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		08/03/22 13:28	08/04/22 12:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*86*		*70 - 130*	*08/03/22 13:28*	*08/04/22 12:14*	*1*
o-Terphenyl	*96*		*70 - 130*	*08/03/22 13:28*	*08/04/22 12:14*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**72.0**		5.00	0.858	mg/Kg			08/05/22 03:25	1

Client Sample ID: BH-1A

Lab Sample ID: 880-17530-3
Matrix: Solid
Date Collected: 07/27/22 11:00
Date Received: 07/29/22 10:10

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U *- *1	0.00199	0.000383	mg/Kg		08/05/22 10:43	08/07/22 19:17	1
Toluene	<0.000453	U *- *1	0.00199	0.000453	mg/Kg		08/05/22 10:43	08/07/22 19:17	1
Ethylbenzene	<0.000562	U *- *1	0.00199	0.000562	mg/Kg		08/05/22 10:43	08/07/22 19:17	1
m-Xylene & p-Xylene	<0.00100	U *- *1	0.00398	0.00100	mg/Kg		08/05/22 10:43	08/07/22 19:17	1
o-Xylene	<0.000342	U *- *1	0.00199	0.000342	mg/Kg		08/05/22 10:43	08/07/22 19:17	1
Xylenes, Total	<0.00100	U *- *1	0.00398	0.00100	mg/Kg		08/05/22 10:43	08/07/22 19:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*	*08/05/22 10:43*	*08/07/22 19:17*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*08/05/22 10:43*	*08/07/22 19:17*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00398	0.00100	mg/Kg			08/08/22 15:30	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**15.0**	**J**	50.0	15.0	mg/Kg			08/04/22 09:51	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**15.0**	**J B**	50.0	15.0	mg/Kg		08/03/22 13:28	08/04/22 12:35	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/03/22 13:28	08/04/22 12:35	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17530-1
SDG: Lea County NM

Client Sample ID: BH-1A
Date Collected: 07/27/22 11:00
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17530-3
Matrix: Solid

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oll Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/03/22 13:28	08/04/22 12:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*84*		*70 - 130*	*08/03/22 13:28*	*08/04/22 12:35*	*1*
o-Terphenyl	*96*		*70 - 130*	*08/03/22 13:28*	*08/04/22 12:35*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**65.0**		4.97	0.853	mg/Kg			08/05/22 03:35	1

Client Sample ID: BH-2A
Date Collected: 07/27/22 11:10
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17530-4
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U *- *1	0.00199	0.000383	mg/Kg		08/05/22 10:43	08/07/22 19:44	1
Toluene	<0.000454	U *- *1	0.00199	0.000454	mg/Kg		08/05/22 10:43	08/07/22 19:44	1
Ethylbenzene	<0.000563	U *- *1	0.00199	0.000563	mg/Kg		08/05/22 10:43	08/07/22 19:44	1
m-Xylene & p-Xylene	<0.00101	U *- *1	0.00398	0.00101	mg/Kg		08/05/22 10:43	08/07/22 19:44	1
o-Xylene	<0.000343	U *- *1	0.00199	0.000343	mg/Kg		08/05/22 10:43	08/07/22 19:44	1
Xylenes, Total	<0.00101	U *- *1	0.00398	0.00101	mg/Kg		08/05/22 10:43	08/07/22 19:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*	*08/05/22 10:43*	*08/07/22 19:44*	*1*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*	*08/05/22 10:43*	*08/07/22 19:44*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00398	0.00101	mg/Kg			08/08/22 15:30	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**19.6**	**J**	49.8	14.9	mg/Kg			08/04/22 09:51	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**19.6**	**J B**	49.8	14.9	mg/Kg		08/03/22 13:28	08/04/22 12:57	1
Diesel Range Organics (Over C10-C28)	<14.9	U	49.8	14.9	mg/Kg		08/03/22 13:28	08/04/22 12:57	1
Oll Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		08/03/22 13:28	08/04/22 12:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*08/03/22 13:28*	*08/04/22 12:57*	*1*
o-Terphenyl	*116*		*70 - 130*	*08/03/22 13:28*	*08/04/22 12:57*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**172**		24.9	4.27	mg/Kg			08/05/22 03:44	5

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17530-1
SDG: Lea County NM

Client Sample ID: BH-5A

Date Collected: 07/27/22 11:20
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17530-5
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		08/08/22 08:17	08/08/22 12:25	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		08/08/22 08:17	08/08/22 12:25	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		08/08/22 08:17	08/08/22 12:25	1
m-Xylene & p-Xylene	<0.00100	U F1	0.00398	0.00100	mg/Kg		08/08/22 08:17	08/08/22 12:25	1
o-Xylene	<0.000342	U F1 *+	0.00199	0.000342	mg/Kg		08/08/22 08:17	08/08/22 12:25	1
Xylenes, Total	<0.00100	U F1	0.00398	0.00100	mg/Kg		08/08/22 08:17	08/08/22 12:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*08/08/22 08:17*	*08/08/22 12:25*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*08/08/22 08:17*	*08/08/22 12:25*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00398	0.00100	mg/Kg			08/08/22 15:30	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	50.0	15.0	mg/Kg			08/04/22 09:51	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		08/03/22 13:28	08/04/22 13:19	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/03/22 13:28	08/04/22 13:19	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/03/22 13:28	08/04/22 13:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*95*		*70 - 130*	*08/03/22 13:28*	*08/04/22 13:19*	*1*
o-Terphenyl	*105*		*70 - 130*	*08/03/22 13:28*	*08/04/22 13:19*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**39.5**		4.96	0.851	mg/Kg			08/05/22 03:53	1

Client Sample ID: BH-6A

Date Collected: 07/27/22 11:30
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17530-6
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000382	U	0.00198	0.000382	mg/Kg		08/08/22 08:17	08/08/22 12:46	1
Toluene	<0.000452	U	0.00198	0.000452	mg/Kg		08/08/22 08:17	08/08/22 12:46	1
Ethylbenzene	<0.000561	U	0.00198	0.000561	mg/Kg		08/08/22 08:17	08/08/22 12:46	1
m-Xylene & p-Xylene	<0.00100	U	0.00397	0.00100	mg/Kg		08/08/22 08:17	08/08/22 12:46	1
o-Xylene	<0.000341	U *+	0.00198	0.000341	mg/Kg		08/08/22 08:17	08/08/22 12:46	1
Xylenes, Total	<0.00100	U	0.00397	0.00100	mg/Kg		08/08/22 08:17	08/08/22 12:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*08/08/22 08:17*	*08/08/22 12:46*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*08/08/22 08:17*	*08/08/22 12:46*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17530-1
SDG: Lea County NM

Client Sample ID: BH-6A

Date Collected: 07/27/22 11:30
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17530-6
Matrix: Solid

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00397	0.00100	mg/Kg			08/08/22 15:30	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**68.2**		50.0	15.0	mg/Kg			08/04/22 09:51	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		08/03/22 13:28	08/04/22 13:40	1
Diesel Range Organics (Over C10-C28)	**68.2**		50.0	15.0	mg/Kg		08/03/22 13:28	08/04/22 13:40	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/03/22 13:28	08/04/22 13:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*08/03/22 13:28*	*08/04/22 13:40*	*1*
o-Terphenyl	*0.05*	*S1-*	*70 - 130*	*08/03/22 13:28*	*08/04/22 13:40*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**74.1**		5.01	0.860	mg/Kg			08/05/22 04:21	1

Client Sample ID: BH-7A

Date Collected: 07/27/22 11:40
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17530-7
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		08/08/22 08:17	08/08/22 13:06	1
Toluene	<0.000459	U	0.00201	0.000459	mg/Kg		08/08/22 08:17	08/08/22 13:06	1
Ethylbenzene	<0.000568	U	0.00201	0.000568	mg/Kg		08/08/22 08:17	08/08/22 13:06	1
m-Xylene & p-Xylene	<0.00102	U	0.00402	0.00102	mg/Kg		08/08/22 08:17	08/08/22 13:06	1
o-Xylene	<0.000346	U *+	0.00201	0.000346	mg/Kg		08/08/22 08:17	08/08/22 13:06	1
Xylenes, Total	<0.00102	U	0.00402	0.00102	mg/Kg		08/08/22 08:17	08/08/22 13:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*	*08/08/22 08:17*	*08/08/22 13:06*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*08/08/22 08:17*	*08/08/22 13:06*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00102	U	0.00402	0.00102	mg/Kg			08/08/22 15:30	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	50.0	15.0	mg/Kg			08/04/22 09:51	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		08/03/22 13:28	08/04/22 14:02	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/03/22 13:28	08/04/22 14:02	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17530-1
SDG: Lea County NM

Client Sample ID: BH-7A
Date Collected: 07/27/22 11:40
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17530-7
Matrix: Solid

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/03/22 13:28	08/04/22 14:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*81*		*70 - 130*	*08/03/22 13:28*	*08/04/22 14:02*	*1*
o-Terphenyl	*87*		*70 - 130*	*08/03/22 13:28*	*08/04/22 14:02*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**235**		4.97	0.853	mg/Kg			08/05/22 04:30	1

Client Sample ID: BH-11A
Date Collected: 07/27/22 11:50
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17530-8
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000386	U	0.00200	0.000386	mg/Kg		08/08/22 08:17	08/08/22 13:27	1
Toluene	<0.000457	U	0.00200	0.000457	mg/Kg		08/08/22 08:17	08/08/22 13:27	1
Ethylbenzene	<0.000566	U	0.00200	0.000566	mg/Kg		08/08/22 08:17	08/08/22 13:27	1
m-Xylene & p-Xylene	<0.00101	U	0.00401	0.00101	mg/Kg		08/08/22 08:17	08/08/22 13:27	1
o-Xylene	<0.000345	U *+	0.00200	0.000345	mg/Kg		08/08/22 08:17	08/08/22 13:27	1
Xylenes, Total	<0.00101	U	0.00401	0.00101	mg/Kg		08/08/22 08:17	08/08/22 13:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*127*		*70 - 130*	*08/08/22 08:17*	*08/08/22 13:27*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*08/08/22 08:17*	*08/08/22 13:27*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00401	0.00101	mg/Kg			08/08/22 15:30	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**39.9**	**J**	50.0	15.0	mg/Kg			08/04/22 09:51	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**20.3**	**J B**	50.0	15.0	mg/Kg		08/03/22 09:25	08/04/22 03:19	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/03/22 09:25	08/04/22 03:19	1
Oil Range Organics (Over C28-C36)	**19.6**	**J**	50.0	15.0	mg/Kg		08/03/22 09:25	08/04/22 03:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*08/03/22 09:25*	*08/04/22 03:19*	*1*
o-Terphenyl	*96*		*70 - 130*	*08/03/22 09:25*	*08/04/22 03:19*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**88.0**		4.98	0.855	mg/Kg			08/05/22 04:39	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17530-1
SDG: Lea County NM

Client Sample ID: BH-14A
Date Collected: 07/27/22 12:00
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17530-9
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		08/08/22 08:17	08/08/22 13:47	1
Toluene	<0.000454	U	0.00199	0.000454	mg/Kg		08/08/22 08:17	08/08/22 13:47	1
Ethylbenzene	<0.000563	U	0.00199	0.000563	mg/Kg		08/08/22 08:17	08/08/22 13:47	1
m-Xylene & p-Xylene	<0.00101	U	0.00398	0.00101	mg/Kg		08/08/22 08:17	08/08/22 13:47	1
o-Xylene	<0.000343	U *+	0.00199	0.000343	mg/Kg		08/08/22 08:17	08/08/22 13:47	1
Xylenes, Total	<0.00101	U	0.00398	0.00101	mg/Kg		08/08/22 08:17	08/08/22 13:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*08/08/22 08:17*	*08/08/22 13:47*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*08/08/22 08:17*	*08/08/22 13:47*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00398	0.00101	mg/Kg			08/08/22 15:30	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**39.9**	**J**	50.0	15.0	mg/Kg			08/04/22 09:51	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**21.2**	**J B**	50.0	15.0	mg/Kg		08/03/22 09:25	08/04/22 03:38	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/03/22 09:25	08/04/22 03:38	1
Oil Range Organics (Over C28-C36)	**18.7**	**J**	50.0	15.0	mg/Kg		08/03/22 09:25	08/04/22 03:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*93*		*70 - 130*	*08/03/22 09:25*	*08/04/22 03:38*	*1*
o-Terphenyl	*102*		*70 - 130*	*08/03/22 09:25*	*08/04/22 03:38*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**464**		4.96	0.851	mg/Kg			08/05/22 04:49	1

Client Sample ID: BH-15A
Date Collected: 07/27/22 13:20
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17530-10
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		08/08/22 08:17	08/08/22 14:08	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		08/08/22 08:17	08/08/22 14:08	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		08/08/22 08:17	08/08/22 14:08	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/08/22 08:17	08/08/22 14:08	1
o-Xylene	<0.000344	U *+	0.00200	0.000344	mg/Kg		08/08/22 08:17	08/08/22 14:08	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/08/22 08:17	08/08/22 14:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*08/08/22 08:17*	*08/08/22 14:08*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*08/08/22 08:17*	*08/08/22 14:08*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17530-1
SDG: Lea County NM

Client Sample ID: BH-15A

Date Collected: 07/27/22 13:20
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17530-10

Matrix: Solid

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00400	0.00101	mg/Kg			08/08/22 15:30	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**45.8**	**J**	50.0	15.0	mg/Kg			08/04/22 09:51	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**25.7**	**J B**	50.0	15.0	mg/Kg		08/03/22 09:25	08/04/22 03:58	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/03/22 09:25	08/04/22 03:58	1
Oil Range Organics (Over C28-C36)	**20.1**	**J**	50.0	15.0	mg/Kg		08/03/22 09:25	08/04/22 03:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*08/03/22 09:25*	*08/04/22 03:58*	*1*
o-Terphenyl	*90*		*70 - 130*	*08/03/22 09:25*	*08/04/22 03:58*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**144**		5.04	0.865	mg/Kg			08/05/22 04:58	1

Surrogate Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17530-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-17530-1	SW-13A	118	88
880-17530-2	SW-17A	117	90
880-17530-3	BH-1A	122	91
880-17530-4	BH-2A	115	81
880-17530-5	BH-5A	107	98
880-17530-5 MS	BH-5A	125	97
880-17530-5 MSD	BH-5A	128	103
880-17530-6	BH-6A	113	97
880-17530-7	BH-7A	114	98
880-17530-8	BH-11A	127	99
880-17530-9	BH-14A	112	92
880-17530-10	BH-15A	106	89
LCS 880-31569/1-A	Lab Control Sample	123	89
LCS 880-31680/1-A	Lab Control Sample	125	92
LCSD 880-31569/2-A	Lab Control Sample Dup	118	95
LCSD 880-31680/2-A	Lab Control Sample Dup	106	95
MB 880-31569/5-A	Method Blank	90	78
MB 880-31680/5-A	Method Blank	98	90

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-17530-1	SW-13A	97	109
880-17530-1 MS	SW-13A	79	79
880-17530-1 MSD	SW-13A	81	90
880-17530-2	SW-17A	86	96
880-17530-3	BH-1A	84	96
880-17530-4	BH-2A	109	116
880-17530-5	BH-5A	95	105
880-17530-6	BH-6A	88	0.05 S1-
880-17530-7	BH-7A	81	87
880-17530-8	BH-11A	88	96
880-17530-9	BH-14A	93	102
880-17530-10	BH-15A	83	90
LCS 880-31397/2-A	Lab Control Sample	109	107
LCS 880-31417/2-A	Lab Control Sample	124	130
LCSD 880-31397/3-A	Lab Control Sample Dup	111	110
LCSD 880-31417/3-A	Lab Control Sample Dup	123	127
MB 880-31397/1-A	Method Blank	96	109
MB 880-31417/1-A	Method Blank	82	98

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17530-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-31569/5-A
Matrix: Solid
Analysis Batch: 31653

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31569

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		08/05/22 10:43	08/07/22 15:18	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		08/05/22 10:43	08/07/22 15:18	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		08/05/22 10:43	08/07/22 15:18	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/05/22 10:43	08/07/22 15:18	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		08/05/22 10:43	08/07/22 15:18	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/05/22 10:43	08/07/22 15:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*08/05/22 10:43*	*08/07/22 15:18*	*1*
1,4-Difluorobenzene (Surr)	*78*		*70 - 130*	*08/05/22 10:43*	*08/07/22 15:18*	*1*

Lab Sample ID: LCS 880-31569/1-A
Matrix: Solid
Analysis Batch: 31653

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31569

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.08998		mg/Kg		90	70 - 130
Toluene	0.100	0.09347		mg/Kg		93	70 - 130
Ethylbenzene	0.100	0.09527		mg/Kg		95	70 - 130
m-Xylene & p-Xylene	0.200	0.1947		mg/Kg		97	70 - 130
o-Xylene	0.100	0.1030		mg/Kg		103	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*123*		*70 - 130*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*

Lab Sample ID: LCSD 880-31569/2-A
Matrix: Solid
Analysis Batch: 31653

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31569

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.01251	*- *1	mg/Kg		13	70 - 130	151	35
Toluene	0.100	0.01494	*- *1	mg/Kg		15	70 - 130	145	35
Ethylbenzene	0.100	0.01482	*- *1	mg/Kg		15	70 - 130	146	35
m-Xylene & p-Xylene	0.200	0.02999	*- *1	mg/Kg		15	70 - 130	147	35
o-Xylene	0.100	0.01531	*- *1	mg/Kg		15	70 - 130	148	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: MB 880-31680/5-A
Matrix: Solid
Analysis Batch: 31685

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31680

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		08/08/22 08:17	08/08/22 12:03	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		08/08/22 08:17	08/08/22 12:03	1

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17530-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 880-31680/5-A
Matrix: Solid
Analysis Batch: 31685

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31680

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		08/08/22 08:17	08/08/22 12:03	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/08/22 08:17	08/08/22 12:03	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		08/08/22 08:17	08/08/22 12:03	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/08/22 08:17	08/08/22 12:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*08/08/22 08:17*	*08/08/22 12:03*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*08/08/22 08:17*	*08/08/22 12:03*	*1*

Lab Sample ID: LCS 880-31680/1-A
Matrix: Solid
Analysis Batch: 31685

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31680

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09608		mg/Kg		96	70 - 130
Toluene	0.100	0.1059		mg/Kg		106	70 - 130
Ethylbenzene	0.100	0.1185		mg/Kg		118	70 - 130
m-Xylene & p-Xylene	0.200	0.2507		mg/Kg		125	70 - 130
o-Xylene	0.100	0.1380	*+	mg/Kg		138	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*125*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: LCSD 880-31680/2-A
Matrix: Solid
Analysis Batch: 31685

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31680

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1071		mg/Kg		107	70 - 130	11	35
Toluene	0.100	0.1066		mg/Kg		107	70 - 130	1	35
Ethylbenzene	0.100	0.1143		mg/Kg		114	70 - 130	4	35
m-Xylene & p-Xylene	0.200	0.2280		mg/Kg		114	70 - 130	10	35
o-Xylene	0.100	0.1244		mg/Kg		124	70 - 130	10	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: 880-17530-5 MS
Matrix: Solid
Analysis Batch: 31685

Client Sample ID: BH-5A
Prep Type: Total/NA
Prep Batch: 31680

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.000383	U	0.101	0.1066		mg/Kg		105	70 - 130
Toluene	<0.000453	U	0.101	0.1147		mg/Kg		114	70 - 130
Ethylbenzene	<0.000562	U	0.101	0.1313		mg/Kg		130	70 - 130
m-Xylene & p-Xylene	<0.00100	U F1	0.202	0.2708	F1	mg/Kg		134	70 - 130

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17530-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 880-17530-5 MS
Matrix: Solid
Analysis Batch: 31685

Client Sample ID: BH-5A
Prep Type: Total/NA
Prep Batch: 31680

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
o-Xylene	<0.000342	U F1 *+	0.101	0.1474	F1	mg/Kg		146	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*125*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: 880-17530-5 MSD
Matrix: Solid
Analysis Batch: 31685

Client Sample ID: BH-5A
Prep Type: Total/NA
Prep Batch: 31680

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.000383	U	0.100	0.1056		mg/Kg		105	70 - 130	1	35
Toluene	<0.000453	U	0.100	0.1115		mg/Kg		111	70 - 130	3	35
Ethylbenzene	<0.000562	U	0.100	0.1213		mg/Kg		121	70 - 130	8	35
m-Xylene & p-Xylene	<0.00100	U F1	0.200	0.2484		mg/Kg		124	70 - 130	9	35
o-Xylene	<0.000342	U F1 *+	0.100	0.1355	F1	mg/Kg		135	70 - 130	8	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*128*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-31397/1-A
Matrix: Solid
Analysis Batch: 31371

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31397

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	19.69	J	50.0	15.0	mg/Kg		08/03/22 09:25	08/03/22 19:19	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/03/22 09:25	08/03/22 19:19	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/03/22 09:25	08/03/22 19:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*96*		*70 - 130*	*08/03/22 09:25*	*08/03/22 19:19*	*1*
o-Terphenyl	*109*		*70 - 130*	*08/03/22 09:25*	*08/03/22 19:19*	*1*

Lab Sample ID: LCS 880-31397/2-A
Matrix: Solid
Analysis Batch: 31371

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31397

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1052		mg/Kg		105	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1023		mg/Kg		102	70 - 130

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17530-1
SDG: Lea County NM

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 880-31397/2-A
Matrix: Solid
Analysis Batch: 31371

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31397

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	109		70 - 130
o-Terphenyl	107		70 - 130

Lab Sample ID: LCSD 880-31397/3-A
Matrix: Solid
Analysis Batch: 31371

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31397

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1144		mg/Kg		114	70 - 130	8	20
Diesel Range Organics (Over C10-C28)			1000	1065		mg/Kg		106	70 - 130	4	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	111		70 - 130
o-Terphenyl	110		70 - 130

Lab Sample ID: MB 880-31417/1-A
Matrix: Solid
Analysis Batch: 31455

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31417

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	17.12	J	50.0	15.0	mg/Kg		08/03/22 13:28	08/04/22 10:03	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/03/22 13:28	08/04/22 10:03	1
OII Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/03/22 13:28	08/04/22 10:03	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	82		70 - 130	08/03/22 13:28	08/04/22 10:03	1
o-Terphenyl	98		70 - 130	08/03/22 13:28	08/04/22 10:03	1

Lab Sample ID: LCS 880-31417/2-A
Matrix: Solid
Analysis Batch: 31455

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31417

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	1021		mg/Kg		102	70 - 130
Diesel Range Organics (Over C10-C28)			1000	1000		mg/Kg		100	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	124		70 - 130
o-Terphenyl	130		70 - 130

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17530-1
SDG: Lea County NM

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCSD 880-31417/3-A
Matrix: Solid
Analysis Batch: 31455

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31417

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	955.6		mg/Kg		96	70 - 130	7	20
Diesel Range Organics (Over C10-C28)			1000	958.9		mg/Kg		96	70 - 130	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*123*		*70 - 130*
o-Terphenyl	*127*		*70 - 130*

Lab Sample ID: 880-17530-1 MS
Matrix: Solid
Analysis Batch: 31455

Client Sample ID: SW-13A
Prep Type: Total/NA
Prep Batch: 31417

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	999	1036		mg/Kg		104	70 - 130
Diesel Range Organics (Over C10-C28)	<15.0	U F1	999	624.2	F1	mg/Kg		62	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*79*		*70 - 130*
o-Terphenyl	*79*		*70 - 130*

Lab Sample ID: 880-17530-1 MSD
Matrix: Solid
Analysis Batch: 31455

Client Sample ID: SW-13A
Prep Type: Total/NA
Prep Batch: 31417

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	999	1002		mg/Kg		100	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<15.0	U F1	999	720.1		mg/Kg		72	70 - 130	14	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*81*		*70 - 130*
o-Terphenyl	*90*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-31359/1-A
Matrix: Solid
Analysis Batch: 31527

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.858	U	5.00	0.858	mg/Kg			08/05/22 02:30	1

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17530-1
SDG: Lea County NM

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-31359/2-A
Matrix: Solid
Analysis Batch: 31527

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	237.4		mg/Kg		95	90 - 110		

Lab Sample ID: LCSD 880-31359/3-A
Matrix: Solid
Analysis Batch: 31527

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	233.6		mg/Kg		93	90 - 110	2	20

Lab Sample ID: 880-17530-1 MS
Matrix: Solid
Analysis Batch: 31527

Client Sample ID: SW-13A
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	136		251	377.5		mg/Kg		96	90 - 110		

Lab Sample ID: 880-17530-1 MSD
Matrix: Solid
Analysis Batch: 31527

Client Sample ID: SW-13A
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	136		251	390.6		mg/Kg		102	90 - 110	3	20

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17530-1
SDG: Lea County NM

GC VOA

Prep Batch: 31569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17530-1	SW-13A	Total/NA	Solid	5035	
880-17530-2	SW-17A	Total/NA	Solid	5035	
880-17530-3	BH-1A	Total/NA	Solid	5035	
880-17530-4	BH-2A	Total/NA	Solid	5035	
MB 880-31569/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-31569/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-31569/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 31653

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17530-1	SW-13A	Total/NA	Solid	8021B	31569
880-17530-2	SW-17A	Total/NA	Solid	8021B	31569
880-17530-3	BH-1A	Total/NA	Solid	8021B	31569
880-17530-4	BH-2A	Total/NA	Solid	8021B	31569
MB 880-31569/5-A	Method Blank	Total/NA	Solid	8021B	31569
LCS 880-31569/1-A	Lab Control Sample	Total/NA	Solid	8021B	31569
LCSD 880-31569/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	31569

Prep Batch: 31680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17530-5	BH-5A	Total/NA	Solid	5035	
880-17530-6	BH-6A	Total/NA	Solid	5035	
880-17530-7	BH-7A	Total/NA	Solid	5035	
880-17530-8	BH-11A	Total/NA	Solid	5035	
880-17530-9	BH-14A	Total/NA	Solid	5035	
880-17530-10	BH-15A	Total/NA	Solid	5035	
MB 880-31680/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-31680/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-31680/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-17530-5 MS	BH-5A	Total/NA	Solid	5035	
880-17530-5 MSD	BH-5A	Total/NA	Solid	5035	

Analysis Batch: 31685

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17530-5	BH-5A	Total/NA	Solid	8021B	31680
880-17530-6	BH-6A	Total/NA	Solid	8021B	31680
880-17530-7	BH-7A	Total/NA	Solid	8021B	31680
880-17530-8	BH-11A	Total/NA	Solid	8021B	31680
880-17530-9	BH-14A	Total/NA	Solid	8021B	31680
880-17530-10	BH-15A	Total/NA	Solid	8021B	31680
MB 880-31680/5-A	Method Blank	Total/NA	Solid	8021B	31680
LCS 880-31680/1-A	Lab Control Sample	Total/NA	Solid	8021B	31680
LCSD 880-31680/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	31680
880-17530-5 MS	BH-5A	Total/NA	Solid	8021B	31680
880-17530-5 MSD	BH-5A	Total/NA	Solid	8021B	31680

Analysis Batch: 31797

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17530-1	SW-13A	Total/NA	Solid	Total BTEX	
880-17530-2	SW-17A	Total/NA	Solid	Total BTEX	
880-17530-3	BH-1A	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17530-1
SDG: Lea County NM

GC VOA (Continued)

Analysis Batch: 31797 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17530-4	BH-2A	Total/NA	Solid	Total BTEX	
880-17530-5	BH-5A	Total/NA	Solid	Total BTEX	
880-17530-6	BH-6A	Total/NA	Solid	Total BTEX	
880-17530-7	BH-7A	Total/NA	Solid	Total BTEX	
880-17530-8	BH-11A	Total/NA	Solid	Total BTEX	
880-17530-9	BH-14A	Total/NA	Solid	Total BTEX	
880-17530-10	BH-15A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 31371

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17530-8	BH-11A	Total/NA	Solid	8015B NM	31397
880-17530-9	BH-14A	Total/NA	Solid	8015B NM	31397
880-17530-10	BH-15A	Total/NA	Solid	8015B NM	31397
MB 880-31397/1-A	Method Blank	Total/NA	Solid	8015B NM	31397
LCS 880-31397/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	31397
LCSD 880-31397/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	31397

Prep Batch: 31397

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17530-8	BH-11A	Total/NA	Solid	8015NM Prep	
880-17530-9	BH-14A	Total/NA	Solid	8015NM Prep	
880-17530-10	BH-15A	Total/NA	Solid	8015NM Prep	
MB 880-31397/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-31397/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-31397/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Prep Batch: 31417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17530-1	SW-13A	Total/NA	Solid	8015NM Prep	
880-17530-2	SW-17A	Total/NA	Solid	8015NM Prep	
880-17530-3	BH-1A	Total/NA	Solid	8015NM Prep	
880-17530-4	BH-2A	Total/NA	Solid	8015NM Prep	
880-17530-5	BH-5A	Total/NA	Solid	8015NM Prep	
880-17530-6	BH-6A	Total/NA	Solid	8015NM Prep	
880-17530-7	BH-7A	Total/NA	Solid	8015NM Prep	
MB 880-31417/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-31417/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-31417/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-17530-1 MS	SW-13A	Total/NA	Solid	8015NM Prep	
880-17530-1 MSD	SW-13A	Total/NA	Solid	8015NM Prep	

Analysis Batch: 31455

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17530-1	SW-13A	Total/NA	Solid	8015B NM	31417
880-17530-2	SW-17A	Total/NA	Solid	8015B NM	31417
880-17530-3	BH-1A	Total/NA	Solid	8015B NM	31417
880-17530-4	BH-2A	Total/NA	Solid	8015B NM	31417
880-17530-5	BH-5A	Total/NA	Solid	8015B NM	31417
880-17530-6	BH-6A	Total/NA	Solid	8015B NM	31417

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17530-1
SDG: Lea County NM

GC Semi VOA (Continued)

Analysis Batch: 31455 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17530-7	BH-7A	Total/NA	Solid	8015B NM	31417
MB 880-31417/1-A	Method Blank	Total/NA	Solid	8015B NM	31417
LCS 880-31417/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	31417
LCSD 880-31417/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	31417
880-17530-1 MS	SW-13A	Total/NA	Solid	8015B NM	31417
880-17530-1 MSD	SW-13A	Total/NA	Solid	8015B NM	31417

Analysis Batch: 31490

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17530-1	SW-13A	Total/NA	Solid	8015 NM	
880-17530-2	SW-17A	Total/NA	Solid	8015 NM	
880-17530-3	BH-1A	Total/NA	Solid	8015 NM	
880-17530-4	BH-2A	Total/NA	Solid	8015 NM	
880-17530-5	BH-5A	Total/NA	Solid	8015 NM	
880-17530-6	BH-6A	Total/NA	Solid	8015 NM	
880-17530-7	BH-7A	Total/NA	Solid	8015 NM	
880-17530-8	BH-11A	Total/NA	Solid	8015 NM	
880-17530-9	BH-14A	Total/NA	Solid	8015 NM	
880-17530-10	BH-15A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 31359

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17530-1	SW-13A	Soluble	Solid	DI Leach	
880-17530-2	SW-17A	Soluble	Solid	DI Leach	
880-17530-3	BH-1A	Soluble	Solid	DI Leach	
880-17530-4	BH-2A	Soluble	Solid	DI Leach	
880-17530-5	BH-5A	Soluble	Solid	DI Leach	
880-17530-6	BH-6A	Soluble	Solid	DI Leach	
880-17530-7	BH-7A	Soluble	Solid	DI Leach	
880-17530-8	BH-11A	Soluble	Solid	DI Leach	
880-17530-9	BH-14A	Soluble	Solid	DI Leach	
880-17530-10	BH-15A	Soluble	Solid	DI Leach	
MB 880-31359/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-31359/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-31359/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-17530-1 MS	SW-13A	Soluble	Solid	DI Leach	
880-17530-1 MSD	SW-13A	Soluble	Solid	DI Leach	

Analysis Batch: 31527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17530-1	SW-13A	Soluble	Solid	300.0	31359
880-17530-2	SW-17A	Soluble	Solid	300.0	31359
880-17530-3	BH-1A	Soluble	Solid	300.0	31359
880-17530-4	BH-2A	Soluble	Solid	300.0	31359
880-17530-5	BH-5A	Soluble	Solid	300.0	31359
880-17530-6	BH-6A	Soluble	Solid	300.0	31359
880-17530-7	BH-7A	Soluble	Solid	300.0	31359
880-17530-8	BH-11A	Soluble	Solid	300.0	31359
880-17530-9	BH-14A	Soluble	Solid	300.0	31359

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17530-1
SDG: Lea County NM

HPLC/IC (Continued)

Analysis Batch: 31527 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17530-10	BH-15A	Soluble	Solid	300.0	31359
MB 880-31359/1-A	Method Blank	Soluble	Solid	300.0	31359
LCS 880-31359/2-A	Lab Control Sample	Soluble	Solid	300.0	31359
LCSD 880-31359/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	31359
880-17530-1 MS	SW-13A	Soluble	Solid	300.0	31359
880-17530-1 MSD	SW-13A	Soluble	Solid	300.0	31359

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17530-1
SDG: Lea County NM

Client Sample ID: SW-13A
Date Collected: 07/27/22 10:40
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17530-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	31569	08/05/22 10:43	MR	EETSC MID
Total/NA	Analysis	8021B		1			31653	08/07/22 18:24	MR	EETSC M
Total/NA	Analysis	Total BTEX		1			31797	08/08/22 15:30	SM	EETSC M
Total/NA	Analysis	8015 NM		1			31490	08/04/22 09:51	AJ	EETSC M
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	31417	08/03/22 13:28	DM	EETSC M
Total/NA	Analysis	8015B NM		1			31455	08/04/22 11:08	AJ	EETSC M
Soluble	Leach	DI Leach			4.99 g	50 mL	31359	08/02/22 19:03	SMC	EETSC M
Soluble	Analysis	300.0		1			31527	08/05/22 02:58	CH	EETSC M

Client Sample ID: SW-17A
Date Collected: 07/27/22 10:50
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17530-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	31569	08/05/22 10:43	MR	EETSC MID
Total/NA	Analysis	8021B		1			31653	08/07/22 18:51	MR	EETSC M
Total/NA	Analysis	Total BTEX		1			31797	08/08/22 15:30	SM	EETSC M
Total/NA	Analysis	8015 NM		1			31490	08/04/22 09:51	AJ	EETSC M
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	31417	08/03/22 13:28	DM	EETSC M
Total/NA	Analysis	8015B NM		1			31455	08/04/22 12:14	AJ	EETSC M
Soluble	Leach	DI Leach			5 g	50 mL	31359	08/02/22 19:03	SMC	EETSC M
Soluble	Analysis	300.0		1			31527	08/05/22 03:25	CH	EETSC M

Client Sample ID: BH-1A
Date Collected: 07/27/22 11:00
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17530-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	31569	08/05/22 10:43	MR	EETSC MID
Total/NA	Analysis	8021B		1			31653	08/07/22 19:17	MR	EETSC M
Total/NA	Analysis	Total BTEX		1			31797	08/08/22 15:30	SM	EETSC M
Total/NA	Analysis	8015 NM		1			31490	08/04/22 09:51	AJ	EETSC M
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	31417	08/03/22 13:28	DM	EETSC M
Total/NA	Analysis	8015B NM		1			31455	08/04/22 12:35	AJ	EETSC M
Soluble	Leach	DI Leach			5.03 g	50 mL	31359	08/02/22 19:03	SMC	EETSC M
Soluble	Analysis	300.0		1			31527	08/05/22 03:35	CH	EETSC M

Client Sample ID: BH-2A
Date Collected: 07/27/22 11:10
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17530-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	31569	08/05/22 10:43	MR	EETSC MID
Total/NA	Analysis	8021B		1			31653	08/07/22 19:44	MR	EETSC M
Total/NA	Analysis	Total BTEX		1			31797	08/08/22 15:30	SM	EETSC M

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17530-1
SDG: Lea County NM

Client Sample ID: BH-2A
Date Collected: 07/27/22 11:10
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17530-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			31490	08/04/22 09:51	AJ	EETSC MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	31417	08/03/22 13:28	DM	EETSC M
Total/NA	Analysis	8015B NM		1			31455	08/04/22 12:57	AJ	EETSC M
Soluble	Leach	DI Leach			5.02 g	50 mL	31359	08/02/22 19:03	SMC	EETSC M
Soluble	Analysis	300.0		5			31527	08/05/22 03:44	CH	EETSC M

Client Sample ID: BH-5A
Date Collected: 07/27/22 11:20
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17530-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	31680	08/08/22 08:17	EL	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31685	08/08/22 12:25	MR	EETSC M
Total/NA	Analysis	Total BTEX		1			31797	08/08/22 15:30	SM	EETSC M
Total/NA	Analysis	8015 NM		1			31490	08/04/22 09:51	AJ	EETSC M
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	31417	08/03/22 13:28	DM	EETSC M
Total/NA	Analysis	8015B NM		1			31455	08/04/22 13:19	AJ	EETSC M
Soluble	Leach	DI Leach			5.04 g	50 mL	31359	08/02/22 19:03	SMC	EETSC M
Soluble	Analysis	300.0		1			31527	08/05/22 03:53	CH	EETSC M

Client Sample ID: BH-6A
Date Collected: 07/27/22 11:30
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17530-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	31680	08/08/22 08:17	EL	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31685	08/08/22 12:46	MR	EETSC M
Total/NA	Analysis	Total BTEX		1			31797	08/08/22 15:30	SM	EETSC M
Total/NA	Analysis	8015 NM		1			31490	08/04/22 09:51	AJ	EETSC M
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	31417	08/03/22 13:28	DM	EETSC M
Total/NA	Analysis	8015B NM		1			31455	08/04/22 13:40	AJ	EETSC M
Soluble	Leach	DI Leach			4.99 g	50 mL	31359	08/02/22 19:03	SMC	EETSC M
Soluble	Analysis	300.0		1			31527	08/05/22 04:21	CH	EETSC M

Client Sample ID: BH-7A
Date Collected: 07/27/22 11:40
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17530-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	31680	08/08/22 08:17	EL	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31685	08/08/22 13:06	MR	EETSC M
Total/NA	Analysis	Total BTEX		1			31797	08/08/22 15:30	SM	EETSC M
Total/NA	Analysis	8015 NM		1			31490	08/04/22 09:51	AJ	EETSC M
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	31417	08/03/22 13:28	DM	EETSC M
Total/NA	Analysis	8015B NM		1			31455	08/04/22 14:02	AJ	EETSC M

Eurofins Midland

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17530-1
SDG: Lea County NM

Client Sample ID: BH-7A
Date Collected: 07/27/22 11:40
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17530-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.03 g	50 mL	31359	08/02/22 19:03	SMC	EETSC MID
Soluble	Analysis	300.0		1			31527	08/05/22 04:30	CH	EETSC M

Client Sample ID: BH-11A
Date Collected: 07/27/22 11:50
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17530-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	31680	08/08/22 08:17	EL	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31685	08/08/22 13:27	MR	EETSC M
Total/NA	Analysis	Total BTEX		1			31797	08/08/22 15:30	SM	EETSC M
Total/NA	Analysis	8015 NM		1			31490	08/04/22 09:51	AJ	EETSC M
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	31397	08/03/22 09:25	DM	EETSC M
Total/NA	Analysis	8015B NM		1			31371	08/04/22 03:19	AJ	EETSC M
Soluble	Leach	DI Leach			5.02 g	50 mL	31359	08/02/22 19:03	SMC	EETSC M
Soluble	Analysis	300.0		1			31527	08/05/22 04:39	CH	EETSC M

Client Sample ID: BH-14A
Date Collected: 07/27/22 12:00
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17530-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	31680	08/08/22 08:17	EL	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31685	08/08/22 13:47	MR	EETSC M
Total/NA	Analysis	Total BTEX		1			31797	08/08/22 15:30	SM	EETSC M
Total/NA	Analysis	8015 NM		1			31490	08/04/22 09:51	AJ	EETSC M
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	31397	08/03/22 09:25	DM	EETSC M
Total/NA	Analysis	8015B NM		1			31371	08/04/22 03:38	AJ	EETSC M
Soluble	Leach	DI Leach			5.04 g	50 mL	31359	08/02/22 19:03	SMC	EETSC M
Soluble	Analysis	300.0		1			31527	08/05/22 04:49	CH	EETSC M

Client Sample ID: BH-15A
Date Collected: 07/27/22 13:20
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17530-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	31680	08/08/22 08:17	EL	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31685	08/08/22 14:08	MR	EETSC M
Total/NA	Analysis	Total BTEX		1			31797	08/08/22 15:30	SM	EETSC M
Total/NA	Analysis	8015 NM		1			31490	08/04/22 09:51	AJ	EETSC M
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	31397	08/03/22 09:25	DM	EETSC M
Total/NA	Analysis	8015B NM		1			31371	08/04/22 03:58	AJ	EETSC M
Soluble	Leach	DI Leach			4.96 g	50 mL	31359	08/02/22 19:03	SMC	EETSC M
Soluble	Analysis	300.0		1			31527	08/05/22 04:58	CH	EETSC M

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17530-1
SDG: Lea County NM

Laboratory References:

EETSC MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: GHD Services Inc. Job ID: 880-17530-1
Project/Site: Merchant Livestock 30 SDG: Lea County NM

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17530-1
SDG: Lea County NM

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EETSC MID
Total BTEX	Total BTEX Calculation	TAL SOP	EETSC MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EETSC MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EETSC MID
300.0	Anions, Ion Chromatography	MCAWW	EETSC MID
5035	Closed System Purge and Trap	SW846	EETSC MID
8015NM Prep	Microextraction	SW846	EETSC MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EETSC MID

Protocol References:

ASTM = ASTM International
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EETSC MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17530-1
SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-17530-1	SW-13A	Solid	07/27/22 10:40	07/29/22 10:10
880-17530-2	SW-17A	Solid	07/27/22 10:50	07/29/22 10:10
880-17530-3	BH-1A	Solid	07/27/22 11:00	07/29/22 10:10
880-17530-4	BH-2A	Solid	07/27/22 11:10	07/29/22 10:10
880-17530-5	BH-5A	Solid	07/27/22 11:20	07/29/22 10:10
880-17530-6	BH-6A	Solid	07/27/22 11:30	07/29/22 10:10
880-17530-7	BH-7A	Solid	07/27/22 11:40	07/29/22 10:10
880-17530-8	BH-11A	Solid	07/27/22 11:50	07/29/22 10:10
880-17530-9	BH-14A	Solid	07/27/22 12:00	07/29/22 10:10
880-17530-10	BH-15A	Solid	07/27/22 13:20	07/29/22 10:10

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Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND

12600 West I-20 East
Odessa, Texas 79765

880-17530 Chain of Custody

8/9/2022

Project Manager: Becky.Haskell@GHD.com
Company Name: GHD
Company Address: 2135 S. Loop 250 W.
City/State/Zip: Midland, TX 79703
Telephone No: 432-686-0086
Sampler Signature:

Date 28Jul22 Wgt 21 00 LBS
DV
SHIPPING SPECIAL HANDLING TOTAL
0 00
Svcs: STANDARD OVERNIGHT
TRCK: 5635 0961 9107

Project Name: Merchant Livestock 30
Project #: 1258165
Project Loc: Lea County, NM
PO #:
Report Format: ☒ Standard ☐ TRRP ☐ NFDES
Email: Heath.Boyd@GHD.com

(lab use only)
ORDER #:

Lab # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water GW=Groundwater NP=Non-Potable SL=Sludge S=Soil/Solid SW=Surface Water O=Other	Analyze For: TCLP: TP 418.1 8015M	TPH TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	TOTAL: BTEX 8021B/5030 or BTEX 8260	RCI	NORM	Chloride 300 ms	PLM-Asbestos (EPA 600/R-93/116)	Chloride 300 ms
	SW-13A			7/27/22	1040		1									S	X							X			X		
	SW-17A				1050		1										X							X			X		
	BH-1A				1100		1										X							X			X		
	BH-2A				1110		1										X							X			X		
	BH-5A				1120		1										X							X			X		
	BH-6A				1130		1										X							X			X		
	BH-7A				1140		1										X							X			X		
	BH-11A				1150		1										X							X			X		
	BH-14A				1200		1										X							X			X		
	BH-15A			X	1320		1									X	X							X			X		

Special Instructions: Please Email: Becky, Heath, Nikki.Mishler@dcvinc.com JT.Murrey@GHD.com

Direct Bill to: Centennial Resources Production Attn to Nikki

Relinquished by	Date	Time	Received by	Date	Time
	7/29/22	1645			
Relinquished by	Date	Time	Received by	Date	Time
				7/29/22	1010
Relinquished by	Date	Time	Received by ELOT	Date	Time

Laboratory Comments
Sample Containers Intact? Y N
VOCs Free of Headspace? Y N
Labels on container(s) Y N
Custody seals on container(s) Y N
Custody seals on cooler(s) Y N
Sample Hand Delivered Y N
by Sampler/Client Rep ? Y N
by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt	As Read	Corrected
	1.7	1.9°C

Received by OCD: 10/31/2022 6:36:00 AM

Released to Imaging: 11/28/2022 9:20:24 AM

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 880-17530-1
SDG Number: Lea County NM

Login Number: 17530
List Number: 1
Creator: Rodriguez, Leticia

List Source: Eurofins Midland

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-17509-1
Laboratory Sample Delivery Group: 12581651
Client Project/Site: Merchant Livestock 30

For:
GHD Services Inc.
2135 South Loop 250 West
Midland, Texas 79703

Attn: Becky Haskell

Authorized for release by:
8/8/2022 4:33:42 PM

Debbie Simmons, Project Manager
(832)986-6768
Debbie.Simmons@et.eurofinsus.com

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Laboratory Job ID: 880-17509-1
SDG: 12581651

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Definitions/Glossary

Client: GHD Services Inc. Job ID: 880-17509-1
Project/Site: Merchant Livestock 30 SDG: 12581651

Qualifiers

GC VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17509-1
SDG: 12581651

Job ID: 880-17509-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-17509-1

Comments
No additional comments.

Receipt
The samples were received on 7/29/2022 10:10 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.9º C.

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: BH-27A (880-17509-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-31414 and analytical batch 880-31453 recovered outside control limits for the following analytes: Benzene.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method 8015B NM: The method blank for preparation batch 880-31330 and analytical batch 880-31245 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015B NM: Surrogate recovery for the following samples were outside control limits: BH-26A (880-17509-3), BH-27A (880-17509-4), (MB 880-31330/1-A), (880-17595-A-1-E) and (880-17595-A-1-F MS). Evidence of matrix interferences is not obvious.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17509-1
SDG: 12581651

Client Sample ID: SW-9A

Date Collected: 07/28/22 10:20
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17509-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000386	U *1	0.00200	0.000386	mg/Kg		08/03/22 11:41	08/05/22 06:05	1
Toluene	<0.000457	U	0.00200	0.000457	mg/Kg		08/03/22 11:41	08/05/22 06:05	1
Ethylbenzene	<0.000566	U	0.00200	0.000566	mg/Kg		08/03/22 11:41	08/05/22 06:05	1
m-Xylene & p-Xylene	<0.00101	U	0.00401	0.00101	mg/Kg		08/03/22 11:41	08/05/22 06:05	1
o-Xylene	<0.000345	U	0.00200	0.000345	mg/Kg		08/03/22 11:41	08/05/22 06:05	1
Xylenes, Total	<0.00101	U	0.00401	0.00101	mg/Kg		08/03/22 11:41	08/05/22 06:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*71*		*70 - 130*	*08/03/22 11:41*	*08/05/22 06:05*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*08/03/22 11:41*	*08/05/22 06:05*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00401	0.00101	mg/Kg			08/05/22 13:19	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**25.8**	**J**	49.8	14.9	mg/Kg			08/03/22 08:58	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**25.8**	**J B**	49.8	14.9	mg/Kg		08/02/22 14:20	08/03/22 04:12	1
Diesel Range Organics (Over C10-C28)	<14.9	U	49.8	14.9	mg/Kg		08/02/22 14:20	08/03/22 04:12	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		08/02/22 14:20	08/03/22 04:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*76*		*70 - 130*	*08/02/22 14:20*	*08/03/22 04:12*	*1*
o-Terphenyl	*89*		*70 - 130*	*08/02/22 14:20*	*08/03/22 04:12*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**496**		25.0	4.29	mg/Kg			08/05/22 22:13	5

Client Sample ID: SW-10A

Date Collected: 07/28/22 10:30
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17509-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.000413**	**J *1**	0.00201	0.000387	mg/Kg		08/03/22 11:41	08/05/22 06:26	1
Toluene	<0.000459	U	0.00201	0.000459	mg/Kg		08/03/22 11:41	08/05/22 06:26	1
Ethylbenzene	<0.000568	U	0.00201	0.000568	mg/Kg		08/03/22 11:41	08/05/22 06:26	1
m-Xylene & p-Xylene	<0.00102	U	0.00402	0.00102	mg/Kg		08/03/22 11:41	08/05/22 06:26	1
o-Xylene	<0.000346	U	0.00201	0.000346	mg/Kg		08/03/22 11:41	08/05/22 06:26	1
Xylenes, Total	<0.00102	U	0.00402	0.00102	mg/Kg		08/03/22 11:41	08/05/22 06:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*08/03/22 11:41*	*08/05/22 06:26*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*08/03/22 11:41*	*08/05/22 06:26*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17509-1
SDG: 12581651

Client Sample ID: SW-10A
Date Collected: 07/28/22 10:30
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17509-2
Matrix: Solid

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00102	U	0.00402	0.00102	mg/Kg			08/05/22 13:19	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**21.0**	**J**	50.0	15.0	mg/Kg			08/03/22 08:58	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**21.0**	**J B**	50.0	15.0	mg/Kg		08/02/22 14:20	08/03/22 04:34	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/02/22 14:20	08/03/22 04:34	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/02/22 14:20	08/03/22 04:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*72*		*70 - 130*	*08/02/22 14:20*	*08/03/22 04:34*	*1*
o-Terphenyl	*77*		*70 - 130*	*08/02/22 14:20*	*08/03/22 04:34*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**216**		25.0	4.28	mg/Kg			08/05/22 22:41	5

Client Sample ID: BH-26A
Date Collected: 07/28/22 10:50
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17509-3
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U *1	0.00201	0.000387	mg/Kg		08/03/22 11:41	08/05/22 06:46	1
Toluene	<0.000458	U	0.00201	0.000458	mg/Kg		08/03/22 11:41	08/05/22 06:46	1
Ethylbenzene	<0.000567	U	0.00201	0.000567	mg/Kg		08/03/22 11:41	08/05/22 06:46	1
m-Xylene & p-Xylene	<0.00101	U	0.00402	0.00101	mg/Kg		08/03/22 11:41	08/05/22 06:46	1
o-Xylene	<0.000345	U	0.00201	0.000345	mg/Kg		08/03/22 11:41	08/05/22 06:46	1
Xylenes, Total	<0.00101	U	0.00402	0.00101	mg/Kg		08/03/22 11:41	08/05/22 06:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*08/03/22 11:41*	*08/05/22 06:46*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*08/03/22 11:41*	*08/05/22 06:46*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00402	0.00101	mg/Kg			08/05/22 13:19	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**23.1**	**J**	49.9	15.0	mg/Kg			08/03/22 08:58	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**23.1**	**J B**	49.9	15.0	mg/Kg		08/02/22 14:20	08/03/22 04:56	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		08/02/22 14:20	08/03/22 04:56	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17509-1
SDG: 12581651

Client Sample ID: BH-26A
Date Collected: 07/28/22 10:50
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17509-3
Matrix: Solid

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oll Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		08/02/22 14:20	08/03/22 04:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*66*	*S1-*	*70 - 130*	*08/02/22 14:20*	*08/03/22 04:56*	*1*
o-Terphenyl	*74*		*70 - 130*	*08/02/22 14:20*	*08/03/22 04:56*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**605**		25.0	4.28	mg/Kg			08/05/22 22:50	5

Client Sample ID: BH-27A
Date Collected: 07/28/22 11:00
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17509-4
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.000518**	**J *1**	0.00200	0.000384	mg/Kg		08/03/22 11:41	08/05/22 07:07	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		08/03/22 11:41	08/05/22 07:07	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		08/03/22 11:41	08/05/22 07:07	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		08/03/22 11:41	08/05/22 07:07	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		08/03/22 11:41	08/05/22 07:07	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		08/03/22 11:41	08/05/22 07:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*132*	*S1+*	*70 - 130*	*08/03/22 11:41*	*08/05/22 07:07*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*08/03/22 11:41*	*08/05/22 07:07*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg			08/05/22 13:19	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**26.9**	**J**	50.0	15.0	mg/Kg			08/03/22 08:58	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**26.9**	**J B**	50.0	15.0	mg/Kg		08/02/22 14:20	08/03/22 05:17	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/02/22 14:20	08/03/22 05:17	1
Oll Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/02/22 14:20	08/03/22 05:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*58*	*S1-*	*70 - 130*	*08/02/22 14:20*	*08/03/22 05:17*	*1*
o-Terphenyl	*63*	*S1-*	*70 - 130*	*08/02/22 14:20*	*08/03/22 05:17*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**360**		4.95	0.850	mg/Kg			08/05/22 22:59	1

Surrogate Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17509-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)									
		BFB1	DFBZ1								
Lab Sample ID	Client Sample ID	(70-130)	(70-130)								
880-17509-1	SW-9A	71	88								
880-17509-2	SW-10A	98	91								
880-17509-3	BH-26A	116	87								
880-17509-4	BH-27A	132 S1+	98								
LCS 880-31414/1-A	Lab Control Sample	80	120								
LCSD 880-31414/2-A	Lab Control Sample Dup	81	107								
MB 880-31200/5-A	Method Blank	82	106								
MB 880-31414/5-A	Method Blank	83	105								

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)									
		1CO1	OTPH1								
Lab Sample ID	Client Sample ID	(70-130)	(70-130)								
880-17509-1	SW-9A	76	89								
880-17509-2	SW-10A	72	77								
880-17509-3	BH-26A	66 S1-	74								
880-17509-4	BH-27A	58 S1-	63 S1-								
LCS 880-31330/2-A	Lab Control Sample	105	108								
LCSD 880-31330/3-A	Lab Control Sample Dup	105	106								
MB 880-31330/1-A	Method Blank	110	131 S1+								

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17509-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-31200/5-A
Matrix: Solid
Analysis Batch: 31453

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31200

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		08/01/22 14:58	08/04/22 10:53	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		08/01/22 14:58	08/04/22 10:53	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		08/01/22 14:58	08/04/22 10:53	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/01/22 14:58	08/04/22 10:53	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		08/01/22 14:58	08/04/22 10:53	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/01/22 14:58	08/04/22 10:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*08/01/22 14:58*	*08/04/22 10:53*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*08/01/22 14:58*	*08/04/22 10:53*	*1*

Lab Sample ID: MB 880-31414/5-A
Matrix: Solid
Analysis Batch: 31453

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31414

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		08/03/22 11:41	08/04/22 23:07	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		08/03/22 11:41	08/04/22 23:07	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		08/03/22 11:41	08/04/22 23:07	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/03/22 11:41	08/04/22 23:07	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		08/03/22 11:41	08/04/22 23:07	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/03/22 11:41	08/04/22 23:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*	*08/03/22 11:41*	*08/04/22 23:07*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*08/03/22 11:41*	*08/04/22 23:07*	*1*

Lab Sample ID: LCS 880-31414/1-A
Matrix: Solid
Analysis Batch: 31453

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31414

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1214		mg/Kg		121	70 - 130
Toluene	0.100	0.09865		mg/Kg		99	70 - 130
Ethylbenzene	0.100	0.09199		mg/Kg		92	70 - 130
m-Xylene & p-Xylene	0.200	0.1756		mg/Kg		88	70 - 130
o-Xylene	0.100	0.08730		mg/Kg		87	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*
1,4-Difluorobenzene (Surr)	*120*		*70 - 130*

Lab Sample ID: LCSD 880-31414/2-A
Matrix: Solid
Analysis Batch: 31453

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31414

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.07448	*1	mg/Kg		74	70 - 130	48	35

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17509-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-31414/2-A
Matrix: Solid
Analysis Batch: 31453

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31414

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.07311		mg/Kg		73	70 - 130	30	35
Ethylbenzene			0.100	0.07141		mg/Kg		71	70 - 130	25	35
m-Xylene & p-Xylene			0.200	0.1416		mg/Kg		71	70 - 130	21	35
o-Xylene			0.100	0.07107		mg/Kg		71	70 - 130	21	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-31330/1-A
Matrix: Solid
Analysis Batch: 31245

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31330

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	20.06	J	50.0	15.0	mg/Kg		08/02/22 14:20	08/02/22 20:14	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/02/22 14:20	08/02/22 20:14	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/02/22 14:20	08/02/22 20:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*110*		*70 - 130*	*08/02/22 14:20*	*08/02/22 20:14*	*1*
o-Terphenyl	*131*	*S1+*	*70 - 130*	*08/02/22 14:20*	*08/02/22 20:14*	*1*

Lab Sample ID: LCS 880-31330/2-A
Matrix: Solid
Analysis Batch: 31245

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31330

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	1036		mg/Kg		104	70 - 130
Diesel Range Organics (Over C10-C28)			1000	1087		mg/Kg		109	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*105*		*70 - 130*
o-Terphenyl	*108*		*70 - 130*

Lab Sample ID: LCSD 880-31330/3-A
Matrix: Solid
Analysis Batch: 31245

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31330

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	876.2		mg/Kg		88	70 - 130	17	20
Diesel Range Organics (Over C10-C28)			1000	1115		mg/Kg		112	70 - 130	3	20

Eurofins Midland

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17509-1
SDG: 12581651

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCSD 880-31330/3-A
Matrix: Solid
Analysis Batch: 31245

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31330

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*105*		*70 - 130*
o-Terphenyl	*106*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-31018/1-A
Matrix: Solid
Analysis Batch: 31437

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.858	U	5.00	0.858	mg/Kg			08/05/22 18:34	1

Lab Sample ID: LCS 880-31018/2-A
Matrix: Solid
Analysis Batch: 31437

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	237.8		mg/Kg		95	90 - 110		

Lab Sample ID: LCSD 880-31018/3-A
Matrix: Solid
Analysis Batch: 31437

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	232.1		mg/Kg		93	90 - 110	2	20

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17509-1
SDG: 12581651

GC VOA

Prep Batch: 31200

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-31200/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 31414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17509-1	SW-9A	Total/NA	Solid	5035	
880-17509-2	SW-10A	Total/NA	Solid	5035	
880-17509-3	BH-26A	Total/NA	Solid	5035	
880-17509-4	BH-27A	Total/NA	Solid	5035	
MB 880-31414/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-31414/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-31414/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 31453

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17509-1	SW-9A	Total/NA	Solid	8021B	31414
880-17509-2	SW-10A	Total/NA	Solid	8021B	31414
880-17509-3	BH-26A	Total/NA	Solid	8021B	31414
880-17509-4	BH-27A	Total/NA	Solid	8021B	31414
MB 880-31200/5-A	Method Blank	Total/NA	Solid	8021B	31200
MB 880-31414/5-A	Method Blank	Total/NA	Solid	8021B	31414
LCS 880-31414/1-A	Lab Control Sample	Total/NA	Solid	8021B	31414
LCSD 880-31414/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	31414

Analysis Batch: 31595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17509-1	SW-9A	Total/NA	Solid	Total BTEX	
880-17509-2	SW-10A	Total/NA	Solid	Total BTEX	
880-17509-3	BH-26A	Total/NA	Solid	Total BTEX	
880-17509-4	BH-27A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 31245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17509-1	SW-9A	Total/NA	Solid	8015B NM	31330
880-17509-2	SW-10A	Total/NA	Solid	8015B NM	31330
880-17509-3	BH-26A	Total/NA	Solid	8015B NM	31330
880-17509-4	BH-27A	Total/NA	Solid	8015B NM	31330
MB 880-31330/1-A	Method Blank	Total/NA	Solid	8015B NM	31330
LCS 880-31330/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	31330
LCSD 880-31330/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	31330

Prep Batch: 31330

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17509-1	SW-9A	Total/NA	Solid	8015NM Prep	
880-17509-2	SW-10A	Total/NA	Solid	8015NM Prep	
880-17509-3	BH-26A	Total/NA	Solid	8015NM Prep	
880-17509-4	BH-27A	Total/NA	Solid	8015NM Prep	
MB 880-31330/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-31330/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-31330/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17509-1
SDG: 12581651

GC Semi VOA

Analysis Batch: 31381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17509-1	SW-9A	Total/NA	Solid	8015 NM	
880-17509-2	SW-10A	Total/NA	Solid	8015 NM	
880-17509-3	BH-26A	Total/NA	Solid	8015 NM	
880-17509-4	BH-27A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 31018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17509-1	SW-9A	Soluble	Solid	DI Leach	
880-17509-2	SW-10A	Soluble	Solid	DI Leach	
880-17509-3	BH-26A	Soluble	Solid	DI Leach	
880-17509-4	BH-27A	Soluble	Solid	DI Leach	
MB 880-31018/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-31018/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-31018/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 31437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17509-1	SW-9A	Soluble	Solid	300.0	31018
880-17509-2	SW-10A	Soluble	Solid	300.0	31018
880-17509-3	BH-26A	Soluble	Solid	300.0	31018
880-17509-4	BH-27A	Soluble	Solid	300.0	31018
MB 880-31018/1-A	Method Blank	Soluble	Solid	300.0	31018
LCS 880-31018/2-A	Lab Control Sample	Soluble	Solid	300.0	31018
LCSD 880-31018/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	31018

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17509-1
SDG: 12581651

Client Sample ID: SW-9A
Date Collected: 07/28/22 10:20
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17509-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	31414	08/03/22 11:41	MR	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31453	08/05/22 06:05	MR	EETSC M
Total/NA	Analysis	Total BTEX		1			31595	08/05/22 13:19	AJ	EETSC M
Total/NA	Analysis	8015 NM		1			31381	08/03/22 08:58	AJ	EETSC M
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	31330	08/02/22 14:20	DM	EETSC M
Total/NA	Analysis	8015B NM		1			31245	08/03/22 04:12	AJ	EETSC M
Soluble	Leach	DI Leach			5 g	50 mL	31018	07/29/22 14:10	SMC	EETSC M
Soluble	Analysis	300.0		5			31437	08/05/22 22:13	SM	EETSC M

Client Sample ID: SW-10A
Date Collected: 07/28/22 10:30
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17509-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	31414	08/03/22 11:41	MR	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31453	08/05/22 06:26	MR	EETSC M
Total/NA	Analysis	Total BTEX		1			31595	08/05/22 13:19	AJ	EETSC M
Total/NA	Analysis	8015 NM		1			31381	08/03/22 08:58	AJ	EETSC M
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	31330	08/02/22 14:20	DM	EETSC M
Total/NA	Analysis	8015B NM		1			31245	08/03/22 04:34	AJ	EETSC M
Soluble	Leach	DI Leach			5.01 g	50 mL	31018	07/29/22 14:10	SMC	EETSC M
Soluble	Analysis	300.0		5			31437	08/05/22 22:41	SM	EETSC M

Client Sample ID: BH-26A
Date Collected: 07/28/22 10:50
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17509-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	31414	08/03/22 11:41	MR	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31453	08/05/22 06:46	MR	EETSC M
Total/NA	Analysis	Total BTEX		1			31595	08/05/22 13:19	AJ	EETSC M
Total/NA	Analysis	8015 NM		1			31381	08/03/22 08:58	AJ	EETSC M
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	31330	08/02/22 14:20	DM	EETSC M
Total/NA	Analysis	8015B NM		1			31245	08/03/22 04:56	AJ	EETSC M
Soluble	Leach	DI Leach			5.01 g	50 mL	31018	07/29/22 14:10	SMC	EETSC M
Soluble	Analysis	300.0		5			31437	08/05/22 22:50	SM	EETSC M

Client Sample ID: BH-27A
Date Collected: 07/28/22 11:00
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17509-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	31414	08/03/22 11:41	MR	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31453	08/05/22 07:07	MR	EETSC M
Total/NA	Analysis	Total BTEX		1			31595	08/05/22 13:19	AJ	EETSC M

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17509-1
SDG: 12581651

Client Sample ID: BH-27A
Date Collected: 07/28/22 11:00
Date Received: 07/29/22 10:10

Lab Sample ID: 880-17509-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			31381	08/03/22 08:58	AJ	EETSC MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	31330	08/02/22 14:20	DM	EETSC M
Total/NA	Analysis	8015B NM		1			31245	08/03/22 05:17	AJ	EETSC M
Soluble	Leach	DI Leach			5.05 g	50 mL	31018	07/29/22 14:10	SMC	EETSC M
Soluble	Analysis	300.0		1			31437	08/05/22 22:59	SM	EETSC M

Laboratory References:
EETSC MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: GHD Services Inc. Job ID: 880-17509-1
Project/Site: Merchant Livestock 30 SDG: 12581651

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17509-1
SDG: 12581651

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EETSC MID
Total BTEX	Total BTEX Calculation	TAL SOP	EETSC MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EETSC MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EETSC MID
300.0	Anions, Ion Chromatography	MCAWW	EETSC MID
5035	Closed System Purge and Trap	SW846	EETSC MID
8015NM Prep	Microextraction	SW846	EETSC MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EETSC MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EETSC MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17509-1
SDG: 12581651

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-17509-1	SW-9A	Solid	07/28/22 10:20	07/29/22 10:10
880-17509-2	SW-10A	Solid	07/28/22 10:30	07/29/22 10:10
880-17509-3	BH-26A	Solid	07/28/22 10:50	07/29/22 10:10
880-17509-4	BH-27A	Solid	07/28/22 11:00	07/29/22 10:10

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Xenco Laboratories

The Environmental Lab of Texas

880-17509 Chain of Custody

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST 17509

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Becky.Haskell@GHD.com
Company Name: GHD
Company Address: 2135 S. Loop 250 W.
City/State/Zip: Midland, TX 79703
Telephone No: 432-686-0086
Fax No:
Sampler Signature:
e-mail: Heath.Boyd

Project Name: Merchant Livestock 30
Project #: 12581651
Project Loc: Lea County, NM
PO #:
Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #:

(lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge; GW=Groundwater S=Soil/Solid; NP=Non-Potable Specify Other	Analyze For: TCLP/TOTAL: TPH 418.1	8015M	TPH TX 1005	TPH TX 1006	Cations (Ca Mg Na K)	Anions (Cl SO4 Alkalinity)	SAR / ESP / CEC	Metals As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Chloride 300 mL		RUSH TAT (Pre-Schedule) 24 48 72 hrs	Standard TAT
	SW-9A			7/28/22	1020		1									S	X									X			X			X
	SW-10A				1030		1									S	X									X			X			X
	BH-26A				1050		1									S	X									X			X			X
	BH-27A			X	1100		1									S	X									X			X			X

Special Instructions: Please Email: Becky.Heath.Nikki.Nisler@cderinc.com JT.Murrey@GHD.com

Direct Bill to: Centennial Resources Production Attn to Nikki:

Relinquished by	Date	Time	Received by	Date	Time
	7/28/22	1550			
Relinquished by	Date	Time	Received by	Date	Time
				7/29/22	10:10
Relinquished by	Date	Time	Received by ELOT	Date	Time

Laboratory Comments

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep ?	Y	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt	As Read	Corrected
	1-7	1.9 °C

Received by OCD: 10/31/2022 6:36:00 AM

Released to Imaging: 11/28/2022 9:20:24 AM

8/8/2022

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 880-17509-1
SDG Number: 12581651

Login Number: 17509
List Number: 1
Creator: Rodriguez, Leticia

List Source: Eurofins Midland

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-17544-1
Laboratory Sample Delivery Group: 12581651
Client Project/Site: Merchant Livestock 30

For:
GHD Services Inc.
2135 South Loop 250 West
Midland, Texas 79703

Attn: Becky Haskell

Authorized for release by:
8/9/2022 7:44:40 AM

Debbie Simmons, Project Manager
(832)986-6768
Debbie.Simmons@et.eurofinsus.com

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Laboratory Job ID: 880-17544-1
SDG: 12581651

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Definitions/Glossary

Client: GHD Services Inc. Job ID: 880-17544-1
Project/Site: Merchant Livestock 30 SDG: 12581651

Qualifiers

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17544-1
SDG: 12581651

Job ID: 880-17544-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-17544-1

Comments
No additional comments.

Receipt
The samples were received on 8/1/2022 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.1º C.

GC VOA
Method 8021B: The continuing calibration verification (CCV) associated with batch 880-31540 recovered above the upper control limit for o-Xylene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method 8015B NM: The method blank for preparation batch 880-31439 and analytical batch 880-31457 contained Gasoline Range Organics (GRO)-C6-C10 and Diesel Range Organics (Over C10-C28) above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: 880-17544-1-MS Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17544-1
SDG: 12581651

Client Sample ID: SW-4A
Date Collected: 07/29/22 10:20
Date Received: 08/01/22 08:00

Lab Sample ID: 880-17544-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000386	U	0.00200	0.000386	mg/Kg		08/05/22 11:19	08/06/22 05:51	1
Toluene	<0.000457	U	0.00200	0.000457	mg/Kg		08/05/22 11:19	08/06/22 05:51	1
Ethylbenzene	<0.000566	U	0.00200	0.000566	mg/Kg		08/05/22 11:19	08/06/22 05:51	1
m-Xylene & p-Xylene	<0.00101	U	0.00401	0.00101	mg/Kg		08/05/22 11:19	08/06/22 05:51	1
o-Xylene	<0.000345	U	0.00200	0.000345	mg/Kg		08/05/22 11:19	08/06/22 05:51	1
Xylenes, Total	<0.00101	U	0.00401	0.00101	mg/Kg		08/05/22 11:19	08/06/22 05:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*	*08/05/22 11:19*	*08/06/22 05:51*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*08/05/22 11:19*	*08/06/22 05:51*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00401	0.00101	mg/Kg			08/08/22 14:27	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**26.6**	**J**	49.9	15.0	mg/Kg			08/05/22 13:04	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**26.6**	**J B**	49.9	15.0	mg/Kg		08/03/22 15:56	08/04/22 11:08	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		08/03/22 15:56	08/04/22 11:08	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		08/03/22 15:56	08/04/22 11:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*08/03/22 15:56*	*08/04/22 11:08*	*1*
o-Terphenyl	*100*		*70 - 130*	*08/03/22 15:56*	*08/04/22 11:08*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**19.9**		4.99	0.857	mg/Kg			08/06/22 11:47	1

Client Sample ID: BH-29A
Date Collected: 07/29/22 10:30
Date Received: 08/01/22 08:00

Lab Sample ID: 880-17544-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000384	U	0.00200	0.000384	mg/Kg		08/05/22 11:19	08/06/22 06:12	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		08/05/22 11:19	08/06/22 06:12	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		08/05/22 11:19	08/06/22 06:12	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		08/05/22 11:19	08/06/22 06:12	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		08/05/22 11:19	08/06/22 06:12	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		08/05/22 11:19	08/06/22 06:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*08/05/22 11:19*	*08/06/22 06:12*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*08/05/22 11:19*	*08/06/22 06:12*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17544-1
SDG: 12581651

Client Sample ID: BH-29A
Date Collected: 07/29/22 10:30
Date Received: 08/01/22 08:00

Lab Sample ID: 880-17544-2
Matrix: Solid

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg			08/08/22 14:27	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**30.2**	**J**	49.9	15.0	mg/Kg			08/05/22 13:04	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**30.2**	**J B**	49.9	15.0	mg/Kg		08/03/22 15:56	08/04/22 12:14	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		08/03/22 15:56	08/04/22 12:14	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		08/03/22 15:56	08/04/22 12:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*08/03/22 15:56*	*08/04/22 12:14*	*1*
o-Terphenyl	*121*		*70 - 130*	*08/03/22 15:56*	*08/04/22 12:14*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**263**		4.95	0.850	mg/Kg			08/06/22 12:11	1

Client Sample ID: BH-30A
Date Collected: 07/29/22 10:40
Date Received: 08/01/22 08:00

Lab Sample ID: 880-17544-3
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		08/05/22 11:19	08/06/22 06:32	1
Toluene	<0.000459	U	0.00201	0.000459	mg/Kg		08/05/22 11:19	08/06/22 06:32	1
Ethylbenzene	<0.000568	U	0.00201	0.000568	mg/Kg		08/05/22 11:19	08/06/22 06:32	1
m-Xylene & p-Xylene	<0.00102	U	0.00402	0.00102	mg/Kg		08/05/22 11:19	08/06/22 06:32	1
o-Xylene	<0.000346	U	0.00201	0.000346	mg/Kg		08/05/22 11:19	08/06/22 06:32	1
Xylenes, Total	<0.00102	U	0.00402	0.00102	mg/Kg		08/05/22 11:19	08/06/22 06:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*08/05/22 11:19*	*08/06/22 06:32*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*08/05/22 11:19*	*08/06/22 06:32*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00102	U	0.00402	0.00102	mg/Kg			08/08/22 14:27	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**22.2**	**J**	50.0	15.0	mg/Kg			08/05/22 13:04	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**22.2**	**J B**	50.0	15.0	mg/Kg		08/03/22 15:56	08/04/22 12:35	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/03/22 15:56	08/04/22 12:35	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17544-1
SDG: 12581651

Client Sample ID: BH-30A
Date Collected: 07/29/22 10:40
Date Received: 08/01/22 08:00

Lab Sample ID: 880-17544-3
Matrix: Solid

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/03/22 15:56	08/04/22 12:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*72*		*70 - 130*	*08/03/22 15:56*	*08/04/22 12:35*	*1*
o-Terphenyl	*84*		*70 - 130*	*08/03/22 15:56*	*08/04/22 12:35*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**43.9**		4.96	0.851	mg/Kg			08/06/22 12:19	1

Client Sample ID: BH-31A
Date Collected: 07/29/22 10:50
Date Received: 08/01/22 08:00

Lab Sample ID: 880-17544-4
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000389	U	0.00202	0.000389	mg/Kg		08/05/22 11:19	08/06/22 06:53	1
Toluene	<0.000461	U	0.00202	0.000461	mg/Kg		08/05/22 11:19	08/06/22 06:53	1
Ethylbenzene	<0.000571	U	0.00202	0.000571	mg/Kg		08/05/22 11:19	08/06/22 06:53	1
m-Xylene & p-Xylene	<0.00102	U	0.00404	0.00102	mg/Kg		08/05/22 11:19	08/06/22 06:53	1
o-Xylene	<0.000347	U	0.00202	0.000347	mg/Kg		08/05/22 11:19	08/06/22 06:53	1
Xylenes, Total	<0.00102	U	0.00404	0.00102	mg/Kg		08/05/22 11:19	08/06/22 06:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*	*08/05/22 11:19*	*08/06/22 06:53*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*08/05/22 11:19*	*08/06/22 06:53*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00102	U	0.00404	0.00102	mg/Kg			08/08/22 14:27	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**20.3**	**J**	49.8	14.9	mg/Kg			08/05/22 13:04	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**20.3**	**J B**	49.8	14.9	mg/Kg		08/03/22 15:56	08/04/22 12:57	1
Diesel Range Organics (Over C10-C28)	<14.9	U	49.8	14.9	mg/Kg		08/03/22 15:56	08/04/22 12:57	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		08/03/22 15:56	08/04/22 12:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*86*		*70 - 130*	*08/03/22 15:56*	*08/04/22 12:57*	*1*
o-Terphenyl	*105*		*70 - 130*	*08/03/22 15:56*	*08/04/22 12:57*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**56.7**		5.01	0.860	mg/Kg			08/06/22 12:26	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17544-1
SDG: 12581651

Client Sample ID: BH-49
Date Collected: 07/29/22 11:00
Date Received: 08/01/22 08:00

Lab Sample ID: 880-17544-5
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		08/05/22 11:19	08/06/22 07:13	1
Toluene	<0.000458	U	0.00201	0.000458	mg/Kg		08/05/22 11:19	08/06/22 07:13	1
Ethylbenzene	<0.000567	U	0.00201	0.000567	mg/Kg		08/05/22 11:19	08/06/22 07:13	1
m-Xylene & p-Xylene	<0.00101	U	0.00402	0.00101	mg/Kg		08/05/22 11:19	08/06/22 07:13	1
o-Xylene	<0.000345	U	0.00201	0.000345	mg/Kg		08/05/22 11:19	08/06/22 07:13	1
Xylenes, Total	<0.00101	U	0.00402	0.00101	mg/Kg		08/05/22 11:19	08/06/22 07:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*08/05/22 11:19*	*08/06/22 07:13*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*08/05/22 11:19*	*08/06/22 07:13*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00402	0.00101	mg/Kg			08/08/22 14:27	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**22.2**	**J**	50.0	15.0	mg/Kg			08/05/22 13:04	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**22.2**	**J B**	50.0	15.0	mg/Kg		08/03/22 15:56	08/04/22 13:19	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/03/22 15:56	08/04/22 13:19	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/03/22 15:56	08/04/22 13:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*81*		*70 - 130*	*08/03/22 15:56*	*08/04/22 13:19*	*1*
o-Terphenyl	*101*		*70 - 130*	*08/03/22 15:56*	*08/04/22 13:19*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**30.1**		4.97	0.853	mg/Kg			08/06/22 12:34	1

Surrogate Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17544-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-17544-1	SW-4A	111	89
880-17544-2	BH-29A	113	88
880-17544-3	BH-30A	98	87
880-17544-4	BH-31A	111	88
880-17544-5	BH-49	112	90
LCS 880-31573/1-A	Lab Control Sample	106	90
LCSD 880-31573/2-A	Lab Control Sample Dup	112	94
MB 880-31335/5-A	Method Blank	99	89
MB 880-31573/5-A	Method Blank	101	91

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-17544-1	SW-4A	83	100
880-17544-1 MS	SW-4A	69 S1-	73
880-17544-1 MSD	SW-4A	79	81
880-17544-2	BH-29A	102	121
880-17544-3	BH-30A	72	84
880-17544-4	BH-31A	86	105
880-17544-5	BH-49	81	101
LCS 880-31439/2-A	Lab Control Sample	86	97
LCSD 880-31439/3-A	Lab Control Sample Dup	88	101
MB 880-31439/1-A	Method Blank	96	118

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17544-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-31335/5-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31335

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		08/02/22 14:31	08/05/22 11:25	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		08/02/22 14:31	08/05/22 11:25	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		08/02/22 14:31	08/05/22 11:25	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/02/22 14:31	08/05/22 11:25	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		08/02/22 14:31	08/05/22 11:25	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/02/22 14:31	08/05/22 11:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*08/02/22 14:31*	*08/05/22 11:25*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*08/02/22 14:31*	*08/05/22 11:25*	*1*

Lab Sample ID: MB 880-31573/5-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31573

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		08/05/22 11:19	08/06/22 00:00	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		08/05/22 11:19	08/06/22 00:00	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		08/05/22 11:19	08/06/22 00:00	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/05/22 11:19	08/06/22 00:00	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		08/05/22 11:19	08/06/22 00:00	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/05/22 11:19	08/06/22 00:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*08/05/22 11:19*	*08/06/22 00:00*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*08/05/22 11:19*	*08/06/22 00:00*	*1*

Lab Sample ID: LCS 880-31573/1-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31573

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09897		mg/Kg		99	70 - 130
Toluene	0.100	0.1022		mg/Kg		102	70 - 130
Ethylbenzene	0.100	0.1050		mg/Kg		105	70 - 130
m-Xylene & p-Xylene	0.200	0.2137		mg/Kg		107	70 - 130
o-Xylene	0.100	0.1208		mg/Kg		121	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*

Lab Sample ID: LCSD 880-31573/2-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31573

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09262		mg/Kg		93	70 - 130	7	35

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QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17544-1
SDG: 12581651

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-31573/2-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31573

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.09534		mg/Kg		95	70 - 130	7	35
Ethylbenzene			0.100	0.1047		mg/Kg		105	70 - 130	0	35
m-Xylene & p-Xylene			0.200	0.2146		mg/Kg		107	70 - 130	0	35
o-Xylene			0.100	0.1189		mg/Kg		119	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-31439/1-A
Matrix: Solid
Analysis Batch: 31457

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31439

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	24.17	J	50.0	15.0	mg/Kg		08/03/22 15:56	08/04/22 10:03	1
Diesel Range Organics (Over C10-C28)	16.21	J	50.0	15.0	mg/Kg		08/03/22 15:56	08/04/22 10:03	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/03/22 15:56	08/04/22 10:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*96*		*70 - 130*	*08/03/22 15:56*	*08/04/22 10:03*	*1*
o-Terphenyl	*118*		*70 - 130*	*08/03/22 15:56*	*08/04/22 10:03*	*1*

Lab Sample ID: LCS 880-31439/2-A
Matrix: Solid
Analysis Batch: 31457

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31439

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	974.8		mg/Kg		97	70 - 130
Diesel Range Organics (Over C10-C28)			1000	955.3		mg/Kg		96	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*86*		*70 - 130*
o-Terphenyl	*97*		*70 - 130*

Lab Sample ID: LCSD 880-31439/3-A
Matrix: Solid
Analysis Batch: 31457

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31439

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1034		mg/Kg		103	70 - 130	6	20
Diesel Range Organics (Over C10-C28)			1000	985.7		mg/Kg		99	70 - 130	3	20

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QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17544-1
SDG: 12581651

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCSD 880-31439/3-A
Matrix: Solid
Analysis Batch: 31457

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31439

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	88		70 - 130
o-Terphenyl	101		70 - 130

Lab Sample ID: 880-17544-1 MS
Matrix: Solid
Analysis Batch: 31457

Client Sample ID: SW-4A
Prep Type: Total/NA
Prep Batch: 31439

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	26.6	J B	999	936.9		mg/Kg		91	70 - 130		
Diesel Range Organics (Over C10-C28)	<15.0	U	999	766.8		mg/Kg		77	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	69	S1-	70 - 130
o-Terphenyl	73		70 - 130

Lab Sample ID: 880-17544-1 MSD
Matrix: Solid
Analysis Batch: 31457

Client Sample ID: SW-4A
Prep Type: Total/NA
Prep Batch: 31439

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	26.6	J B	999	908.2		mg/Kg		88	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<15.0	U	999	866.8		mg/Kg		87	70 - 130	12	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	79		70 - 130
o-Terphenyl	81		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-31361/1-A
Matrix: Solid
Analysis Batch: 31624

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.858	U	5.00	0.858	mg/Kg			08/06/22 09:02	1

Lab Sample ID: LCS 880-31361/2-A
Matrix: Solid
Analysis Batch: 31624

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	244.0		mg/Kg		98	90 - 110		

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17544-1
SDG: 12581651

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-31361/3-A
Matrix: Solid
Analysis Batch: 31624

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	244.3		mg/Kg		98	90 - 110	0	20

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17544-1
SDG: 12581651

GC VOA

Prep Batch: 31335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-31335/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 31540

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17544-1	SW-4A	Total/NA	Solid	8021B	31573
880-17544-2	BH-29A	Total/NA	Solid	8021B	31573
880-17544-3	BH-30A	Total/NA	Solid	8021B	31573
880-17544-4	BH-31A	Total/NA	Solid	8021B	31573
880-17544-5	BH-49	Total/NA	Solid	8021B	31573
MB 880-31335/5-A	Method Blank	Total/NA	Solid	8021B	31335
MB 880-31573/5-A	Method Blank	Total/NA	Solid	8021B	31573
LCS 880-31573/1-A	Lab Control Sample	Total/NA	Solid	8021B	31573
LCSD 880-31573/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	31573

Prep Batch: 31573

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17544-1	SW-4A	Total/NA	Solid	5035	
880-17544-2	BH-29A	Total/NA	Solid	5035	
880-17544-3	BH-30A	Total/NA	Solid	5035	
880-17544-4	BH-31A	Total/NA	Solid	5035	
880-17544-5	BH-49	Total/NA	Solid	5035	
MB 880-31573/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-31573/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-31573/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 31781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17544-1	SW-4A	Total/NA	Solid	Total BTEX	
880-17544-2	BH-29A	Total/NA	Solid	Total BTEX	
880-17544-3	BH-30A	Total/NA	Solid	Total BTEX	
880-17544-4	BH-31A	Total/NA	Solid	Total BTEX	
880-17544-5	BH-49	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 31439

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17544-1	SW-4A	Total/NA	Solid	8015NM Prep	
880-17544-2	BH-29A	Total/NA	Solid	8015NM Prep	
880-17544-3	BH-30A	Total/NA	Solid	8015NM Prep	
880-17544-4	BH-31A	Total/NA	Solid	8015NM Prep	
880-17544-5	BH-49	Total/NA	Solid	8015NM Prep	
MB 880-31439/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-31439/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-31439/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-17544-1 MS	SW-4A	Total/NA	Solid	8015NM Prep	
880-17544-1 MSD	SW-4A	Total/NA	Solid	8015NM Prep	

Analysis Batch: 31457

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17544-1	SW-4A	Total/NA	Solid	8015B NM	31439

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17544-1
SDG: 12581651

GC Semi VOA (Continued)

Analysis Batch: 31457 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17544-2	BH-29A	Total/NA	Solid	8015B NM	31439
880-17544-3	BH-30A	Total/NA	Solid	8015B NM	31439
880-17544-4	BH-31A	Total/NA	Solid	8015B NM	31439
880-17544-5	BH-49	Total/NA	Solid	8015B NM	31439
MB 880-31439/1-A	Method Blank	Total/NA	Solid	8015B NM	31439
LCS 880-31439/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	31439
LCSD 880-31439/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	31439
880-17544-1 MS	SW-4A	Total/NA	Solid	8015B NM	31439
880-17544-1 MSD	SW-4A	Total/NA	Solid	8015B NM	31439

Analysis Batch: 31585

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17544-1	SW-4A	Total/NA	Solid	8015 NM	
880-17544-2	BH-29A	Total/NA	Solid	8015 NM	
880-17544-3	BH-30A	Total/NA	Solid	8015 NM	
880-17544-4	BH-31A	Total/NA	Solid	8015 NM	
880-17544-5	BH-49	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 31361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17544-1	SW-4A	Soluble	Solid	DI Leach	
880-17544-2	BH-29A	Soluble	Solid	DI Leach	
880-17544-3	BH-30A	Soluble	Solid	DI Leach	
880-17544-4	BH-31A	Soluble	Solid	DI Leach	
880-17544-5	BH-49	Soluble	Solid	DI Leach	
MB 880-31361/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-31361/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-31361/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 31624

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17544-1	SW-4A	Soluble	Solid	300.0	31361
880-17544-2	BH-29A	Soluble	Solid	300.0	31361
880-17544-3	BH-30A	Soluble	Solid	300.0	31361
880-17544-4	BH-31A	Soluble	Solid	300.0	31361
880-17544-5	BH-49	Soluble	Solid	300.0	31361
MB 880-31361/1-A	Method Blank	Soluble	Solid	300.0	31361
LCS 880-31361/2-A	Lab Control Sample	Soluble	Solid	300.0	31361
LCSD 880-31361/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	31361

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17544-1
SDG: 12581651

Client Sample ID: SW-4A
Date Collected: 07/29/22 10:20
Date Received: 08/01/22 08:00

Lab Sample ID: 880-17544-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	31573	08/05/22 11:19	MR	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31540	08/06/22 05:51	MR	EETSC M
Total/NA	Analysis	Total BTEX		1			31781	08/08/22 14:27	SM	EETSC M
Total/NA	Analysis	8015 NM		1			31585	08/05/22 13:04	AJ	EETSC M
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	31439	08/03/22 15:56	DM	EETSC M
Total/NA	Analysis	8015B NM		1			31457	08/04/22 11:08	AJ	EETSC M
Soluble	Leach	DI Leach			5.01 g	50 mL	31361	08/02/22 19:08	SMC	EETSC M
Soluble	Analysis	300.0		1			31624	08/06/22 11:47	AJ	EETSC M

Client Sample ID: BH-29A
Date Collected: 07/29/22 10:30
Date Received: 08/01/22 08:00

Lab Sample ID: 880-17544-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	31573	08/05/22 11:19	MR	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31540	08/06/22 06:12	MR	EETSC M
Total/NA	Analysis	Total BTEX		1			31781	08/08/22 14:27	SM	EETSC M
Total/NA	Analysis	8015 NM		1			31585	08/05/22 13:04	AJ	EETSC M
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	31439	08/03/22 15:56	DM	EETSC M
Total/NA	Analysis	8015B NM		1			31457	08/04/22 12:14	AJ	EETSC M
Soluble	Leach	DI Leach			5.05 g	50 mL	31361	08/02/22 19:08	SMC	EETSC M
Soluble	Analysis	300.0		1			31624	08/06/22 12:11	AJ	EETSC M

Client Sample ID: BH-30A
Date Collected: 07/29/22 10:40
Date Received: 08/01/22 08:00

Lab Sample ID: 880-17544-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	31573	08/05/22 11:19	MR	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31540	08/06/22 06:32	MR	EETSC M
Total/NA	Analysis	Total BTEX		1			31781	08/08/22 14:27	SM	EETSC M
Total/NA	Analysis	8015 NM		1			31585	08/05/22 13:04	AJ	EETSC M
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	31439	08/03/22 15:56	DM	EETSC M
Total/NA	Analysis	8015B NM		1			31457	08/04/22 12:35	AJ	EETSC M
Soluble	Leach	DI Leach			5.04 g	50 mL	31361	08/02/22 19:08	SMC	EETSC M
Soluble	Analysis	300.0		1			31624	08/06/22 12:19	AJ	EETSC M

Client Sample ID: BH-31A
Date Collected: 07/29/22 10:50
Date Received: 08/01/22 08:00

Lab Sample ID: 880-17544-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	31573	08/05/22 11:19	MR	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31540	08/06/22 06:53	MR	EETSC M
Total/NA	Analysis	Total BTEX		1			31781	08/08/22 14:27	SM	EETSC M

Eurofins Midland

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17544-1
SDG: 12581651

Client Sample ID: BH-31A
Date Collected: 07/29/22 10:50
Date Received: 08/01/22 08:00

Lab Sample ID: 880-17544-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			31585	08/05/22 13:04	AJ	EETSC MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	31439	08/03/22 15:56	DM	EETSC M
Total/NA	Analysis	8015B NM		1			31457	08/04/22 12:57	AJ	EETSC M
Soluble	Leach	DI Leach			4.99 g	50 mL	31361	08/02/22 19:08	SMC	EETSC M
Soluble	Analysis	300.0		1			31624	08/06/22 12:26	AJ	EETSC M

Client Sample ID: BH-49
Date Collected: 07/29/22 11:00
Date Received: 08/01/22 08:00

Lab Sample ID: 880-17544-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	31573	08/05/22 11:19	MR	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31540	08/06/22 07:13	MR	EETSC M
Total/NA	Analysis	Total BTEX		1			31781	08/08/22 14:27	SM	EETSC M
Total/NA	Analysis	8015 NM		1			31585	08/05/22 13:04	AJ	EETSC M
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	31439	08/03/22 15:56	DM	EETSC M
Total/NA	Analysis	8015B NM		1			31457	08/04/22 13:19	AJ	EETSC M
Soluble	Leach	DI Leach			5.03 g	50 mL	31361	08/02/22 19:08	SMC	EETSC M
Soluble	Analysis	300.0		1			31624	08/06/22 12:34	AJ	EETSC M

Laboratory References:
EETSC MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17544-1
SDG: 12581651

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17544-1
SDG: 12581651

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EETSC MID
Total BTEX	Total BTEX Calculation	TAL SOP	EETSC MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EETSC MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EETSC MID
300.0	Anions, Ion Chromatography	MCAWW	EETSC MID
5035	Closed System Purge and Trap	SW846	EETSC MID
8015NM Prep	Microextraction	SW846	EETSC MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EETSC MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EETSC MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30

Job ID: 880-17544-1
SDG: 12581651

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-17544-1	SW-4A	Solid	07/29/22 10:20	08/01/22 08:00
880-17544-2	BH-29A	Solid	07/29/22 10:30	08/01/22 08:00
880-17544-3	BH-30A	Solid	07/29/22 10:40	08/01/22 08:00
880-17544-4	BH-31A	Solid	07/29/22 10:50	08/01/22 08:00
880-17544-5	BH-49	Solid	07/29/22 11:00	08/01/22 08:00

Xenco Laboratories

The Environmental Lab of Texas

880-17544 Chain of Custody

17544

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

1600 West I-20 East
Odessa, Texas 79765
Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Becky.Haskell@GHD.com
Company Name: GHD
Company Address: 2135 S. Loop 250 W.
City/State/Zip: Midland, TX 79703
Telephone No: 432-686-0086
Fax No:
Sampler Signature:
e-mail: Heath.Boyd@GHD.com

Project Name: 12581651
Project #: Merchant Livestock 30
Project Loc: Lea County, NM
PO #:
Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #:

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP TPH 418.1	TCLP TPH 8015M	TCLP TPH TX 1005	TCLP TPH TX 1006	TCLP Cations (Ca Mg Na K)	TCLP Anions (Cl SO4 Alkalinity)	TCLP SAR / ESP / CEC	TCLP Metals: As Ag Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semivolatiles	TCLP BTEX 8021B/5030 or BTEX 8260	TCLP RCI	TCLP N O R M.	TOTAL. 8015B	TOTAL. Chloride 300.0	RUSH TAT (Pre-Schedule) 24 48 72 hrs	Standard TAT
	SW-4A			7/29/22	1020		1									S	X									X				X		X
	BH-29A				1030		1									S	X									X				X		X
	BH-30A				1040		1									S	X									X				X		X
	BH-31A				1050		1									S	X									X				X		X
	BH-49			X	1100		1									S	X									X				X		X

Special Instructions: Please Email: Becky.Heath.Nikki.Mishler@GHD.com HB@kdevinc.com ST.Murrey@GHD.com

Direct Bill to: Centennial Resources Production
ATTN: NIKKI

Relinquished by	Date	Time	Received by	Date	Time
	7/29/22	1425			
Relinquished by	Date	Time	Received by	Date	Time
				8/1/22	8:00
Relinquished by	Date	Time	Received by ELOT	Date	Time

Laboratory Comments.

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep ?		
by Courier? UPS DHL FedEx Lone Star		

Temperature Upon Receipt: As Read 19 °C, Corrected 21 °C

Received by OCD: 10/31/2022 6:36:00 AM
Released to Imaging: 11/28/2022 9:20:24 AM
8/9/2022

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 880-17544-1
SDG Number: 12581651

Login Number: 17544
List Number: 1
Creator: Rodriguez, Leticia

List Source: Eurofins Midland

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-18558-1
Laboratory Sample Delivery Group: 12580651
Client Project/Site: Merchant 30
Revision: 1

For:
GHD Services Inc.
2135 South Loop 250 West
Midland, Texas 79703

Attn: James (J.T.) Murrey

Authorized for release by:
9/9/2022 4:51:37 PM

Debbie Simmons, Project Manager
(832)986-6768
Debbie.Simmons@et.eurofinsus.com

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: GHD Services Inc.
Project/Site: Merchant 30

Laboratory Job ID: 880-18558-1
SDG: 12580651

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Definitions/Glossary

Client: GHD Services Inc. Job ID: 880-18558-1
Project/Site: Merchant 30 SDG: 12580651

Qualifiers

GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: GHD Services Inc.
Project/Site: Merchant 30

Job ID: 880-18558-1
SDG: 12580651

Job ID: 880-18558-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-18558-1

REVISION

The report being provided is a revision of the original report sent on 9/8/2022. The report (revision 1) is being revised due to sample ID on 880-18558-4 should match COC as MW-18A

Report revision history

Receipt
The samples were received on 8/26/2022 10:52 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.5°C

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: (LCS 880-33883/1-A) and (880-18512-A-9-D MSD). Evidence of matrix interferences is not obvious.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-33369/2-A) and (LCSD 880-33369/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The method blank for preparation batch 880-33369 and analytical batch 880-33405 contained Gasoline Range Organics (GRO)-C6-C10 and Diesel Range Organics (Over C10-C28) above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant 30

Job ID: 880-18558-1
SDG: 12580651

Client Sample ID: BH-37B

Date Collected: 08/25/22 10:30
Date Received: 08/26/22 10:52

Lab Sample ID: 880-18558-1

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		09/07/22 08:42	09/07/22 23:33	1
Toluene	**0.000540**	**J**	0.00199	0.000453	mg/Kg		09/07/22 08:42	09/07/22 23:33	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		09/07/22 08:42	09/07/22 23:33	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		09/07/22 08:42	09/07/22 23:33	1
o-Xylene	<0.000342	U	0.00199	0.000342	mg/Kg		09/07/22 08:42	09/07/22 23:33	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		09/07/22 08:42	09/07/22 23:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*09/07/22 08:42*	*09/07/22 23:33*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*09/07/22 08:42*	*09/07/22 23:33*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00398	0.00100	mg/Kg			09/08/22 09:10	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**23.0**	**J**	50.0	15.0	mg/Kg			09/01/22 10:42	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**23.0**	**J B**	50.0	15.0	mg/Kg		08/30/22 13:28	08/31/22 15:51	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/30/22 13:28	08/31/22 15:51	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/30/22 13:28	08/31/22 15:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*08/30/22 13:28*	*08/31/22 15:51*	*1*
o-Terphenyl	*103*		*70 - 130*	*08/30/22 13:28*	*08/31/22 15:51*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**262**		4.96	0.851	mg/Kg			09/03/22 20:18	1

Client Sample ID: BH-18B

Date Collected: 08/25/22 13:50
Date Received: 08/26/22 10:52

Lab Sample ID: 880-18558-2

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000381	U	0.00198	0.000381	mg/Kg		09/07/22 08:42	09/07/22 23:54	1
Toluene	<0.000451	U	0.00198	0.000451	mg/Kg		09/07/22 08:42	09/07/22 23:54	1
Ethylbenzene	<0.000559	U	0.00198	0.000559	mg/Kg		09/07/22 08:42	09/07/22 23:54	1
m-Xylene & p-Xylene	<0.00100	U	0.00396	0.00100	mg/Kg		09/07/22 08:42	09/07/22 23:54	1
o-Xylene	<0.000341	U	0.00198	0.000341	mg/Kg		09/07/22 08:42	09/07/22 23:54	1
Xylenes, Total	<0.00100	U	0.00396	0.00100	mg/Kg		09/07/22 08:42	09/07/22 23:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*123*		*70 - 130*	*09/07/22 08:42*	*09/07/22 23:54*	*1*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*	*09/07/22 08:42*	*09/07/22 23:54*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant 30

Job ID: 880-18558-1
SDG: 12580651

Client Sample ID: BH-18B
Date Collected: 08/25/22 13:50
Date Received: 08/26/22 10:52

Lab Sample ID: 880-18558-2
Matrix: Solid

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00396	0.00100	mg/Kg			09/08/22 09:10	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**27.9**	**J**	50.0	15.0	mg/Kg			09/01/22 10:42	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**27.9**	**J B**	50.0	15.0	mg/Kg		08/30/22 13:28	08/31/22 16:12	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/30/22 13:28	08/31/22 16:12	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/30/22 13:28	08/31/22 16:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*90*		*70 - 130*	*08/30/22 13:28*	*08/31/22 16:12*	*1*
o-Terphenyl	*90*		*70 - 130*	*08/30/22 13:28*	*08/31/22 16:12*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**212**		25.2	4.32	mg/Kg			09/03/22 20:27	5

Client Sample ID: BH-26B
Date Collected: 08/25/22 11:50
Date Received: 08/26/22 10:52

Lab Sample ID: 880-18558-3
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		09/07/22 08:42	09/08/22 00:14	1
Toluene	<0.000458	U	0.00201	0.000458	mg/Kg		09/07/22 08:42	09/08/22 00:14	1
Ethylbenzene	<0.000567	U	0.00201	0.000567	mg/Kg		09/07/22 08:42	09/08/22 00:14	1
m-Xylene & p-Xylene	<0.00101	U	0.00402	0.00101	mg/Kg		09/07/22 08:42	09/08/22 00:14	1
o-Xylene	<0.000345	U	0.00201	0.000345	mg/Kg		09/07/22 08:42	09/08/22 00:14	1
Xylenes, Total	<0.00101	U	0.00402	0.00101	mg/Kg		09/07/22 08:42	09/08/22 00:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*09/07/22 08:42*	*09/08/22 00:14*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*09/07/22 08:42*	*09/08/22 00:14*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00402	0.00101	mg/Kg			09/08/22 09:10	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**33.3**	**J**	50.0	15.0	mg/Kg			09/01/22 10:42	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**33.3**	**J B**	50.0	15.0	mg/Kg		08/30/22 13:28	08/31/22 16:34	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/30/22 13:28	08/31/22 16:34	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant 30

Job ID: 880-18558-1
SDG: 12580651

Client Sample ID: BH-26B
Date Collected: 08/25/22 11:50
Date Received: 08/26/22 10:52

Lab Sample ID: 880-18558-3
Matrix: Solid

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/30/22 13:28	08/31/22 16:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*94*		*70 - 130*	*08/30/22 13:28*	*08/31/22 16:34*	*1*
o-Terphenyl	*91*		*70 - 130*	*08/30/22 13:28*	*08/31/22 16:34*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**104**		4.98	0.855	mg/Kg			09/03/22 20:55	1

Client Sample ID: SW-18A
Date Collected: 08/25/22 10:40
Date Received: 08/26/22 10:52

Lab Sample ID: 880-18558-4
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000384	U	0.00200	0.000384	mg/Kg		09/07/22 08:42	09/08/22 00:35	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		09/07/22 08:42	09/08/22 00:35	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		09/07/22 08:42	09/08/22 00:35	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		09/07/22 08:42	09/08/22 00:35	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		09/07/22 08:42	09/08/22 00:35	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		09/07/22 08:42	09/08/22 00:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*09/07/22 08:42*	*09/08/22 00:35*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*09/07/22 08:42*	*09/08/22 00:35*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg			09/08/22 09:10	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**42.9**	**J**	49.9	15.0	mg/Kg			09/01/22 10:42	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**42.9**	**J B**	49.9	15.0	mg/Kg		08/30/22 13:28	08/31/22 16:56	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		08/30/22 13:28	08/31/22 16:56	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		08/30/22 13:28	08/31/22 16:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*93*		*70 - 130*	*08/30/22 13:28*	*08/31/22 16:56*	*1*
o-Terphenyl	*94*		*70 - 130*	*08/30/22 13:28*	*08/31/22 16:56*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**347**		4.99	0.857	mg/Kg			09/03/22 21:04	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant 30

Job ID: 880-18558-1
SDG: 12580651

Client Sample ID: SW-19A
Date Collected: 08/25/22 10:50
Date Received: 08/26/22 10:52

Lab Sample ID: 880-18558-5
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		09/07/22 08:42	09/08/22 00:55	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		09/07/22 08:42	09/08/22 00:55	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		09/07/22 08:42	09/08/22 00:55	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		09/07/22 08:42	09/08/22 00:55	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		09/07/22 08:42	09/08/22 00:55	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		09/07/22 08:42	09/08/22 00:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*09/07/22 08:42*	*09/08/22 00:55*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*09/07/22 08:42*	*09/08/22 00:55*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00400	0.00101	mg/Kg			09/08/22 09:10	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**27.9**	**J**	49.9	15.0	mg/Kg			09/01/22 10:42	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**27.9**	**J B**	49.9	15.0	mg/Kg		08/30/22 13:28	08/31/22 17:17	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		08/30/22 13:28	08/31/22 17:17	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		08/30/22 13:28	08/31/22 17:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*86*		*70 - 130*	*08/30/22 13:28*	*08/31/22 17:17*	*1*
o-Terphenyl	*85*		*70 - 130*	*08/30/22 13:28*	*08/31/22 17:17*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**175**		5.02	0.862	mg/Kg			09/03/22 21:32	1

Surrogate Summary

Client: GHD Services Inc.
Project/Site: Merchant 30

Job ID: 880-18558-1
SDG: 12580651

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-18558-1	BH-37B	117	94
880-18558-2	BH-18B	123	79
880-18558-3	BH-26B	117	91
880-18558-4	SW-18A	110	88
880-18558-5	SW-19A	113	87
LCS 880-33883/1-A	Lab Control Sample	134 S1+	104
LCSD 880-33883/2-A	Lab Control Sample Dup	124	95
MB 880-33854/5-A	Method Blank	102	93
MB 880-33883/5-A	Method Blank	104	91

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-18558-1	BH-37B	104	103
880-18558-2	BH-18B	90	90
880-18558-3	BH-26B	94	91
880-18558-4	SW-18A	93	94
880-18558-5	SW-19A	86	85
LCS 880-33369/2-A	Lab Control Sample	146 S1+	150 S1+
LCSD 880-33369/3-A	Lab Control Sample Dup	142 S1+	146 S1+
MB 880-33369/1-A	Method Blank	112	115

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant 30

Job ID: 880-18558-1
SDG: 12580651

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-33854/5-A
Matrix: Solid
Analysis Batch: 33881

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33854

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		09/06/22 13:45	09/07/22 11:20	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		09/06/22 13:45	09/07/22 11:20	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		09/06/22 13:45	09/07/22 11:20	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		09/06/22 13:45	09/07/22 11:20	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		09/06/22 13:45	09/07/22 11:20	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		09/06/22 13:45	09/07/22 11:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*09/06/22 13:45*	*09/07/22 11:20*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*09/06/22 13:45*	*09/07/22 11:20*	*1*

Lab Sample ID: MB 880-33883/5-A
Matrix: Solid
Analysis Batch: 33881

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33883

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		09/07/22 08:42	09/07/22 22:31	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		09/07/22 08:42	09/07/22 22:31	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		09/07/22 08:42	09/07/22 22:31	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		09/07/22 08:42	09/07/22 22:31	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		09/07/22 08:42	09/07/22 22:31	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		09/07/22 08:42	09/07/22 22:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*09/07/22 08:42*	*09/07/22 22:31*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*09/07/22 08:42*	*09/07/22 22:31*	*1*

Lab Sample ID: LCS 880-33883/1-A
Matrix: Solid
Analysis Batch: 33881

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33883

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09104		mg/Kg		91	70 - 130
Toluene	0.100	0.09203		mg/Kg		92	70 - 130
Ethylbenzene	0.100	0.1020		mg/Kg		102	70 - 130
m-Xylene & p-Xylene	0.200	0.2231		mg/Kg		112	70 - 130
o-Xylene	0.100	0.1292		mg/Kg		129	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*134*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: LCSD 880-33883/2-A
Matrix: Solid
Analysis Batch: 33881

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 33883

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.08506		mg/Kg		85	70 - 130	7	35

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant 30

Job ID: 880-18558-1
SDG: 12580651

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-33883/2-A
Matrix: Solid
Analysis Batch: 33881

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 33883

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.08725		mg/Kg		87	70 - 130	5	35
Ethylbenzene			0.100	0.09769		mg/Kg		98	70 - 130	4	35
m-Xylene & p-Xylene			0.200	0.2037		mg/Kg		102	70 - 130	9	35
o-Xylene			0.100	0.1165		mg/Kg		116	70 - 130	10	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-33369/1-A
Matrix: Solid
Analysis Batch: 33405

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33369

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	17.50	J	50.0	15.0	mg/Kg		08/30/22 13:28	08/31/22 10:04	1
Diesel Range Organics (Over C10-C28)	16.90	J	50.0	15.0	mg/Kg		08/30/22 13:28	08/31/22 10:04	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/30/22 13:28	08/31/22 10:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*08/30/22 13:28*	*08/31/22 10:04*	*1*
o-Terphenyl	*115*		*70 - 130*	*08/30/22 13:28*	*08/31/22 10:04*	*1*

Lab Sample ID: LCS 880-33369/2-A
Matrix: Solid
Analysis Batch: 33405

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33369

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	800.4		mg/Kg		80	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	866.9		mg/Kg		87	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*146*	*S1+*	*70 - 130*
o-Terphenyl	*150*	*S1+*	*70 - 130*

Lab Sample ID: LCSD 880-33369/3-A
Matrix: Solid
Analysis Batch: 33405

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 33369

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	801.4		mg/Kg		80	70 - 130	0	20
Diesel Range Organics (Over C10-C28)			1000	845.2		mg/Kg		85	70 - 130	3	20

Eurofins Midland

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant 30

Job ID: 880-18558-1
SDG: 12580651

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCSD 880-33369/3-A
Matrix: Solid
Analysis Batch: 33405

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 33369

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*142*	*S1+*	*70 - 130*
o-Terphenyl	*146*	*S1+*	*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-33083/1-A
Matrix: Solid
Analysis Batch: 33545

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.858	U	5.00	0.858	mg/Kg			09/03/22 17:50	1

Lab Sample ID: LCS 880-33083/2-A
Matrix: Solid
Analysis Batch: 33545

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	254.7		mg/Kg		102	90 - 110		

Lab Sample ID: LCSD 880-33083/3-A
Matrix: Solid
Analysis Batch: 33545

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	255.2		mg/Kg		102	90 - 110	0	20

Lab Sample ID: 880-18558-2 MS
Matrix: Solid
Analysis Batch: 33545

Client Sample ID: BH-18B
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	212		1260	1579		mg/Kg		109	90 - 110		

Lab Sample ID: 880-18558-2 MSD
Matrix: Solid
Analysis Batch: 33545

Client Sample ID: BH-18B
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	212		1260	1573		mg/Kg		108	90 - 110	0	20

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant 30

Job ID: 880-18558-1
SDG: 12580651

GC VOA

Prep Batch: 33854

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-33854/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 33881

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-18558-1	BH-37B	Total/NA	Solid	8021B	33883
880-18558-2	BH-18B	Total/NA	Solid	8021B	33883
880-18558-3	BH-26B	Total/NA	Solid	8021B	33883
880-18558-4	SW-18A	Total/NA	Solid	8021B	33883
880-18558-5	SW-19A	Total/NA	Solid	8021B	33883
MB 880-33854/5-A	Method Blank	Total/NA	Solid	8021B	33854
MB 880-33883/5-A	Method Blank	Total/NA	Solid	8021B	33883
LCS 880-33883/1-A	Lab Control Sample	Total/NA	Solid	8021B	33883
LCSD 880-33883/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	33883

Prep Batch: 33883

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-18558-1	BH-37B	Total/NA	Solid	5035	
880-18558-2	BH-18B	Total/NA	Solid	5035	
880-18558-3	BH-26B	Total/NA	Solid	5035	
880-18558-4	SW-18A	Total/NA	Solid	5035	
880-18558-5	SW-19A	Total/NA	Solid	5035	
MB 880-33883/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-33883/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-33883/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 33992

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-18558-1	BH-37B	Total/NA	Solid	Total BTEX	
880-18558-2	BH-18B	Total/NA	Solid	Total BTEX	
880-18558-3	BH-26B	Total/NA	Solid	Total BTEX	
880-18558-4	SW-18A	Total/NA	Solid	Total BTEX	
880-18558-5	SW-19A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 33369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-18558-1	BH-37B	Total/NA	Solid	8015NM Prep	
880-18558-2	BH-18B	Total/NA	Solid	8015NM Prep	
880-18558-3	BH-26B	Total/NA	Solid	8015NM Prep	
880-18558-4	SW-18A	Total/NA	Solid	8015NM Prep	
880-18558-5	SW-19A	Total/NA	Solid	8015NM Prep	
MB 880-33369/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-33369/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-33369/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 33405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-18558-1	BH-37B	Total/NA	Solid	8015B NM	33369
880-18558-2	BH-18B	Total/NA	Solid	8015B NM	33369
880-18558-3	BH-26B	Total/NA	Solid	8015B NM	33369

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant 30

Job ID: 880-18558-1
SDG: 12580651

GC Semi VOA (Continued)

Analysis Batch: 33405 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-18558-4	SW-18A	Total/NA	Solid	8015B NM	33369
880-18558-5	SW-19A	Total/NA	Solid	8015B NM	33369
MB 880-33369/1-A	Method Blank	Total/NA	Solid	8015B NM	33369
LCS 880-33369/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	33369
LCSD 880-33369/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	33369

Analysis Batch: 33541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-18558-1	BH-37B	Total/NA	Solid	8015 NM	
880-18558-2	BH-18B	Total/NA	Solid	8015 NM	
880-18558-3	BH-26B	Total/NA	Solid	8015 NM	
880-18558-4	SW-18A	Total/NA	Solid	8015 NM	
880-18558-5	SW-19A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 33083

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-18558-1	BH-37B	Soluble	Solid	DI Leach	
880-18558-2	BH-18B	Soluble	Solid	DI Leach	
880-18558-3	BH-26B	Soluble	Solid	DI Leach	
880-18558-4	SW-18A	Soluble	Solid	DI Leach	
880-18558-5	SW-19A	Soluble	Solid	DI Leach	
MB 880-33083/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-33083/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-33083/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-18558-2 MS	BH-18B	Soluble	Solid	DI Leach	
880-18558-2 MSD	BH-18B	Soluble	Solid	DI Leach	

Analysis Batch: 33545

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-18558-1	BH-37B	Soluble	Solid	300.0	33083
880-18558-2	BH-18B	Soluble	Solid	300.0	33083
880-18558-3	BH-26B	Soluble	Solid	300.0	33083
880-18558-4	SW-18A	Soluble	Solid	300.0	33083
880-18558-5	SW-19A	Soluble	Solid	300.0	33083
MB 880-33083/1-A	Method Blank	Soluble	Solid	300.0	33083
LCS 880-33083/2-A	Lab Control Sample	Soluble	Solid	300.0	33083
LCSD 880-33083/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	33083
880-18558-2 MS	BH-18B	Soluble	Solid	300.0	33083
880-18558-2 MSD	BH-18B	Soluble	Solid	300.0	33083

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant 30

Job ID: 880-18558-1
SDG: 12580651

Client Sample ID: BH-37B
Date Collected: 08/25/22 10:30
Date Received: 08/26/22 10:52

Lab Sample ID: 880-18558-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	33883	09/07/22 08:42	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33881	09/07/22 23:33	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33992	09/08/22 09:10	AJ	EET MID
Total/NA	Analysis	8015 NM		1			33541	09/01/22 10:42	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	33369	08/30/22 13:28	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33405	08/31/22 15:51	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	33083	08/26/22 15:10	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33545	09/03/22 20:18	SMC	EET MID

Client Sample ID: BH-18B
Date Collected: 08/25/22 13:50
Date Received: 08/26/22 10:52

Lab Sample ID: 880-18558-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	33883	09/07/22 08:42	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33881	09/07/22 23:54	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33992	09/08/22 09:10	AJ	EET MID
Total/NA	Analysis	8015 NM		1			33541	09/01/22 10:42	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	33369	08/30/22 13:28	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33405	08/31/22 16:12	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	33083	08/26/22 15:10	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	33545	09/03/22 20:27	SMC	EET MID

Client Sample ID: BH-26B
Date Collected: 08/25/22 11:50
Date Received: 08/26/22 10:52

Lab Sample ID: 880-18558-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	33883	09/07/22 08:42	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33881	09/08/22 00:14	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33992	09/08/22 09:10	AJ	EET MID
Total/NA	Analysis	8015 NM		1			33541	09/01/22 10:42	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	33369	08/30/22 13:28	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33405	08/31/22 16:34	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	33083	08/26/22 15:10	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33545	09/03/22 20:55	SMC	EET MID

Client Sample ID: SW-18A
Date Collected: 08/25/22 10:40
Date Received: 08/26/22 10:52

Lab Sample ID: 880-18558-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	33883	09/07/22 08:42	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33881	09/08/22 00:35	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33992	09/08/22 09:10	AJ	EET MID

Eurofins Midland

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant 30

Job ID: 880-18558-1
SDG: 12580651

Client Sample ID: SW-18A
Date Collected: 08/25/22 10:40
Date Received: 08/26/22 10:52

Lab Sample ID: 880-18558-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			33541	09/01/22 10:42	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	33369	08/30/22 13:28	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33405	08/31/22 16:56	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	33083	08/26/22 15:10	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33545	09/03/22 21:04	SMC	EET MID

Client Sample ID: SW-19A
Date Collected: 08/25/22 10:50
Date Received: 08/26/22 10:52

Lab Sample ID: 880-18558-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	33883	09/07/22 08:42	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33881	09/08/22 00:55	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33992	09/08/22 09:10	AJ	EET MID
Total/NA	Analysis	8015 NM		1			33541	09/01/22 10:42	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	33369	08/30/22 13:28	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33405	08/31/22 17:17	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	33083	08/26/22 15:10	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33545	09/03/22 21:32	SMC	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: GHD Services Inc.
Project/Site: Merchant 30

Job ID: 880-18558-1
SDG: 12580651

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: GHD Services Inc.
Project/Site: Merchant 30

Job ID: 880-18558-1
SDG: 12580651

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	MCAWW	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: GHD Services Inc.
Project/Site: Merchant 30

Job ID: 880-18558-1
SDG: 12580651

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-18558-1	BH-37B	Solid	08/25/22 10:30	08/26/22 10:52
880-18558-2	BH-18B	Solid	08/25/22 13:50	08/26/22 10:52
880-18558-3	BH-26B	Solid	08/25/22 11:50	08/26/22 10:52
880-18558-4	SW-18A	Solid	08/25/22 10:40	08/26/22 10:52
880-18558-5	SW-19A	Solid	08/25/22 10:50	08/26/22 10:52

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Xenco Laboratories

The Environmental Lab of Texas

19558

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: JT.Murrey@GHD.com
Company Name: GHD
Company Address: 2135 S. Loop 250 W.
City/State/Zip: Midland, TX 79703
Telephone No: 432-686-0086
Fax No:
Sampler Signature:
e-mail: Heath.Boyd@GHD.com

Project Name: Merchant 30
Project #: 12580651
Project Loc: Lea County, NM
PO #:
Report Format: ☑ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #:

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP / TOTAL: 8015B 8015M TPH 418.1	TPH TX 1005 TX 1006	Cations (Ca Mg Na K)	Anions (Cl SO4 Alkalinity)	SAR / ESP / CEC	Metals As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N O R M	Chloride 300.0			RUSH TAT (Pre-Schedule) 24 48 72 hrs	Standard TAT
	BH-37B			8/25/22	1030		1									S	X							X			X				X
	BH-18B				1350		1									S	X							X			X				X
	BH-26B				1150		1									S	X							X			X				X
	SW-18A				1040		1									S	X							X			X				X
	SW-19A			↓	1050		1									S	X							X			X				X

880-18558 Chain of Custody

Special Instructions: Please Email: JT Nate.Reece@GHD.com Nikki.Mishler@GHD.com | Direct Bill to Centennial Resources Production Attn: Nikki

Relinquished by	Date	Time	Received by	Date	Time
	8/25/22	1530			
Relinquished by	Date	Time	Received by	Date	Time
				8/26/22	1053
Relinquished by	Date	Time	Received by ELOT	Date	Time

Laboratory Comments.

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep ?	Y	N
by Courier? UPS DHL FedEx Lone Star		

Temperature Upon Receipt: As Read 0.3 Corrected 0.5 °C

Received by OCD: 10/31/2022 6:36:00 AM

Released to Imaging: 11/28/2022 9:20:24 AM

9/9/2022 (Rev. 1)

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 880-18558-1
SDG Number: 12580651

Login Number: 18558
List Number: 1
Creator: Teel, Brianna

List Source: Eurofins Midland

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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ANALYTICAL REPORT

Eurofins Carlsbad
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Laboratory Job ID: 890-2957-1
Laboratory Sample Delivery Group: 1258151
Client Project/Site: Merchant Livestock 30 #2

For:
GHD Services Inc.
2135 South Loop 250 West
Midland, Texas 79703

Attn: James (J.T.) Murrey

Authorized for release by:
9/28/2022 5:02:29 PM

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Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30 #2

Laboratory Job ID: 890-2957-1
SDG: 1258151

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Definitions/Glossary

Client: GHD Services Inc. Job ID: 890-2957-1
Project/Site: Merchant Livestock 30 #2 SDG: 1258151

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: GHD Services Inc. Job ID: 890-2957-1
Project/Site: Merchant Livestock 30 #2 SDG: 1258151

Job ID: 890-2957-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2957-1

Comments
No additional comments.

Receipt
The samples were received on 9/14/2022 1:29 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 5.6º C.

GC VOA
Method 8021B: The continuing calibration verification (CCV) associated with batch 880-35329 recovered above the upper control limit for Benzene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-35267 and analytical batch 880-35329 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method 8015B NM: The surrogate recovery for the blank associated with preparation batch 880-34675 and analytical batch 880-34626 was outside the upper control limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30 #2

Job ID: 890-2957-1
SDG: 1258151

Client Sample ID: BH-25 A

Date Collected: 09/13/22 14:05
Date Received: 09/14/22 13:29
Sample Depth: 5'

Lab Sample ID: 890-2957-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U F1	0.00200	0.000386	mg/Kg		09/23/22 11:56	09/25/22 03:43	1
Toluene	<0.00200	U F1	0.00200	0.000457	mg/Kg		09/23/22 11:56	09/25/22 03:43	1
Ethylbenzene	<0.00200	U F1	0.00200	0.000566	mg/Kg		09/23/22 11:56	09/25/22 03:43	1
m-Xylene & p-Xylene	<0.00401	U F1	0.00401	0.00101	mg/Kg		09/23/22 11:56	09/25/22 03:43	1
o-Xylene	<0.00200	U F1	0.00200	0.000345	mg/Kg		09/23/22 11:56	09/25/22 03:43	1
Xylenes, Total	<0.00401	U F1	0.00401	0.00101	mg/Kg		09/23/22 11:56	09/25/22 03:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*09/23/22 11:56*	*09/25/22 03:43*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*09/23/22 11:56*	*09/25/22 03:43*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	0.00101	mg/Kg			09/26/22 15:58	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	15.0	mg/Kg			09/19/22 11:13	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	15.0	mg/Kg		09/16/22 11:48	09/17/22 07:04	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	15.0	mg/Kg		09/16/22 11:48	09/17/22 07:04	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	15.0	mg/Kg		09/16/22 11:48	09/17/22 07:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*110*		*70 - 130*	*09/16/22 11:48*	*09/17/22 07:04*	*1*
o-Terphenyl	*108*		*70 - 130*	*09/16/22 11:48*	*09/17/22 07:04*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**109**		4.95	0.850	mg/Kg			09/21/22 05:26	1

Client Sample ID: TP-25-3

Date Collected: 09/13/22 14:45
Date Received: 09/14/22 13:29
Sample Depth: 3'

Lab Sample ID: 890-2957-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	0.000384	mg/Kg		09/23/22 11:56	09/25/22 04:03	1
Toluene	**0.000537**	**J**	0.00200	0.000455	mg/Kg		09/23/22 11:56	09/25/22 04:03	1
Ethylbenzene	<0.00200	U	0.00200	0.000564	mg/Kg		09/23/22 11:56	09/25/22 04:03	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	0.00101	mg/Kg		09/23/22 11:56	09/25/22 04:03	1
o-Xylene	<0.00200	U	0.00200	0.000343	mg/Kg		09/23/22 11:56	09/25/22 04:03	1
Xylenes, Total	<0.00399	U	0.00399	0.00101	mg/Kg		09/23/22 11:56	09/25/22 04:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*09/23/22 11:56*	*09/25/22 04:03*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30 #2

Job ID: 890-2957-1
SDG: 1258151

Client Sample ID: TP-25-3
Date Collected: 09/13/22 14:45
Date Received: 09/14/22 13:29
Sample Depth: 3'

Lab Sample ID: 890-2957-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*09/23/22 11:56*	*09/25/22 04:03*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	0.00101	mg/Kg			09/26/22 15:58	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	15.0	mg/Kg			09/19/22 11:13	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	15.0	mg/Kg		09/16/22 11:48	09/17/22 07:26	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	15.0	mg/Kg		09/16/22 11:48	09/17/22 07:26	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	15.0	mg/Kg		09/16/22 11:48	09/17/22 07:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*90*		*70 - 130*	*09/16/22 11:48*	*09/17/22 07:26*	*1*
o-Terphenyl	*91*		*70 - 130*	*09/16/22 11:48*	*09/17/22 07:26*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**26.5**		5.00	0.858	mg/Kg			09/21/22 05:31	1

Surrogate Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30 #2

Job ID: 890-2957-1
SDG: 1258151

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-2957-1	BH-25 A	106	98
890-2957-1 MS	BH-25 A	99	99
890-2957-1 MSD	BH-25 A	100	102
890-2957-2	TP-25-3	103	96
LCS 880-35267/1-A	Lab Control Sample	88	97
LCSD 880-35267/2-A	Lab Control Sample Dup	85	98
MB 880-35199/5-A	Method Blank	103	119
MB 880-35267/5-A	Method Blank	102	111

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-2957-1	BH-25 A	110	108
890-2957-2	TP-25-3	90	91
LCS 880-34675/2-A	Lab Control Sample	125	117
LCSD 880-34675/3-A	Lab Control Sample Dup	120	111
MB 880-34675/1-A	Method Blank	135 S1+	145 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30 #2

Job ID: 890-2957-1
SDG: 1258151

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-35199/5-A
Matrix: Solid
Analysis Batch: 35329

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 35199

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	0.000385	mg/Kg		09/22/22 15:49	09/24/22 15:38	1
Toluene	<0.00200	U	0.00200	0.000456	mg/Kg		09/22/22 15:49	09/24/22 15:38	1
Ethylbenzene	<0.00200	U	0.00200	0.000565	mg/Kg		09/22/22 15:49	09/24/22 15:38	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	0.00101	mg/Kg		09/22/22 15:49	09/24/22 15:38	1
o-Xylene	<0.00200	U	0.00200	0.000344	mg/Kg		09/22/22 15:49	09/24/22 15:38	1
Xylenes, Total	<0.00400	U	0.00400	0.00101	mg/Kg		09/22/22 15:49	09/24/22 15:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*09/22/22 15:49*	*09/24/22 15:38*	*1*
1,4-Difluorobenzene (Surr)	*119*		*70 - 130*	*09/22/22 15:49*	*09/24/22 15:38*	*1*

Lab Sample ID: MB 880-35267/5-A
Matrix: Solid
Analysis Batch: 35329

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 35267

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	0.000385	mg/Kg		09/23/22 11:56	09/25/22 03:14	1
Toluene	<0.00200	U	0.00200	0.000456	mg/Kg		09/23/22 11:56	09/25/22 03:14	1
Ethylbenzene	<0.00200	U	0.00200	0.000565	mg/Kg		09/23/22 11:56	09/25/22 03:14	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	0.00101	mg/Kg		09/23/22 11:56	09/25/22 03:14	1
o-Xylene	<0.00200	U	0.00200	0.000344	mg/Kg		09/23/22 11:56	09/25/22 03:14	1
Xylenes, Total	<0.00400	U	0.00400	0.00101	mg/Kg		09/23/22 11:56	09/25/22 03:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*09/23/22 11:56*	*09/25/22 03:14*	*1*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*	*09/23/22 11:56*	*09/25/22 03:14*	*1*

Lab Sample ID: LCS 880-35267/1-A
Matrix: Solid
Analysis Batch: 35329

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35267

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.07935		mg/Kg		79	70 - 130
Toluene	0.100	0.07526		mg/Kg		75	70 - 130
Ethylbenzene	0.100	0.07668		mg/Kg		77	70 - 130
m-Xylene & p-Xylene	0.200	0.1568		mg/Kg		78	70 - 130
o-Xylene	0.100	0.07930		mg/Kg		79	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: LCSD 880-35267/2-A
Matrix: Solid
Analysis Batch: 35329

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 35267

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.08239		mg/Kg		82	70 - 130	4	35

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30 #2

Job ID: 890-2957-1
SDG: 1258151

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-35267/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 35329 — **Prep Batch: 35267**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.07555		mg/Kg		76	70 - 130	0	35
Ethylbenzene			0.100	0.07578		mg/Kg		76	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.1526		mg/Kg		76	70 - 130	3	35
o-Xylene			0.100	0.07707		mg/Kg		77	70 - 130	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: 890-2957-1 MS — **Client Sample ID: BH-25 A**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 35329 — **Prep Batch: 35267**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U F1	0.100	0.04385	F1	mg/Kg		44	70 - 130
Toluene	<0.00200	U F1	0.100	0.04657	F1	mg/Kg		46	70 - 130
Ethylbenzene	<0.00200	U F1	0.100	0.04579	F1	mg/Kg		46	70 - 130
m-Xylene & p-Xylene	<0.00401	U F1	0.201	0.09836	F1	mg/Kg		49	70 - 130
o-Xylene	<0.00200	U F1	0.100	0.05466	F1	mg/Kg		54	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: 890-2957-1 MSD — **Client Sample ID: BH-25 A**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 35329 — **Prep Batch: 35267**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U F1	0.0998	0.05805	F1	mg/Kg		58	70 - 130	28	35
Toluene	<0.00200	U F1	0.0998	0.05809	F1	mg/Kg		58	70 - 130	22	35
Ethylbenzene	<0.00200	U F1	0.0998	0.05829	F1	mg/Kg		58	70 - 130	24	35
m-Xylene & p-Xylene	<0.00401	U F1	0.200	0.1235	F1	mg/Kg		62	70 - 130	23	35
o-Xylene	<0.00200	U F1	0.0998	0.06476	F1	mg/Kg		65	70 - 130	17	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-34675/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 34626 — **Prep Batch: 34675**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	15.0	mg/Kg		09/16/22 11:48	09/17/22 03:30	1

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30 #2

Job ID: 890-2957-1
SDG: 1258151

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-34675/1-A
Matrix: Solid
Analysis Batch: 34626

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 34675

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	15.0	mg/Kg		09/16/22 11:48	09/17/22 03:30	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	15.0	mg/Kg		09/16/22 11:48	09/17/22 03:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*135*	*S1+*	*70 - 130*	*09/16/22 11:48*	*09/17/22 03:30*	*1*
o-Terphenyl	*145*	*S1+*	*70 - 130*	*09/16/22 11:48*	*09/17/22 03:30*	*1*

Lab Sample ID: LCS 880-34675/2-A
Matrix: Solid
Analysis Batch: 34626

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34675

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1086		mg/Kg		109	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1082		mg/Kg		108	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*125*		*70 - 130*
o-Terphenyl	*117*		*70 - 130*

Lab Sample ID: LCSD 880-34675/3-A
Matrix: Solid
Analysis Batch: 34626

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 34675

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1081		mg/Kg		108	70 - 130	0	20
Diesel Range Organics (Over C10-C28)			1000	1029		mg/Kg		103	70 - 130	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*120*		*70 - 130*
o-Terphenyl	*111*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-34666/1-A
Matrix: Solid
Analysis Batch: 34958

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	0.858	mg/Kg			09/21/22 03:24	1

QC Sample Results

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30 #2

Job ID: 890-2957-1
SDG: 1258151

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-34666/2-A
Matrix: Solid
Analysis Batch: 34958

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	255.4		mg/Kg		102	90 - 110

Lab Sample ID: LCSD 880-34666/3-A
Matrix: Solid
Analysis Batch: 34958

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	251.8		mg/Kg		101	90 - 110	1	20

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30 #2

Job ID: 890-2957-1
SDG: 1258151

GC VOA

Prep Batch: 35199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-35199/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 35267

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2957-1	BH-25 A	Total/NA	Solid	5035	
890-2957-2	TP-25-3	Total/NA	Solid	5035	
MB 880-35267/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-35267/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-35267/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2957-1 MS	BH-25 A	Total/NA	Solid	5035	
890-2957-1 MSD	BH-25 A	Total/NA	Solid	5035	

Analysis Batch: 35329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2957-1	BH-25 A	Total/NA	Solid	8021B	35267
890-2957-2	TP-25-3	Total/NA	Solid	8021B	35267
MB 880-35199/5-A	Method Blank	Total/NA	Solid	8021B	35199
MB 880-35267/5-A	Method Blank	Total/NA	Solid	8021B	35267
LCS 880-35267/1-A	Lab Control Sample	Total/NA	Solid	8021B	35267
LCSD 880-35267/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	35267
890-2957-1 MS	BH-25 A	Total/NA	Solid	8021B	35267
890-2957-1 MSD	BH-25 A	Total/NA	Solid	8021B	35267

Analysis Batch: 35435

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2957-1	BH-25 A	Total/NA	Solid	Total BTEX	
890-2957-2	TP-25-3	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 34626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2957-1	BH-25 A	Total/NA	Solid	8015B NM	34675
890-2957-2	TP-25-3	Total/NA	Solid	8015B NM	34675
MB 880-34675/1-A	Method Blank	Total/NA	Solid	8015B NM	34675
LCS 880-34675/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	34675
LCSD 880-34675/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	34675

Prep Batch: 34675

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2957-1	BH-25 A	Total/NA	Solid	8015NM Prep	
890-2957-2	TP-25-3	Total/NA	Solid	8015NM Prep	
MB 880-34675/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-34675/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-34675/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 34826

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2957-1	BH-25 A	Total/NA	Solid	8015 NM	
890-2957-2	TP-25-3	Total/NA	Solid	8015 NM	

QC Association Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30 #2

Job ID: 890-2957-1
SDG: 1258151

HPLC/IC

Leach Batch: 34666

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2957-1	BH-25 A	Soluble	Solid	DI Leach	
890-2957-2	TP-25-3	Soluble	Solid	DI Leach	
MB 880-34666/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-34666/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-34666/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 34958

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2957-1	BH-25 A	Soluble	Solid	300.0	34666
890-2957-2	TP-25-3	Soluble	Solid	300.0	34666
MB 880-34666/1-A	Method Blank	Soluble	Solid	300.0	34666
LCS 880-34666/2-A	Lab Control Sample	Soluble	Solid	300.0	34666
LCSD 880-34666/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	34666

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30 #2

Job ID: 890-2957-1
SDG: 1258151

Client Sample ID: BH-25 A
Date Collected: 09/13/22 14:05
Date Received: 09/14/22 13:29

Lab Sample ID: 890-2957-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	35267	09/23/22 11:56	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35329	09/25/22 03:43	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35435	09/26/22 15:58	SM	EET MID
Total/NA	Analysis	8015 NM		1			34826	09/19/22 11:13	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	34675	09/16/22 11:48	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34626	09/17/22 07:04	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	34666	09/16/22 10:42	CH	EET MID
Soluble	Analysis	300.0		1			34958	09/21/22 05:26	CH	EET MID

Client Sample ID: TP-25-3
Date Collected: 09/13/22 14:45
Date Received: 09/14/22 13:29

Lab Sample ID: 890-2957-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	35267	09/23/22 11:56	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35329	09/25/22 04:03	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35435	09/26/22 15:58	SM	EET MID
Total/NA	Analysis	8015 NM		1			34826	09/19/22 11:13	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	34675	09/16/22 11:48	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34626	09/17/22 07:26	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	34666	09/16/22 10:42	CH	EET MID
Soluble	Analysis	300.0		1			34958	09/21/22 05:31	CH	EET MID

Laboratory References:
EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30 #2

Job ID: 890-2957-1
SDG: 1258151

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30 #2

Job ID: 890-2957-1
SDG: 1258151

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	MCAWW	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: GHD Services Inc.
Project/Site: Merchant Livestock 30 #2

Job ID: 890-2957-1
SDG: 1258151

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2957-1	BH-25 A	Solid	09/13/22 14:05	09/14/22 13:29	5'
890-2957-2	TP-25-3	Solid	09/13/22 14:45	09/14/22 13:29	3'

Released to Imaging: 11/28/2022 9:20:24 AM
Received by OCD: 10/31/2022 6:36:00 AM

eurofins | Environment Testing Xenco

Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	JT MURREY	Bill to: (if different)	
Company Name:	GHD	Company Name:	
Address:	2135 S. COOP 250 W.	Address:	
City, State ZIP:	MIDLAND, TX 79703	City, State ZIP:	
Phone:	432-686-0086 Email:	JT.MURREY@GHD.COM	

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

~~Project Name:~~	~~MERCHANT LIVESTOCK 30 #2~~	Turn Around	
Project Number:	12581651	☑ Routine ☐ Rush	
Project Location:	LEA COUNTY, NM	Due Date:	
Sampler's Name:	CHRIS NEILL	TAT starts the day received by the lab, if received by 4:30pm	
PO #:	79516		

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Samples Received Intact:	(Yes) No	Thermometer ID:	TDM-007	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	5.8	
Total Containers:		Corrected Temperature:	5.6	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: TPH 8015M	BTEX 8021B	CHLORIDE 300.0
BH-25A	S	9/13/22	1405	5'	C	1		X	X	X
TP-25-3	S	9/13/22	1445	3'	G	1		X	X	X

890-2957 Chain of Custody

Preservative Codes

None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2SO_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Comments

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of $85.00 will be applied to each project and a charge of $5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Chris	Amanda Stuff	9/14/22 1329			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 890-2957-1
SDG Number: 1258151

Login Number: 2957
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 890-2957-1
SDG Number: 1258151

Login Number: 2957
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 09/16/22 11:00 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Attachment B
Photographic Log

7/1/22 – Southern excavation facing west.

7/1/22 – Southern excavation facing southeast.

Site Photograph

CRP Merchant Livestock 30 2H Release Site.

7/1/22 – Southern excavation facing south.

7/1/22 – Southern excavation facing northwest.

Site Photograph

CRP Merchant Livestock 30 2H Release Site.

7/1/22 – Southern excavation facing west.

7/1/22 – Southern excavation facing west.

Site Photograph

CRP Merchant Livestock 30 2H Release Site.

7/1/22 – Southern excavation facing southeast.

9/14/22 – Southern excavation facing east.

Site Photograph

CRP Merchant Livestock 30 2H Release Site.

9/14/22 – Northern excavation facing southwest.

9/14/22 – Southern excavation facing east.

Site Photograph

CRP Merchant Livestock 30 2H Release Site.

9/14/22 – Southern excavation facing southeast.

9/14/22 – Southern excavation facing west.

Site Photograph

CRP Merchant Livestock 30 2H Release Site.

9/14/22 – Southern excavation facing southwest.

9/14/22 – Southern excavation facing east.

Site Photograph

CRP Merchant Livestock 30 2H Release Site.

Attachment C
Sampling Notifications

Becky Haskell

From: Becky Haskell
Sent: Tuesday, June 28, 2022 11:17 AM
To: OCD.enviro@state.nm.us
Cc: nikki.mishler@cdevinc.com; Heath Boyd; Becky Haskell
Subject: FW: Merchant Livestock 30 State #2H (nAPP2210251385) Sampling Notification

CompleteRepository: 12581651
Description: Merchant Livestock 30#3 CDEV ID 79516
JobNo: 12581651
OperatingCentre: 562
RepoEmail: 12581651@ghd.com
RepoType: Project

To Whom it May Concern,

GHD on behalf of Centennial Resource Production, Inc., respectfully submits notification of sampling to be conducted at the below location.

Merchant Livestock 30 State #2H
C-30-22S-35E
Lea County, NM
nAPP2210251385

Sampling will begin at 10:30 a.m. on Thursday, June 30, 2022 and will be continuous through Friday, July 28, 2022.

Thank You,

Becky Haskell
Senior Project Manager

GHD
Proudly employee owned | ghd.com
2135 S. Loop 250 West, Midland, Texas 79703
D 432-686-0086 **M 432-250-7917 E** becky.haskell@ghd.com

The Power of Commitment
Connect

From: Becky Haskell <Becky.Haskell@ghd.com>
Sent: Thursday, June 23, 2022 10:18 AM
To: OCD.enviro@state.nm.us
Cc: nikki.mishler@cdevinc.com; Heath Boyd <Heath.Boyd@ghd.com>; Becky Haskell <Becky.Haskell@ghd.com>
Subject: FW: Merchant Livestock 30 State #2H (nAPP2210251385) Sampling Notification

To Whom it May Concern,

GHD on behalf of Centennial Resource Production, Inc., respectfully submits notification of sampling to be conducted at the below location.

Merchant Livestock 30 State #2H

C-30-22S-35E
Lea County, NM
nAPP2210251385

Sampling will begin at 10 a.m. on Monday, June 27, 2022 and will be continuous through Tuesday, June 28, 2022.

Thank You,

Thank You,

Becky Haskell
Senior Project Manager

GHD
Proudly employee owned | ghd.com
2135 S. Loop 250 West, Midland, Texas 79703
D 432-686-0086 **M 432-250-7917 E** becky.haskell@ghd.com

→ The Power of Commitment

Connect

From: Becky Haskell
Sent: Monday, June 13, 2022 1:55 PM
To: OCD.enviro@state.nm.us
Cc: nikki.mishler@cdevinc.com
Subject: Merchant Livestock 30 State #2H (nAPP2210251385) Sampling Notification

To Whom it May Concern,

GHD on behalf of Centennial Resource Production, Inc., respectfully submits notification of sampling to be conducted at the below location.

Merchant Livestock 30 State #2H
C-30-22S-35E
Lea County, NM
nAPP2210251385

Sampling will begin at 10 a.m. on Monday, June 20, 2022 and will be continuous through Friday, June 24, 2022.

Thank You,

Thank You,

Becky Haskell
Senior Project Manager

GHD
Proudly employee owned | ghd.com
2135 S. Loop 250 West, Midland, Texas 79703
D 432-686-0086 **M 432-250-7917 E** becky.haskell@ghd.com

→ The Power of Commitment

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Becky Haskell

From: Becky Haskell
Sent: Monday, July 18, 2022 9:44 AM
To: OCD.enviro@state.nm.us
Cc: nikki.mishler@cdevinc.com; Heath Boyd; J.T. Murrey
Subject: FW: Merchant Livestock 30 State #2H (nAPP2210251385) Sampling Notification

CompleteRepository: 12581651
Description: Merchant Livestock 30#3 CDEV ID 79516
JobNo: 12581651
OperatingCentre: 562
RepoEmail: 12581651@ghd.com
RepoType: Project

To Whom it May Concern,

GHD on behalf of Centennial Resource Production, Inc., respectfully submits notification of sampling to be conducted at the below location.

Merchant Livestock 30 State #2H
C-30-22S-35E
Lea County, NM
nAPP2210251385

Sampling will begin at 10:30 a.m. on Thursday, July 20, 2022 and will be continuous through Friday, July 22, 2022.

Thank You,

Becky Haskell
Senior Project Manager

GHD
Proudly employee owned | ghd.com
2135 S. Loop 250 West, Midland, Texas 79703
D 432-686-0086 **M 432-250-7917 E** becky.haskell@ghd.com

The Power of Commitment

Connect

Please consider the environment before printing this email

From: Becky Haskell <Becky.Haskell@ghd.com>
Sent: Tuesday, June 28, 2022 11:17 AM
To: OCD.enviro@state.nm.us
Cc: nikki.mishler@cdevinc.com; Heath Boyd <Heath.Boyd@ghd.com>; Becky Haskell <Becky.Haskell@ghd.com>
Subject: FW: Merchant Livestock 30 State #2H (nAPP2210251385) Sampling Notification

To Whom it May Concern,

GHD on behalf of Centennial Resource Production, Inc., respectfully submits notification of sampling to be conducted at the below location.

Merchant Livestock 30 State #2H

C-30-22S-35E
Lea County, NM
nAPP2210251385

Sampling will begin at 10:30 a.m. on Thursday, June 30, 2022 and will be continuous through Friday, July 28, 2022.

Thank You,

Becky Haskell
Senior Project Manager

GHD
Proudly employee owned | ghd.com
2135 S. Loop 250 West, Midland, Texas 79703
D 432-686-0086 **M 432-250-7917 E** becky.haskell@ghd.com

The Power of Commitment

Connect

From: Becky Haskell <Becky.Haskell@ghd.com>
Sent: Thursday, June 23, 2022 10:18 AM
To: OCD.enviro@state.nm.us
Cc: nikki.mishler@cdevinc.com; Heath Boyd <Heath.Boyd@ghd.com>; Becky Haskell <Becky.Haskell@ghd.com>
Subject: FW: Merchant Livestock 30 State #2H (nAPP2210251385) Sampling Notification

To Whom it May Concern,

GHD on behalf of Centennial Resource Production, Inc., respectfully submits notification of sampling to be conducted at the below location.

Merchant Livestock 30 State #2H
C-30-22S-35E
Lea County, NM
nAPP2210251385

Sampling will begin at 10 a.m. on Monday, June 27, 2022 and will be continuous through Tuesday, June 28, 2022.

Thank You,

Thank You,

Becky Haskell
Senior Project Manager

GHD
Proudly employee owned | ghd.com
2135 S. Loop 250 West, Midland, Texas 79703
D 432-686-0086 **M 432-250-7917 E** becky.haskell@ghd.com

The Power of Commitment

Connect

From: Becky Haskell
Sent: Monday, June 13, 2022 1:55 PM
To: OCD.enviro@state.nm.us
Cc: nikki.mishler@cdevinc.com
Subject: Merchant Livestock 30 State #2H (nAPP2210251385) Sampling Notification

To Whom it May Concern,

GHD on behalf of Centennial Resource Production, Inc., respectfully submits notification of sampling to be conducted at the below location.

Merchant Livestock 30 State #2H
C-30-22S-35E
Lea County, NM
nAPP2210251385

Sampling will begin at 10 a.m. on Monday, June 20, 2022 and will be continuous through Friday, June 24, 2022.

Thank You,

Thank You,

Becky Haskell
Senior Project Manager

GHD
Proudly employee owned | ghd.com
2135 S. Loop 250 West, Midland, Texas 79703
D 432-686-0086 **M 432-250-7917 E** becky.haskell@ghd.com

The Power of Commitment

Connect

From: J.T. Murrey
To: ocd.enviro@state.nm.us
Cc: nikki.mishler@cdevinc.com; Heath Boyd; Glenn Quinney
Bcc: 12581651
Subject: FW: Merchant Livestock 30 State #2H (nAPP2210251385) Sampling Notification
Date: Tuesday, August 16, 2022 2:18:00 PM
Attachments: image001.png
image002.png
image003.png
image004.png
image005.png

To Whom it May Concern,

GHD on behalf of Centennial Resource Production, Inc., respectfully submits notification of sampling to be conducted at the below location.

Merchant Livestock 30 State #2H
C-30-22S-35E
Lea County, NM
nAPP2210251385

Sampling will begin at 12:00 p.m. on Tuesday, August 23, 2022 and will be continuous through Thursday, August 25, 2022.

J.T. Murrey
Senior Project Manager

GHD
Proudly employee-owned | ghd.com
1712 S. Staples St., Corpus Christi, Texas 78404
D 1 361 232 4280 | **M** 361 252 6136 | **E** jt.murrey@ghd.com

GHD FIRST 24 Hour Emergency Response
US: 866 812 9565
Canada: 800 679 9082

The Power of Commitment

Connect

Please consider the environment before printing this email

From: Becky Haskell <Becky.Haskell@ghd.com>
Sent: Monday, July 18, 2022 9:44 AM
To: OCD.enviro@state.nm.us
Cc: nikki.mishler@cdevinc.com; Heath Boyd <Heath.Boyd@ghd.com>; J.T. Murrey <JT.Murrey@ghd.com>
Subject: FW: Merchant Livestock 30 State #2H (nAPP2210251385) Sampling Notification

To Whom it May Concern,

GHD on behalf of Centennial Resource Production, Inc., respectfully submits notification of sampling to

be conducted at the below location.

Merchant Livestock 30 State #2H
C-30-22S-35E
Lea County, NM
nAPP2210251385

Sampling will begin at 10:30 a.m. on Thursday, July 20, 2022 and will be continuous through Friday, July 22, 2022.

Thank You,

Becky Haskell
Senior Project Manager

GHD
Proudly employee owned | ghd.com
2135 S. Loop 250 West, Midland, Texas 79703
D 432-686-0086 **M 432-250-7917 E** becky.haskell@ghd.com

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Connect

Please consider the environment before printing this email

From: Becky Haskell <Becky.Haskell@ghd.com>
Sent: Tuesday, June 28, 2022 11:17 AM
To: OCD.enviro@state.nm.us
Cc: nikki.mishler@cdevinc.com; Heath Boyd <Heath.Boyd@ghd.com>; Becky Haskell <Becky.Haskell@ghd.com>
Subject: FW: Merchant Livestock 30 State #2H (nAPP2210251385) Sampling Notification

To Whom it May Concern,

GHD on behalf of Centennial Resource Production, Inc., respectfully submits notification of sampling to be conducted at the below location.

Merchant Livestock 30 State #2H
C-30-22S-35E
Lea County, NM
nAPP2210251385

Sampling will begin at 10:30 a.m. on Thursday, June 30, 2022 and will be continuous through Friday, July 28, 2022.

Thank You,

Becky Haskell
Senior Project Manager

GHD

Proudly employee owned | ghd.com
2135 S. Loop 250 West, Midland, Texas 79703
D 432-686-0086 **M 432-250-7917 E** becky.haskell@ghd.com

→ **The Power of Commitment**

Connect

From: Becky Haskell <Becky.Haskell@ghd.com>
Sent: Thursday, June 23, 2022 10:18 AM
To: OCD.enviro@state.nm.us
Cc: nikki.mishler@cdevinc.com; Heath Boyd <Heath.Boyd@ghd.com>; Becky Haskell <Becky.Haskell@ghd.com>
Subject: FW: Merchant Livestock 30 State #2H (nAPP2210251385) Sampling Notification

To Whom it May Concern,

GHD on behalf of Centennial Resource Production, Inc., respectfully submits notification of sampling to be conducted at the below location.

Merchant Livestock 30 State #2H
C-30-22S-35E
Lea County, NM
nAPP2210251385

Sampling will begin at 10 a.m. on Monday, June 27, 2022 and will be continuous through Tuesday, June 28, 2022.

Thank You,

Thank You,

Becky Haskell
Senior Project Manager

GHD
Proudly employee owned | ghd.com
2135 S. Loop 250 West, Midland, Texas 79703
D 432-686-0086 **M 432-250-7917 E** becky.haskell@ghd.com

→ **The Power of Commitment**

Connect

From: Becky Haskell

Sent: Monday, June 13, 2022 1:55 PM
To: OCD.enviro@state.nm.us
Cc: nikki.mishler@cdevinc.com
Subject: Merchant Livestock 30 State #2H (nAPP2210251385) Sampling Notification

To Whom it May Concern,

GHD on behalf of Centennial Resource Production, Inc., respectfully submits notification of sampling to be conducted at the below location.

Merchant Livestock 30 State #2H
C-30-22S-35E
Lea County, NM
nAPP2210251385

Sampling will begin at 10 a.m. on Monday, June 20, 2022 and will be continuous through Friday, June 24, 2022.

Thank You,

Thank You,

Becky Haskell
Senior Project Manager

GHD
Proudly employee owned | ghd.com
2135 S. Loop 250 West, Midland, Texas 79703
D 432-686-0086 **M 432-250-7917 E** becky.haskell@ghd.com

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Connect

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 154815

CONDITIONS

Operator: CENTENNIAL RESOURCE PRODUCTION, LLC 1001 17th Street, Suite 1800 Denver, CO 80202	OGRID: 372165
	Action Number: 154815
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Deferral Request Approved. The Deferral Request and C-141 will be accepted for record and marked accordingly. The release will remain open in OCD database files and reflect an open environmental issue. The OCD will not close a release, where contaminants are left in place, due to close proximity to equipment. The incident will only be closed after all contaminated soil has been remediated to meet OCD Spill Rule Standards.	11/28/2022