

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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

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

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action

NKMW 1109451363 OPERATOR ☒ Initial Report ☐ Final Report

Name of Company Yates Petroleum Corporation	OGRID Number 25575	Contact Robert Asher
Address 105 South 4th Street, Artesia, NM 88210	Telephone No. 575-748-1471	
Facility Name Unocal AH U Federal #1	API Number 30-015-26698	Facility Type Battery
Surface Owner Federal	Mineral Owner Federal	Lease No. NM-43556

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	I	22S	31E	660	North	1980	East	Eddy

Latitude 32.42585 Longitude 103.72889

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 50 B/PW	Volume Recovered 0 B/PW
Source of Release Water Line	Date and Hour of Occurrence 8/21/2009 AM	Date and Hour of Discovery 8/21/2009 AM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher/NMOCD II	
By Whom? Robert Asher/YPC Environmental	Date and Hour 8/24/2009 AM, (voicemail and e-mail)	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	
If a Watercourse was Impacted, Describe Fully.* N/A		
Describe Cause of Problem and Remedial Action Taken.* Higher pressure and increased volumes of produced water being rerouted from shut down SWD in Lea County, caused water line rupture, (this release occurred 0.4 miles south of the YPC's Unocal AH U Federal #1 Battery). Vacuum truck called.		
Describe Area Affected and Cleanup Action Taken.* Area approximately 35' X 15', vacuum truck did not pick up any produced water, impacted soils to be excavated and hauled to an approved NMOCD facility. Vertical and horizontal delineation samples will be taken and analysis ran for TPH & BTEX (chlorides results for documentation, YPC will delineate to try and show decreasing levels of chlorides). If initial analytical results for TPH & BTEX are under RRAL's a Final Report, C-141 will be submitted to the OCD requesting closure. Depth to Ground Water: >100' (approximately 448' per New Mexico Office of the State Engineer), Wellhead Protection Area: No, Distance to Surface Water Body: >1000', SITE RANKING IS 0.		
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.		

OIL CONSERVATION DIVISION

Signature: <i>Robert Asher</i>	Approved by District Engineer: <i>Mike Bratcher</i>	
Printed Name: Robert Asher	Approval Date: <u>4/4/11</u> Expiration Date:	
Title: Environmental Regulatory Agent	Conditions of Approval: Attached ☐	
E-mail Address: boba@yatespetroleum.com	REMEDATION per OCD Rules and Guidelines. SUBMIT REMEDIATION PROPOSAL BY: <u>5/4/11</u>	
Date: Tuesday, August 25, 2009 Phone: 575-748-4217	2 RP-699	

* Attach Additional Sheets If Necessary

Incident ID	NKMW1109526706
District RP	2RP-699
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?	>100 (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.

State of New Mexico
Oil Conservation Division

Page 4

Incident ID	NKMW1109526706
District RP	2RP-699
Facility ID	
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I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: James Kennedy Title: Environmental Specialist
Signature: James F Kennedy Date: 01/31/2023
email: james_kennedy@eogresources.com Telephone: 432-848-9146

OCD Only

Received by: Jocelyn Harimon Date: 06/07/2023

Incident ID	NKMW1109526706
District RP	2RP-699
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: James Kennedy Title: Environmental Specialist
Signature: James F Kennedy Date: 01/31/2023
email: james_kennedy@eogresources.com Telephone: 432-848-9146

OCD Only

Received by: Jocelyn Harimon Date: 06/07/2023

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

Signature: _____ Date: _____

Incident ID	NKMW1109526706
District RP	2RP-699
Facility ID	
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: James Kennedy

Title: Environmental Specialist

Signature: James F Kennedy

Date: 01/31/2023

email: james_kennedy@eogresources.com

Telephone: 432-848-9146

OCD Only

Received by: Jocelyn Harimon

Date: 06/07/2023

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: _____

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1220 South St. Francis Dr.
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Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action**OPERATOR**☒ Initial Report ☐ Final Report

Name of Company Yates Petroleum Corporation	OGRID Number 25575	Contact Robert Asher
Address 105 South 4th Street, Artesia, NM 88210	Telephone No. 575-748-1471	
Facility Name Unocal AH U Federal #1	API Number 30-015-26698	Facility Type Battery
Surface Owner Federal	Mineral Owner Federal	Lease No. NM-43556

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	1	22S	31E	660	North	1980	East	Eddy

Latitude 32.42585 Longitude 103.72889

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 2 B/O & 150 B/PW	Volume Recovered 0 B/O & 0 B/PW
Source of Release Water Line	Date and Hour of Occurrence 8/23/2009 AM	Date and Hour of Discovery 8/23/2009 AM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher/NMOCD II	
By Whom? Robert Asher/YPC Environmental	Date and Hour 8/28/2009 AM, (voicemail & e-mail)	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*
N/A

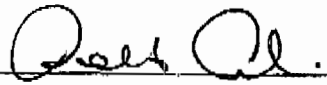
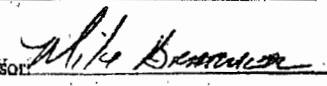
Describe Cause of Problem and Remedial Action Taken.*

Higher pressure and increased volumes of produced water being rerouted from shut down SWD in Lea County, caused water line rupture, (this release occurred 0.4 miles south of the YPC's Unocal AH U Federal #1 Battery). Vacuum truck called.

Describe Area Affected and Cleanup Action Taken.*

Area approximately 30' X 40', vacuum truck did not pick up any produced water or oil, impacted soils to be excavated and hauled to an approved NMOCD facility. Vertical and horizontal delineation samples will be taken and analysis ran for TPH & BTEX (chlorides results for documentation, YPC will delineate to try and show decreasing levels of chlorides). If initial analytical results for TPH & BTEX are under RRAL's a Final Report, C-141 will be submitted to the OCD requesting closure. Depth to Ground Water: >100' (approximately 448' per New Mexico Office of the State Engineer), Wellhead Protection Area: No, Distance to Surface Water Body: >1000', SITE RANKING IS 0.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: 	OIL CONSERVATION DIVISION	
Printed Name: Robert Asher	Approved by District Supervisor: 	
Title: Environmental Regulatory Agent	Approval Date: 4/5/11	Expiration Date:
E-mail Address: boba@yatespetroleum.com	Conditions of Approval: Attached ☐	
Date: Friday, August 28, 2009 Phone: 575-748-4217	REMEDATION per OCD Rules and Guidelines. SUBMIT REMEDIATION PROPOSAL BY: 5/5/11	

* Attach Additional Sheets If Necessary

2 RP-705

Incident ID	
District RP	2RP-705
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?	>100 (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.

State of New Mexico
Oil Conservation Division

Page 4

Incident ID	
District RP	2RP-705
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Printed Name: James Kennedy Title: Environmental Specialist
Signature: James F Kennedy Date: 01/31/2023
email: james_kennedy@eogresources.com Telephone: 432-848-9146

OCD Only

Received by: _____ Date: _____

Incident ID	
District RP	2RP-705
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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.

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Printed Name: James Kennedy Title: Environmental Specialist
Signature: James F Kennedy Date: 01/31/2023
email: james_kennedy@eogresources.com Telephone: 432-848-9146

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

Incident ID	
District RP	2RP-705
Facility ID	
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: James Kennedy

Title: Environmental Specialist

Signature: James F Kennedy

Date: 01/31/2023

email: james_kennedy@eogresources.com

Telephone: 432-848-9146

Type text here

OCD Only

Received by: Jocelyn Harimon

Date: 06/07/2023

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: J

Date: 07/06/2023

Printed Name: Jocelyn Harimon

Title: Environmental Specialist

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

Our ref: 11220756

January 31, 2023

New Mexico Oil Conservation Division
District 2
1625 S. First St.
Artesia, New Mexico 88210

Re: **Site Characterization and Closure Report**
Unocal AHU Federal #1 Pasture Release Site
EOG Resources Inc.
Incident ID: 2RP-699/705
B-1-22S-31E, Eddy County, New Mexico

To Whom It May Concern:

1. Introduction

GHD Services, Inc. (GHD), on behalf of EOG Resources (EOG), submits this Site Characterization and Closure Report to the New Mexico Oil Conservation Division (NMOCD) District 2 Office. This Report provides documentation of assessment, remedial activities, and analyses conducted at the Unocal AHU Federal #1 Pasture Release Site (Site). The Site is located in Unit Letter B Section 1 of Township 22 South and Range 31 East in Eddy County, New Mexico. The GPS coordinates for the Site are 32.4205083 N latitude and 103.7306472 W longitude. The release occurred on public land owned by the U.S. Bureau of Land Management (BLM). Figure 1 depicts the Site location. Other Site details are depicted on Figure 2 and Figure 3.

2. Background Information

2.1 2RP-699

On August 21, 2009, higher pressure and increased volumes of produced water being rerouted from the shutdown of a saltwater disposal well in Lea County, caused the water line to rupture, releasing approximately fifty (50) barrels (bbls) of produced water. The release occurred 0.4 miles south of the Yates Petroleum Corporation Unocal AHU Federal #1 Battery. A vacuum truck was called but no produced water was able to be recovered. An Initial Form C-141 reporting the release was submitted to the New Mexico Oil Conservation Division (NMOCD) on August 25, 2009. The NMOCD assigned remediation number 2RP-699. The Release Notification, Site Assessment/Characterization, Remediation, and Closure portions of Form C-141 are attached to the front of this report.

2.2 2RP-705

On August 23, 2009, higher pressure and increased volumes of produced water being rerouted from the shutdown of a saltwater disposal well in Lea County, caused the water line to rupture, releasing approximately two (2) bbls of oil and 150 bbls of produced water. The release occurred 0.4 miles south of the Yates Petroleum Corporation Unocal AHU Federal #1 Battery. A vacuum truck was called but no produced water or oil was able to be recovered. An Initial Form C-141 reporting the release was submitted to the New Mexico Oil Conservation Division (NMOCD) on August 28, 2009. The NMOCD assigned remediation number 2RP-705. 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).

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

To determine depth to water (DTW) at the Site, GHD and Harrison and Cooper, Inc. (HCI) installed a soil boring (SB-1) to 105 feet below ground surface (bgs) and installed a temporary well to determine the depth to groundwater. On May 10, 2022, the temporary well was gauged after 72 hours. Water was not detected; therefore, the temporary well was properly plugged and abandoned on May 10, 2022, in accordance with applicable State of New Mexico Office of the State Engineer as well as the approved Well Plugging Plan of Operations. The boring log is included as Attachment B. The closure criteria are listed below:

General Site Characterization and Groundwater:

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

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

Regulatory Standard	Chloride (mg/kg)	TPH (GRO+DRO+MRO) (mg/kg)	TPH (GRO+MRO) (mg/kg)	BTEX (mg/kg)	Benzene (mg/kg)
19.15.29.13 Restoration, Reclamation and Re-Vegetation (Impacted Area 0-4 Feet)	600	100	---	50	10
19.15.29.12 NMAC Table I Closure Criteria for Soils Impacted by a Release	20,000	2,500	1,000	50	10
Notes: --- = not defined					

4. Soil Delineation Assessment Summary and Findings

From August 10 through August 18, 2021, GHD and EOG's contractor SDR Enterprises, LLC (SDR), installed twenty (20) test pits, TP1 through TP20, within the suspected impacted area of the Site. Soil samples were collected at depths ranging from ground surface (0 feet) to twenty (20) feet bgs. All soil samples were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8021B, total petroleum hydrocarbons (TPH) by Method 8015B Modified, and chloride by EPA Method 300 by Eurofins Environment Testing America (Eurofins) in Carlsbad, New Mexico.

Analytical results indicated none of the samples exhibited BTEX, TPH, or chloride constituents above Table I Closure Criteria. Sample locations and analytical results are summarized on Figure 2, in Table 1, and in the laboratory analytical reports included in Attachment C.

During the initial test pit installations, soil samples were not collected from one (1) to three (3) feet intervals. To ensure that soils meet the Table I Restoration, Reclamation, and Re-Vegetation Closure Criteria for soils within the top four (4) feet GHD returned to the Site on October 20, 2022, to collect additional soil samples. GHD installed six (6) hand auger borings; TP1, TP4, TP10, TP11, TP12, and TP-15. Samples were collected at surface (0), one (1), two (2), and three (3) feet intervals, and field screened. Select samples were analyzed for BTEX by EPA Method 8021B, TPH by Method 8015B Modified, and chloride by EPA Method 300 by Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico.

Analytical results indicated none of the samples exhibited BTEX or TPH constituents above Table I Closure Criteria. Seven (7) of the twenty-four (24) hand auger samples contained chloride concentrations that were above the Table I Restoration, Reclamation, and Re-Vegetation Closure Criteria of 600 mg/kg in the top four (4) feet: TP1-0, TP10-1, TP10-3, TP12-1, TP12-3, TP-15-1, and TP-15-3. Sample locations are shown on Figure 2. Analytical results are provided in Table 1 and in the laboratory analytical reports included in Attachment C.

5. Remedial Excavation, Waste Management, and Confirmation Soil Sampling

Remedial excavation activities were conducted by SDR with oversight being provided by GHD from December 9 through December 13, 2022.

On December 13, 2022, GHD collected twenty (20) bottom hole (Area A: BHA-1 through BHA-4, Area B: BHB-1 through BHB-6, Area C: BHC-1 through BHC-5, and Area D: BHD-1 through BHD-5) and twelve (12) sidewall (Area A: SWA-1 through SWA-3, Area B: SWB-1 through SWB-3, Area C: SWC-1 through SWC-3, and Area D: SWD-1 through SWD-3) composite confirmation soil samples. Bottom hole and sidewall confirmation soil samples collected represented areas no greater than 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 HEAL in Albuquerque, New Mexico.

Analytical results indicated none of the confirmation soil samples contained BTEX, TPH, or chloride concentrations above Table I Closure Criteria. Sample locations are shown on Figure 3. Analytical results are provided in Table 1 and in the Laboratory Analytical Reports provided in Attachment C.

Waste management activities were performed in coordination with EOG 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), Lea Land, LLC facility located at MM64, Highway 62/180 East, Carlsbad, NM, 88220. Approximately 654.28 tons 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 D. Sampling notifications are included as Attachment E.

6. 2RP-699/705 Closure Request

The excavation was backfilled with non-impacted soil, with the upper four (4) feet consisting entirely of soils imported to the Site from a locally sourced topsoil pit. Site characterization, soil delineation, and remediation activities for Incidents 2RP-699/705 have been performed in accordance with applicable NMOCD guidance and regulations. Based upon supporting documentation provided in this report, GHD, on behalf of EOG, respectfully requests closure of 2RP-699/705.

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

Sincerely,

GHD



Nate Reece
Environmental Scientist



JT Murrey
Senior Project Manager

NR/jt/1

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

cc: James Kennedy

Tables

Table 1
Summary of Soil Analytical Data
Unocal AHU Federal #1 Pasture Release Site
EOG Resources
Eddy County, New Mexico

Sample ID	Sample Date	Depth (ft bgs)	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	Total Petroleum Hydrocarbons (TPH)				Chloride	
								GRO (C6-C10)	DRO (C10-C28)	MRO (C28-C35)	Total GRO/DRO/MRO		
			Table I Closure Criteria for Soils >100 feet Depth to Groundwater 19.15.29 NMAC										
			10	---	---	---	50	1,000	---	2,500	20,000		
			19.15.29.13 NMAC - Restoration and Reclamation Criteria (0 to 4 feet)										
			10	---	---	---	50	---	---	---	100	600	
Initial Assessment Samples													
TP1-0	10/20/22	Surface	<0.024	<0.048	<0.048	<0.095	<0.095	<4.8	<15	<49	<49	1200	
TP1-2	10/20/22	2	<0.023	<0.046	<0.046	<0.093	<0.093	<4.6	<14	<48	<48	130	
TP1-4	8/10/21	4	<0.000384 *-1	<0.000455	<0.000564	<0.00101	<0.00101	<14.9	<14.9	<14.9	<14.9	431	
TP1-10	8/10/21	10	<0.000385 *-1	<0.000456	<0.000565	<0.00101	<0.00101	<15.0	<15.0	<15.0	<15.0	2,060	
TP1-20	8/10/21	20	<0.000383 *-1	<0.000454	<0.000563	<0.00101	<0.00101	<14.9	<14.9	<14.9	<14.9	569	
TP2-S	8/10/21	Surface	<0.000383 *-1	0.000477 J	<0.000562	<0.00100	0.00138 J	<15.0	<15.0	<15.0	<15.0	17.4	
TP2-4	8/10/21	4	<0.000382 *-1	<0.000452	<0.000561	<0.00100	<0.00100	<14.9	<14.9	<14.9	<14.9	22.2	
TP2-6	8/10/21	6	<0.000382 *-1	<0.000452	<0.000561	<0.00100	<0.00100	<15.0	<15.0	<15.0	<15.0	10.5	
TP3-S	8/10/21	Surface	<0.000386 *-1	<0.000457	<0.000566	<0.00101	<0.00101	<15.0	<15.0	<15.0	<15.0	7.30	
TP3-4	8/10/21	4	<0.000385 *-1	<0.000456	<0.000565	<0.00101	<0.00101	<14.9	15.3 J	<14.9	15.3 J	7.61	
TP3-6	8/10/21	6	<0.000384 *-1	<0.000455	<0.000564	<0.00101	<0.00101	<15.0	15.9 J	<15.0	15.9 J	8.04	
TP4-0	10/20/22	Surface	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<14	<47	<47	<60	
TP4-2	10/20/22	2	<0.024	<0.049	<0.049	<0.097	<0.097	<4.9	<14	<46	<46	<60	
TP4-4	8/10/21	4	<0.000384 *-1	<0.000455	<0.000564	<0.00101	<0.00101	<15.0	<15.0	<15.0	<15.0	28.0	
TP4-8	8/10/21	8	<0.000389	<0.000461	<0.000571	<0.00102	<0.00102	<15.0	<15.0	<15.0	<15.0	1,300	
TP4-14	8/10/21	14	<0.000384	<0.000455	<0.000564	<0.00101	<0.00101	<15.0	<15.0	<15.0	<15.0	85.3	
TP5-S	8/10/21	Surface	<0.000385	<0.000456	<0.000565	<0.00101	<0.00101	<14.9	<14.9	<14.9	<14.9	22.1	
TP5-4	8/10/21	4	<0.000388	<0.000460	<0.000570	<0.00102	<0.00102	<15.0	<15.0	<15.0	<15.0	22.9	
TP5-6	8/10/21	6	0.000527 J	<0.000454	<0.000563	<0.00101	<0.00101	<15.0	<15.0	<15.0	<15.0	215	
TP6-S	8/16/21	Surface	0.00169 J	0.0228	0.0171	0.0152	0.0568	<15.0	<15.0	<15.0	<15.0	3.96 J F1	
TP6-4	8/16/21	4	<0.000384	<0.000455	<0.000564	<0.00101	<0.00101	40.2 J	19.2 J B	<14.9	59.4 B	6.13	
TP6-6	8/16/21	6	<0.000383	<0.000453	<0.000562	<0.00100	<0.00100	35.0 J	19.0 J B	<15.0	54.0 B	7.90	
TP7-S	8/16/21	Surface	<0.000386	<0.000457	<0.000566	<0.00101	<0.00101	38.6 J	21.5 J B	<15.0	60.1 B	<0.855	
TP7-4	8/16/21	4	<0.000383	<0.000453	<0.000562	<0.00100	<0.00100	15.3 J	<15.0	<15.0	15.3 J B	2.03 J	
TP7-6	8/16/21	6	<0.000386	<0.000457	<0.000566	<0.00101	<0.00101	21.6 J	<15.0	<15.0	21.6 J B	22.4	
TP8-S	8/16/21	Surface	<0.000387	<0.000459	<0.000568	0.00897	0.00897	<15.0	<15.0	<15.0	<15.0	3.24 J	
TP8-4	8/16/21	4	<0.000387	<0.000459	<0.000568	<0.00102	<0.00102	22.3 J	<14.9	<14.9	22.3 J	2.49 J	
TP8-6	8/16/21	6	<0.000384	<0.000455	<0.000564	<0.00101	<0.00101	<15.0	<15.0	<15.0	<15.0	4.76 J	
TP9-S	8/17/21	Surface	<0.000386 F2 F1	0.000491 J F2 F1	<0.000566 F2 F1	<0.00101 F2 F1	<0.00101 F2 F1	37.1 J	24.2 J	<15.0	61.3	22.9	
TP9-4	8/17/21	4	<0.0003814	0.00162 J	0.00158 J	0.00176 J	0.00496	44.8 J	26.2 J	<15.0	71.0	25.2	

Table 1
Summary of Soil Analytical Data
Unocal AHU Federal #1 Pasture Release Site
EOG Resources
Eddy County, New Mexico

Sample ID	Sample Date	Depth (ft bgs)	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	Total Petroleum Hydrocarbons (TPH)				Chloride
								GRO (C6-C10)	DRO (C10-C28)	MRO (C28-C35)	Total GRO/DRO/MRO	
			Table I Closure Criteria for Soils >100 feet Depth to Groundwater 19.15.29 NMAC									
			10	---	---	---	50	1,000	---	2,500	20,000	
			19.15.29.13 NMAC - Restoration and Reclamation Criteria (0 to 4 feet)									
			10	---	---	---	50	---	---	---	100	600
TP9-6	8/17/21	6	<0.000383	<0.000454	<0.000563	<0.00101	<0.00101	48.9 J	23.9 J	<14.9	72.8	25.0
TP10-1	10/20/22	1	<0.024	<0.049	<0.049	<0.097	<0.097	<4.9	<15	<50	<50	2,000
TP10-3	10/20/22	3	<0.024	<0.049	<0.049	<0.097	<0.097	<4.9	<13	<45	<45	1,800
TP10-4	8/17/21	4	0.000695 J	<0.000456	<0.000565	<0.00101	<0.00101	37.5 J	38.3 J	<15.0	75.8	77.1
TP10-12	8/17/21	12	<0.000385	<0.000456	<0.000565	<0.00101	<0.00101	40.9 J	30.8 J	<14.9	71.7	1,080
TP10-20	8/17/21	20	0.00142 J	0.00137 J	<0.000559	0.00214 J	0.00493	39.8 J	29.8 J	<15.0	69.6	1,210
TP11-0	10/20/22	Surface	<0.025	<0.049	<0.049	<0.099	<0.099	<4.9	<14	<46	<46	<60
TP11-2	10/20/22	2	<0.025	<0.049	<0.049	<0.099	<0.099	<4.9	<15	<48	<48	<60
TP11-4	8/17/21	4	0.000650 J	<0.000461	<0.000571	<0.00102	<0.00102	39.5 J	37.8 J	<14.9	77.3	6,120
TP11-12	8/17/21	12	<0.000386	<0.000457	<0.000566	<0.00101	<0.00101	47.6 J	25.8 J	<15.0	73.4	481 F1
TP11-20	8/17/21	20	<0.000383	<0.000453	<0.000562	<0.00100	<0.00100	37.9 J	24.9 J	<15.0	62.8	979
TP12-1	10/20/22	1	<0.023	<0.047	<0.047	<0.094	<0.094	<4.7	<14	<47	<47	1,200
TP12-3	10/20/22	3	<0.024	<0.049	<0.049	<0.097	<0.097	<4.9	<15	<50	<50	660
TP12-4	8/17/21	4	<0.000381	<0.000451	<0.000559	<0.00100	<0.00100	44.3 J	24.7 J	<14.9	69.0	1,700
TP12-8	8/17/21	8	<0.000384	<0.000455	<0.000564	<0.00101	<0.00101	38.9 J	23.9 J	<15.0	62.8	765
TP12-14	8/17/21	14	<0.000384	<0.000455	<0.000564	<0.00101	<0.00101	34.6 J	25.1 J	<15.0	59.7	443
TP13-S	8/17/21	Surface	<0.000387	<0.000458	<0.000567	<0.00101	<0.00101	33.2 J	32.9 J	<15.0	66.1	3.17 J
TP13-4	8/17/21	4	<0.000386	<0.000457	<0.000566	<0.00101	<0.00101	43.5 J	40.2 J	<15.0	83.7	12.7
TP13-6	8/17/21	6	<0.000389	<0.000461	<0.000571	<0.00102	<0.00102	44.8 J	21.1 J	<14.9	65.9	20.4
TP14-S	8/17/21	Surface	<0.000381	<0.000451	<0.000559	<0.00100	<0.00100	45.1 J	23.0 J	<15.0	68.1	3.07 J
TP14-4	8/17/21	4	<0.000385	<0.000456	<0.000565	<0.00101	<0.00101	45.8 J	19.9 J	<15.0	65.7	4.23 J
TP14-6	8/17/21	6	<0.000387	<0.000459	<0.000568	<0.00102	<0.00102	29.2 J	20.5 J	<14.9	49.7	3.09 J
TP15-1	10/20/22	1	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<15	<50	<50	780
TP15-3	10/20/22	3	<0.024	<0.048	<0.048	<0.095	<0.095	<4.8	<15	<49	<49	2,100
TP15-4	8/17/21	4	<0.000383	<0.000453	<0.000562	<0.00100	<0.00100	47.4 J	28.5 J	<15.0	75.9	245
TP15-12	8/17/21	12	<0.000381	<0.000451	<0.000559	<0.00100	<0.00100	32.0 J	18.8 J	<15.0	50.8	11,400
TP15-20	8/17/21	20	<0.000385 *-	<0.000456 *-	<0.000565 *-	<0.00101 *-	<0.00101 *-	<14.9	<14.9	<14.9	<14.9	8,330
TP16-S	8/17/21	Surface	<0.000383 *-	<0.000454 *-	<0.000563 *-	<0.00101 *-	<0.00101 *-	<15.0	<15.0	<15.0	<15.0	6.11
TP16-4	8/17/21	4	<0.000383 *-	<0.000453 *-	<0.000562 *-	<0.00100 *-	<0.00100 *-	<15.0	<15.0	<15.0	<15.0	18.5
TP16-6	8/17/21	6	<0.000386 *-	<0.000457 *-	<0.000566 *-	<0.00101 *-	<0.00101 *-	<14.9	<14.9	<14.9	<14.9	4.00 J
TP17-S	8/17/21	Surface	<0.000384 *-	<0.000455 *-	<0.000564 *-	<0.00101 *-	<0.00101 *-	<15.0	<15.0	<15.0	<15.0	2.39 J
TP17-4	8/17/21	4	<0.000381 *-	<0.000451 *-	<0.000559 *-	<0.00100 *-	<0.00100 *-	<15.0	<15.0	<15.0	<15.0	8.90
TP17-6	8/17/21	6	<0.000388 *-	<0.000460 *-	<0.000570 *-	<0.00102 *-	<0.00102 *-	<15.0	<15.0	<15.0	<15.0	2.41

Table 1
Summary of Soil Analytical Data
Unocal AHU Federal #1 Pasture Release Site
EOG Resources
Eddy County, New Mexico

Sample ID	Sample Date	Depth (ft bgs)	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	Total Petroleum Hydrocarbons (TPH)				Chloride
								GRO (C6-C10)	DRO (C10-C28)	MRO (C28-C35)	Total GRO/DRO/MRO	
			Table I Closure Criteria for Soils >100 feet Depth to Groundwater 19.15.29 NMAC									
			10	---	---	---	50	1,000		---	2,500	20,000
			19.15.29.13 NMAC - Restoration and Reclamation Criteria (0 to 4 feet)									
			10	---	---	---	50	---	---	---	100	600
TP18-S	8/18/21	Surface	<0.000382	<0.000452	<0.000561	<0.00100	<0.00100	<15.0	<15.0	<15.0	<15.0	<0.855
TP18-4	8/18/21	4	<0.000387	<0.000458	<0.000567	<0.00101	<0.00101	<15.0	<15.0	<15.0	<15.0	<0.850
TP18-6	8/18/21	6	<0.000385 F1	<0.000456 F1	<0.000565 F1	<0.00101 F1	<0.00101 F1	<15.0	<15.0	<15.0	<15.0	9.91
TP19-S	8/18/21	Surface	<0.000383	<0.000454	<0.000563	<0.00101	<0.00100	<15.0	<15.0	<15.0	<15.0	1.51 J
TP19-4	8/18/21	4	<0.000381	<0.000451	<0.000559	<0.00100	<0.00100	<14.9	<14.9	<14.9	<14.9	1.75 J
TP19-6	8/18/21	6	<0.000384	<0.000455	<0.000564	<0.00101	<0.00101	<15.0	<15.0	<15.0	<15.0	6.38
TP20-S	8/18/21	Surface	<0.000384	<0.000455	<0.000564	<0.00101	<0.00101	<15.0	<15.0	<15.0	<15.0	9.09
TP20-4	8/18/21	4	<0.000388	<0.000460	<0.000570	<0.00102	<0.00102	<14.9	<14.9	<14.9	<14.9	1.86 J
TP20-6	8/18/21	6	<0.000383	<0.000453	<0.000562	<0.00100	<0.00100	<15.0	<15.0	<15.0	<15.0	186
Bottom Hole Confirmation Samples												
BHA-1	12/13/22	4	<0.025	<0.050	<0.050	<0.099	<0.099	<5.0	<15	<49	<49	<61
BHA-2	12/13/22	4	<0.024	<0.049	<0.049	<0.098	<0.098	<4.9	<14	<47	<47	<59
BHA-3	12/13/22	4	<0.025	<0.050	<0.050	<0.10	<0.10	<5.0	<15	<50	<50	560
BHA-4	12/13/22	4	<0.024	<0.049	<0.049	<0.098	<0.098	<4.9	<14	<48	<48	<60
BHB-1	12/13/22	4	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	<15	<49	<49	550
BHB-2	12/13/22	4	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<15	<48	<48	730
BHB-3	12/13/22	4	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	<15	<49	<49	510
BHB-4	12/13/22	4	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<15	<50	<50	280
BHB-5	12/13/22	4	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<15	<49	<49	400
BHB-6	12/13/22	4	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	<14	<47	<47	<60
BHC-1	12/13/22	4	<0.024	<0.049	<0.049	<0.097	<0.097	<4.9	<14	<47	<47	<59
BHC-2	12/13/22	4	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	<15	<49	<49	<60
BHC-3	12/13/22	4	<0.024	<0.049	<0.049	<0.097	<0.097	<4.9	<14	<48	<48	110
BHC-4	12/13/22	4	<0.024	<0.049	<0.049	<0.097	<0.097	<4.9	<15	<49	<49	<60
BHC-5	12/13/22	4	<0.025	<0.050	<0.050	<0.099	<0.099	<5.0	<14	<48	<48	110
BHD-1	12/13/22	2	<0.025	<0.049	<0.049	<0.099	<0.099	<4.9	<14	<47	<47	<61
BHD-2	12/13/22	2	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	<15	<50	<50	<61
BHD-3	12/13/22	2	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	<15	<49	<49	<59
BHD-4	12/13/22	2	<0.025	<0.049	<0.049	<0.098	<0.098	<4.9	<14	<48	<48	170
BHD-5	12/13/22	2	<0.025	<0.050	<0.050	<0.10	<0.10	<5.0	<15	<50	<50	61
Sidewall Confirmation Samples												
SWA-1	12/13/22	0-4	<0.024	<0.049	<0.049	<0.097	<0.097	<4.9	<15	<50	<50	<60
SWA-2	12/13/22	0-4	<0.024	<0.049	<0.049	<0.098	<0.098	<4.9	<15	<49	<49	<61
SWA-3	12/13/22	0-4	<0.024	<0.049	<0.049	<0.098	<0.098	<4.9	<15	<50	<50	<60

Table 1
Summary of Soil Analytical Data
Unocal AHU Federal #1 Pasture Release Site
EOG Resources
Eddy County, New Mexico

Sample ID	Sample Date	Depth (ft bgs)	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	Total Petroleum Hydrocarbons (TPH)				Chloride
								GRO (C6-C10)	DRO (C10-C28)	MRO (C28-C35)	Total GRO/DRO/MRO	
			Table I Closure Criteria for Soils >100 feet Depth to Groundwater 19.15.29 NMAC									
			10	---	---	---	50	1,000		---	2,500	20,000
			19.15.29.13 NMAC - Restoration and Reclamation Criteria (0 to 4 feet)									
			10	---	---	---	50	---	---	---	100	600
SWB-1	12/13/22	0-4	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	<15	<49	<49	65
SWB-2	12/13/22	0-4	<0.024	<0.049	<0.049	<0.098	<0.098	<4.9	<14	<48	<48	210
SWB-3	12/13/22	0-4	<0.025	<0.049	<0.049	<0.099	<0.099	<4.9	<15	<50	<50	<60
SWC-1	12/13/22	0-4	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<15	<49	<49	<60
SWC-2	12/13/22	0-4	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	<15	<48	<48	<60
SWC-3	12/13/22	0-4	<0.024	<0.049	<0.049	<0.097	<0.097	<4.9	<14	<48	<48	<60
SWD-1	12/13/22	0-2	<0.024	<0.049	<0.049	<0.098	<0.098	<4.9	<14	<47	<47	<60
SWD-2	12/13/22	0-2	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<15	<48	<48	240
SWD-3	12/13/22	0-2	<0.025	<0.049	<0.049	<0.098	<0.098	<4.9	<14	<48	<48	140

Notes:

1. Values reported in mg/kg
2. < = Value less than reporting limit (RL)
3. Bold indicates analyte detected
4. BTEX analyses by EPA method SW 8021B
5. TPH analyses by EPA method SW 8015 mod
6. GRO/DRO/MRO = gasoline/diesel/motor oil

8. J = the target analytes was positively identified below the quantitation limit and above the detection limit
9. F1 = MS and/or MSD recovery exceeds control limits
10. *- = LCS and/or LCSD is outside acceptance limits, low biased
11. F2 = MS/MSD RPD exceeds control limits
12. *1 = LCS/LCSD RPD exceeds control limits

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

Peach shaded cells indicate analytical samples that exceed the NMAC 19.15.29.12 Table I Restoration and Reclamation Criteria (0 to 4 feet)

B-BH-2 Sample point excavated

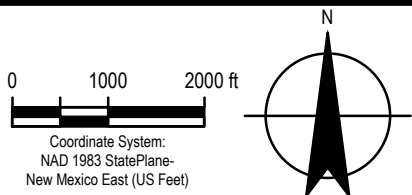
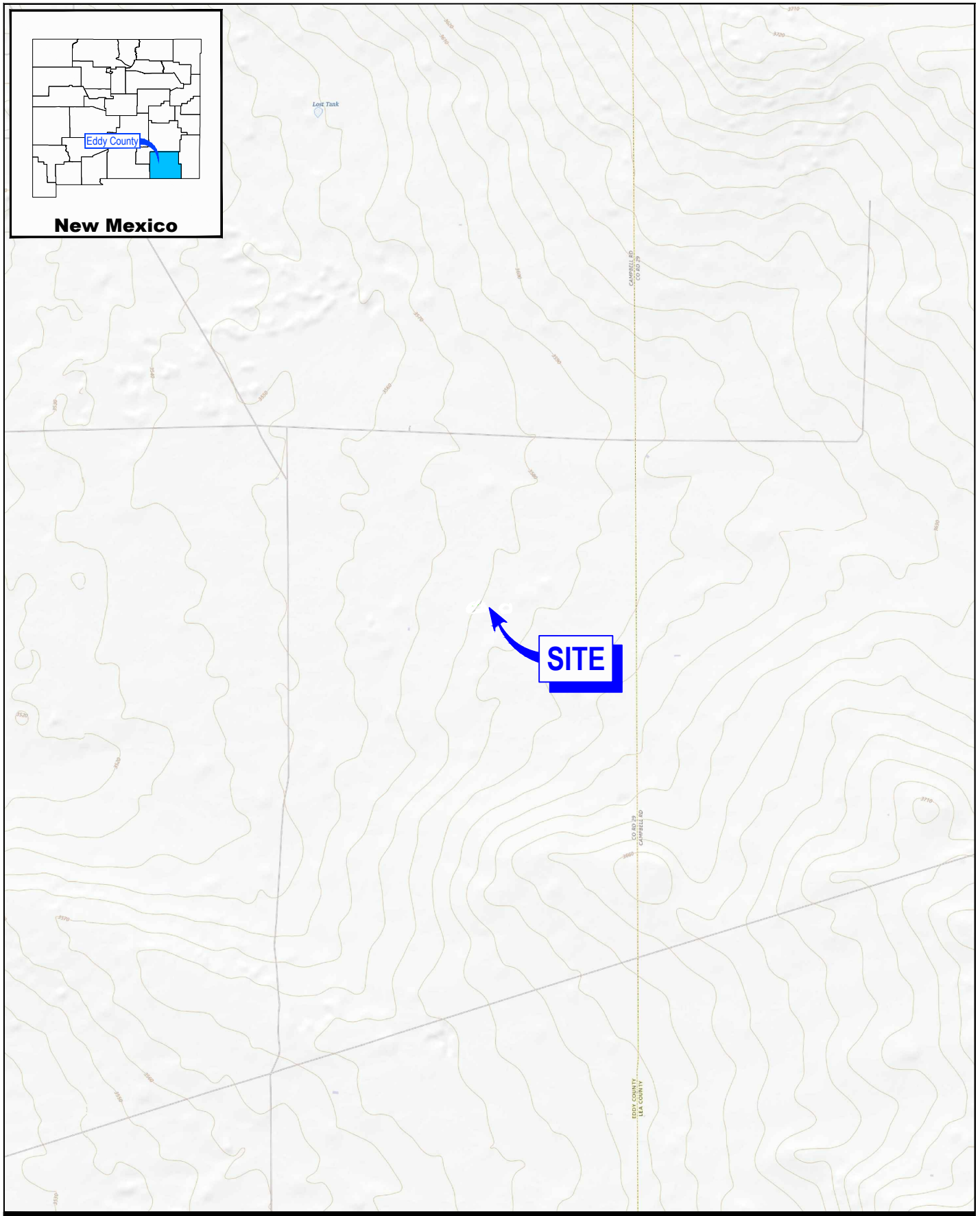
Table 2
Daily Disposal Summary
Unocal AHU Federal #1 Pasture Release Site
EOG Resources
Eddy County, New Mexico

Date of Disposal	Total Pounds Disposed	Total Tons Disposed
12/30/2022	1,308,560	654.28
Project Total	1,308,560	654.28

Notes:

The waste was approved for acceptance at the OCD-permitted (WM-1-035), Lea Land, LLC facility located at MM64, Highway 62/180 East, Carlsbad, NM, 88220

Figures

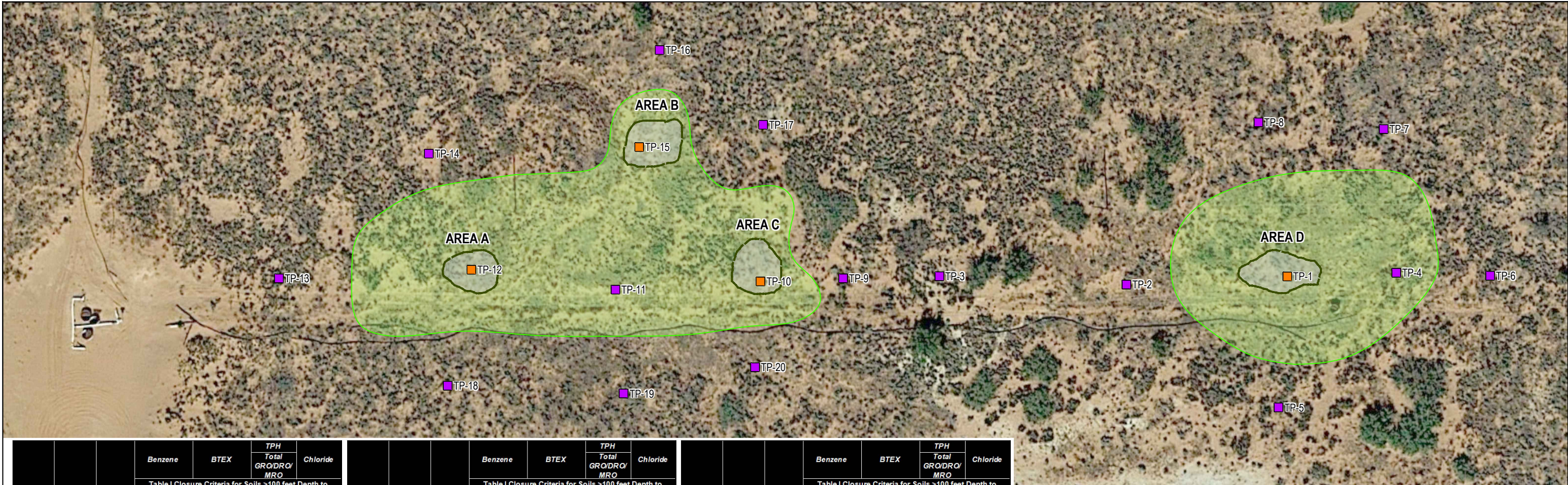


EOG RESOURCES
EDDY COUNTY, NEW MEXICO
UNOCAL AHU FEDERAL #1 PASTURE RELEASE SITE

Project No. 11220756-02
Date March 2022

SITE LOCATION MAP

FIGURE 1



Sample ID	Sample Date	Depth (ft bgs)	Benzene	BTEX	TPH Total GRO/DRO/ MRO	Chloride
			Table I Closure Criteria for Soils >100 feet Depth to Groundwater 19.15.29 NMAC			
			10	50	1,000	20,000
			19.15.29.13 NMAC - Restoration and Reclamation Criteria (0 to 4 feet)			
			---	---	---	600
TP1-0	10/20/22	Surface	<0.024	<0.095	<49	1200
TP1-2	10/20/22	2	<0.023	<0.093	<48	130
TP1-4	8/10/21	4	<0.000384 *F1	<0.00101	<14.9	431
TP1-10	8/10/21	10	<0.000385 *F1	<0.00101	<15.0	2,060
TP1-20	8/10/21	20	<0.000383 *F1	<0.00101	<14.9	569
TP2-S	8/10/21	Surface	<0.000383 *F1	0.00138 J	<15.0	17.4
TP2-4	8/10/21	4	<0.000382 *F1	<0.00100	<14.9	22.2
TP2-6	8/10/21	6	<0.000382 *F1	<0.00100	<15.0	10.5
TP3-S	8/10/21	Surface	<0.000386 *F1	<0.00101	<15.0	7.30
TP3-4	8/10/21	4	<0.000385 *F1	<0.00101	15.3 J	7.61
TP3-6	8/10/21	6	<0.000384 *F1	<0.00101	15.9 J	8.04
TP4-0	10/20/22	Surface	<0.024	<0.096	<47	<60
TP4-2	10/20/22	2	<0.024	<0.097	<46	<60
TP4-4	8/10/21	4	<0.000384 *F1	<0.00101	<15.0	28.0
TP4-8	8/10/21	8	<0.000389	<0.00102	<15.0	1,300
TP4-14	8/10/21	14	<0.000384	<0.00101	<15.0	85.3
TP5-S	8/10/21	Surface	<0.000385	<0.00101	<14.9	22.1
TP5-4	8/10/21	4	<0.000388	<0.00102	<15.0	22.9
TP5-6	8/10/21	6	0.000527 J	<0.00101	<15.0	215
TP6-S	8/16/21	Surface	0.00169 J	0.0568	<15.0	3.96 J F1
TP6-4	8/16/21	4	<0.000384	<0.00101	59.4 B	6.13
TP6-6	8/16/21	6	<0.000383	<0.00100	54.0 B	7.90
TP7-S	8/16/21	Surface	<0.000386	<0.00101	60.1 B	<0.855
TP7-4	8/16/21	4	<0.000383	<0.00100	15.3 J B	2.03 J
TP7-6	8/16/21	6	<0.000386	<0.00101	21.6 J B	22.4
TP8-S	8/16/21	Surface	<0.000387	0.00897	<15.0	3.24 J
TP8-4	8/16/21	4	<0.000387	<0.00102	22.3 J	2.49 J
TP8-6	8/16/21	6	<0.000384	<0.00101	<15.0	4.76 J
TP9-S	8/17/21	Surface	<0.000386 F2 F1	<0.00101 F2 F1	61.3	22.9
TP9-4	8/17/21	4	<0.0003814	0.00496	71.0	25.2
TP9-6	8/17/21	6	<0.000383	<0.00101	72.8	25.0
TP10-1	10/20/22	1	<0.024	<0.097	<50	2,000
TP10-3	10/20/22	3	<0.024	<0.097	<45	1,800
TP10-4	8/17/21	4	0.000695 J	<0.00101	75.8	77.1
TP10-12	8/17/21	12	<0.000385	<0.00101	71.7	1,080
TP10-20	8/17/21	20	0.00142 J	0.00493	69.6	1,210
TP11-0	10/20/22	Surface	<0.025	<0.099	<46	<60
TP11-2	10/20/22	2	<0.025	<0.099	<48	<60

Sample ID	Sample Date	Depth (ft bgs)	Benzene	BTEX	TPH Total GRO/DRO/ MRO	Chloride
			Table I Closure Criteria for Soils >100 feet Depth to Groundwater 19.15.29 NMAC			
			10	50	1,000	20,000
			19.15.29.13 NMAC - Restoration and Reclamation Criteria (0 to 4 feet)			
			---	---	---	600
TP11-4	8/17/21	4	0.000650 J	<0.00102	77.3	6,120
TP11-12	8/17/21	12	<0.000386	<0.00101	73.4	481 F1
TP11-20	8/17/21	20	<0.000383	<0.00100	62.8	979
TP12-1	10/20/22	1	<0.023	<0.094	<47	1,200
TP12-3	10/20/22	3	<0.024	<0.097	<50	660
TP12-4	8/17/21	4	<0.000381	<0.00100	69.0	1,700
TP12-8	8/17/21	8	<0.000384	<0.00101	62.8	765
TP12-14	8/17/21	14	<0.000384	<0.00101	59.7	443
TP13-S	8/17/21	Surface	<0.000387	<0.00101	66.1	3.17 J
TP13-4	8/17/21	4	<0.000386	<0.00101	83.7	12.7
TP13-6	8/17/21	6	<0.000389	<0.00102	65.9	20.4
TP14-S	8/17/21	Surface	<0.000381	<0.00100	68.1	3.07 J
TP14-4	8/17/21	4	<0.000385	<0.00101	65.7	4.23 J
TP14-6	8/17/21	6	<0.000387	<0.00102	49.7	3.09 J
TP15-1	10/20/22	1	<0.024	<0.096	<50	780
TP15-3	10/20/22	3	<0.024	<0.095	<49	2,100
TP15-4	8/17/21	4	<0.000383	<0.00100	75.9	245
TP15-12	8/17/21	12	<0.000381	<0.00100	50.8	11,400
TP15-20	8/17/21	20	<0.000385 %	<0.00101 %	<14.9	8,330
TP16-S	8/17/21	Surface	<0.000383 %	<0.00101 %	<15.0	6.11
TP16-4	8/17/21	4	<0.000383 %	<0.00100 %	<15.0	18.5
TP16-6	8/17/21	6	<0.000386 %	<0.00101 %	<14.9	4.00 J
TP17-S	8/17/21	Surface	<0.000384 %	<0.00101 %	<15.0	2.39 J
TP17-4	8/17/21	4	<0.000381 %	<0.00100 %	<15.0	8.90
TP17-6	8/17/21	6	<0.000388 %	<0.00102 %	<15.0	2.41
TP18-S	8/18/21	Surface	<0.000382	<0.00100	<15.0	<0.855
TP18-4	8/18/21	4	<0.000387	<0.00101	<15.0	<0.850
TP18-6	8/18/21	6	<0.000385 F1	<0.00101 F1	<15.0	9.91
TP19-S	8/18/21	Surface	<0.000383	<0.00100	<15.0	1.51 J
TP19-4	8/18/21	4	<0.000381	<0.00100	<14.9	1.75 J
TP19-6	8/18/21	6	<0.000384	<0.00101	<15.0	6.38
TP20-S	8/18/21	Surface	<0.000384	<0.00101	<15.0	9.09
TP20-4	8/18/21	4	<0.000388	<0.00102	<14.9	1.86 J
TP20-6	8/18/21	6	<0.000383	<0.00100	<15.0	186
BHA-1	12/13/22	4	<0.025	<0.099	<49	<61
BHA-2	12/13/22	4	<0.024	<0.098	<47	<59
BHA-3	12/13/22	4	<0.025	<0.10	<50	560
BHA-4	12/13/22	4	<0.024	<0.098	<48	<60

Sample ID	Sample Date	Depth (ft bgs)	Benzene	BTEX	TPH Total GRO/DRO/ MRO	Chloride
			Table I Closure Criteria for Soils >100 feet Depth to Groundwater 19.15.29 NMAC			
			10	50	1,000	20,000
			19.15.29.13 NMAC - Restoration and Reclamation Criteria (0 to 4 feet)			
			---	---	---	600
BHB-1	12/13/22	4	<0.024	<0.097	<49	550
BHB-2	12/13/22	4	<0.024	<0.096	<48	730
BHB-3	12/13/22	4	<0.024	<0.097	<49	510
BHB-4	12/13/22	4	<0.024	<0.096	<50	280
BHB-5	12/13/22	4	<0.024	<0.096	<49	400
BHB-6	12/13/22	4	<0.024	<0.097	<47	<60
BHC-1	12/13/22	4	<0.024	<0.097	<47	<59
BHC-2	12/13/22	4	<0.024	<0.097	<49	<60
BHC-3	12/13/22	4	<0.024	<0.097	<48	110
BHC-4	12/13/22	4	<0.024	<0.097	<49	<60
BHC-5	12/13/22	4	<0.025	<0.099	<48	110
BHD-1	12/13/22	2	<0.025	<0.099	<47	<61
BHD-2	12/13/22	2	<0.024	<0.097	<50	<61
BHD-3	12/13/22	2	<0.024	<0.097	<49	<59
BHD-4	12/13/22	2	<0.025	<0.098	<48	170
BHD-5	12/13/22	2	<0.025	<0.10	<50	61
SWA-1	12/13/22	0-4	<0.024	<0.097	<50	<60
SWA-2	12/13/22	0-4	<0.024	<0.098	<49	<61
SWA-3	12/13/22	0-4	<0.024	<0.098	<50	<60
SWB-1	12/13/22	0-4	<0.024	<0.097	<49	65
SWB-2	12/13/22	0-4	<0.024	<0.098	<48	210
SWB-3	12/13/22	0-4	<0.025	<0.099	<50	<60
SWC-1	12/13/22	0-4	<0.024	<0.096	<49	<60
SWC-2	12/13/22	0-4	<0.024	<0.097	<48	<60
SWC-3	12/13/22	0-4	<0.024	<0.097	<48	<60
SWD-1	12/13/22	0-2	<0.024	<0.098	<47	<60
SWD-2	12/13/22	0-2	<0.024	<0.096	<48	240
SWD-3	12/13/22	0-2	<0.025	<0.098	<48	140

LEGEND

EXCAVATED AREA

AFFECTED AREA

FORMER TEST PIT LOCATION

FORMER TEST PIT LOCATION THAT EXCEEDED TABLE I CLOSURE CRITERIA

DEPTH

DEPTH OF SAMPLE (FT BGS)

BGS

BELOW GROUND SURFACE

BTEX

BENZENE, TOLUENE, ETHYLBENZENE & XYLENES CONCENTRATION

TPH

TOTAL PETROLEUM HYDROCARBONS CONCENTRATION

J

INDICATES ESTIMATED VALUE

F1

MS AND/OR MSD RECOVERY EXCEEDS CONTROL LIMITS

F2

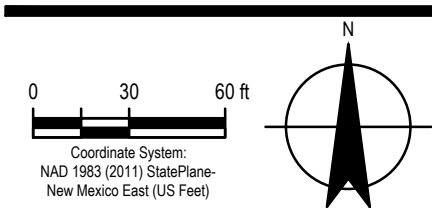
MS/MSD RPD EXCEEDS CONTROL LIMITS

NOTES:

1. RESULTS IN MILLIGRAMS PER KILOGRAM (MG/KG).

2. SEE TABLE 1 FOR FULL ANALYTICAL RESULTS/DETAILS.

3. PEACH SHADED CELLS INDICATE ANALYTICAL SAMPLES THAT EXCEED THE NMAC 19.15.29.12 TABLE I RESTORATION AND RECLAMATION CRITERIA (0 TO 4 FEET).

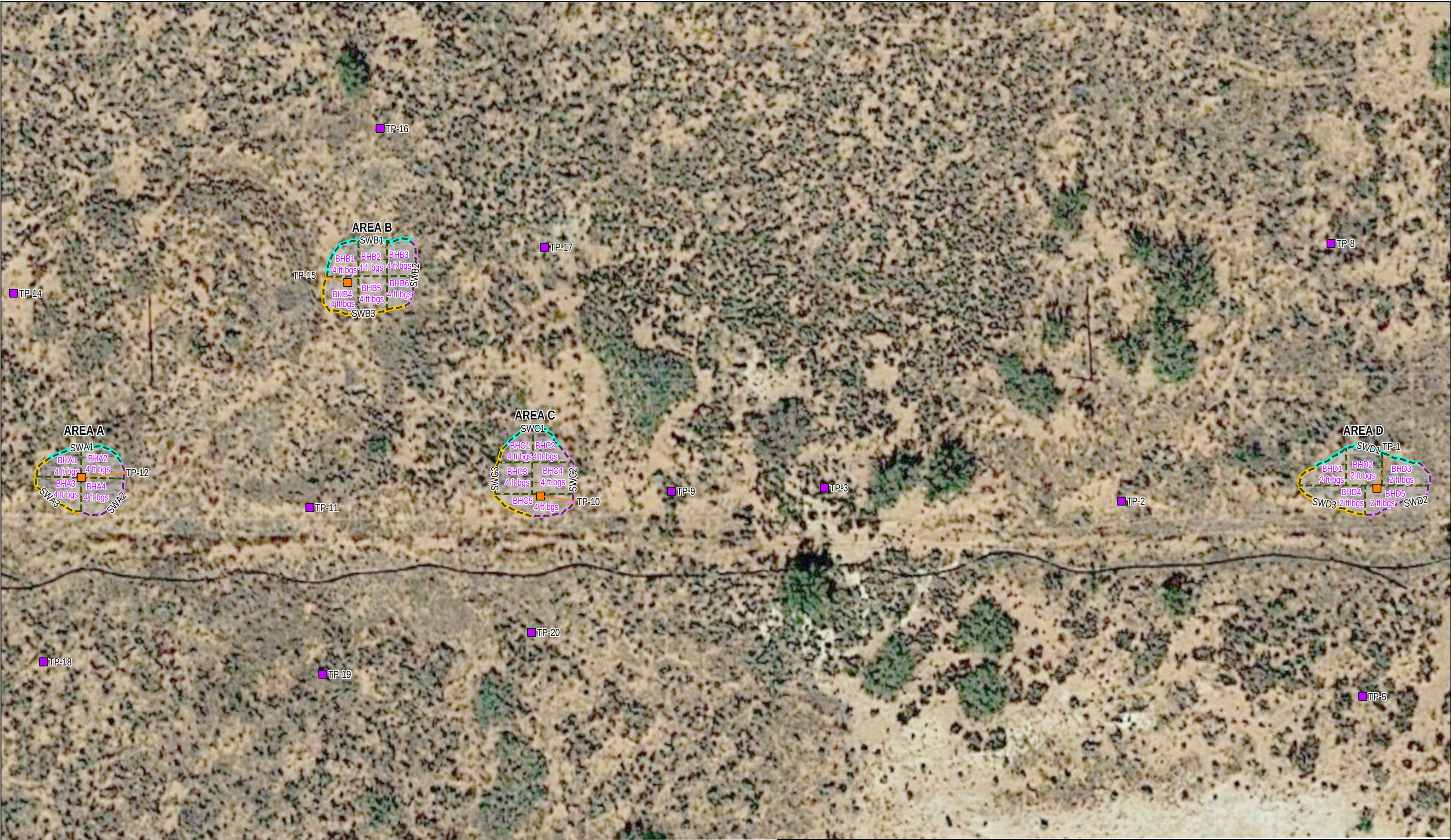


EOG RESOURCES
EDDY COUNTY, NEW MEXICO
UNOCAL AHU FEDERAL #1 PASTURE RELEASE SITE

ASSESSMENT SAMPLING
LOCATIONS MAP

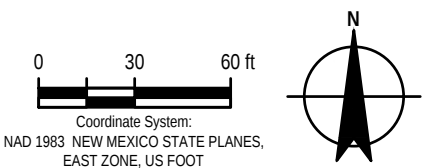
Project No. 11220756-02
Date January 2023

FIGURE 2



LEGEND

- | | | | | | |
|--|---|----------|----------------------|--|--------------------------------------|
| | FORMER TEST PIT LOCATION | 4 ft bgs | DEPTH OF SAMPLE | | EXCAVATED AREA |
| | FORMER TEST PIT LOCATION THAT EXCEEDED TABLE I CLOSURE CRITERIA | SWA1A | RESAMPLE | | INDICATES SIDE WALL COMPOSITE SAMPLE |
| | | BHA1 | BOTTOM OF EXCAVATION | | INDICATES SIDE WALL COMPOSITE SAMPLE |
| | | SWA1 | SIDEWALL | | INDICATES SIDE WALL COMPOSITE SAMPLE |



EOG RESOURCES
EDDY COUNTY, NEW MEXICO
UNOCAL AHU FEDERAL #1 PASTURE RELEASE SITE

CONFIRMATION SAMPLING
LOCATIONS MAP

Project No. 11220756
Date February 2023

FIGURE 3

Attachment A

Site Characterization Documentation

Unocal AHU Federal #1

Karst Potential Map

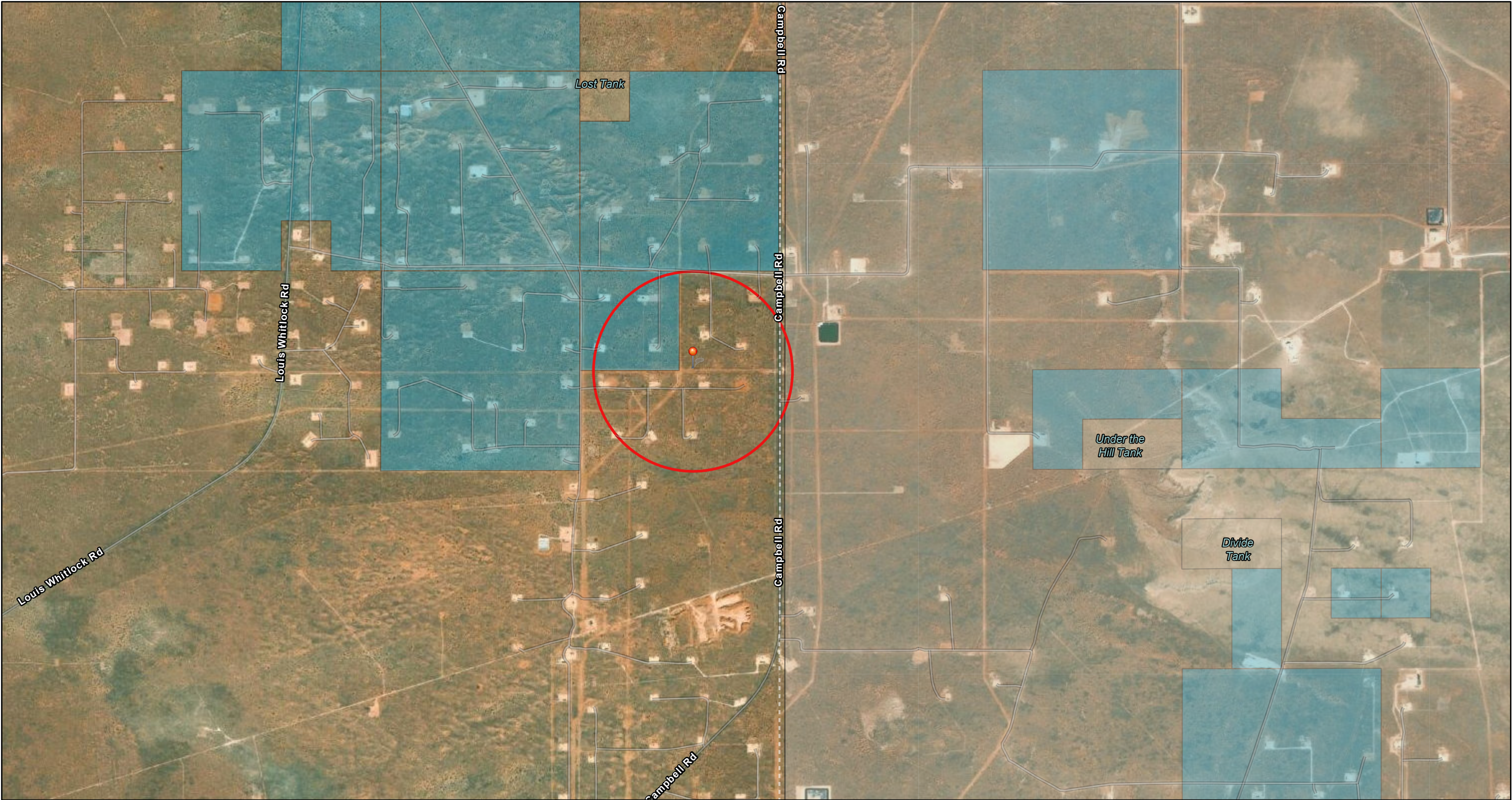
Legend

-  High
-  Low
-  Medium
-  Unocal AHU Federal #1

Unocal AHU Federal #1



OSE POD Locations Map



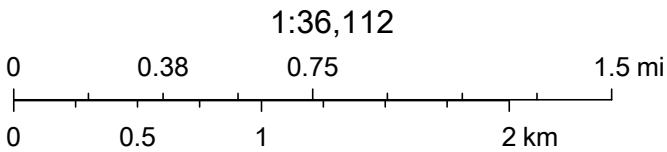
3/3/2022, 3:10:49 PM

- Override 1
- Override 1
- OSE District Boundary
- Water Right Regulations

Closure Area

New Mexico State Trust Lands
- Both Estates

SiteBoundaries
- Subsurface Estate



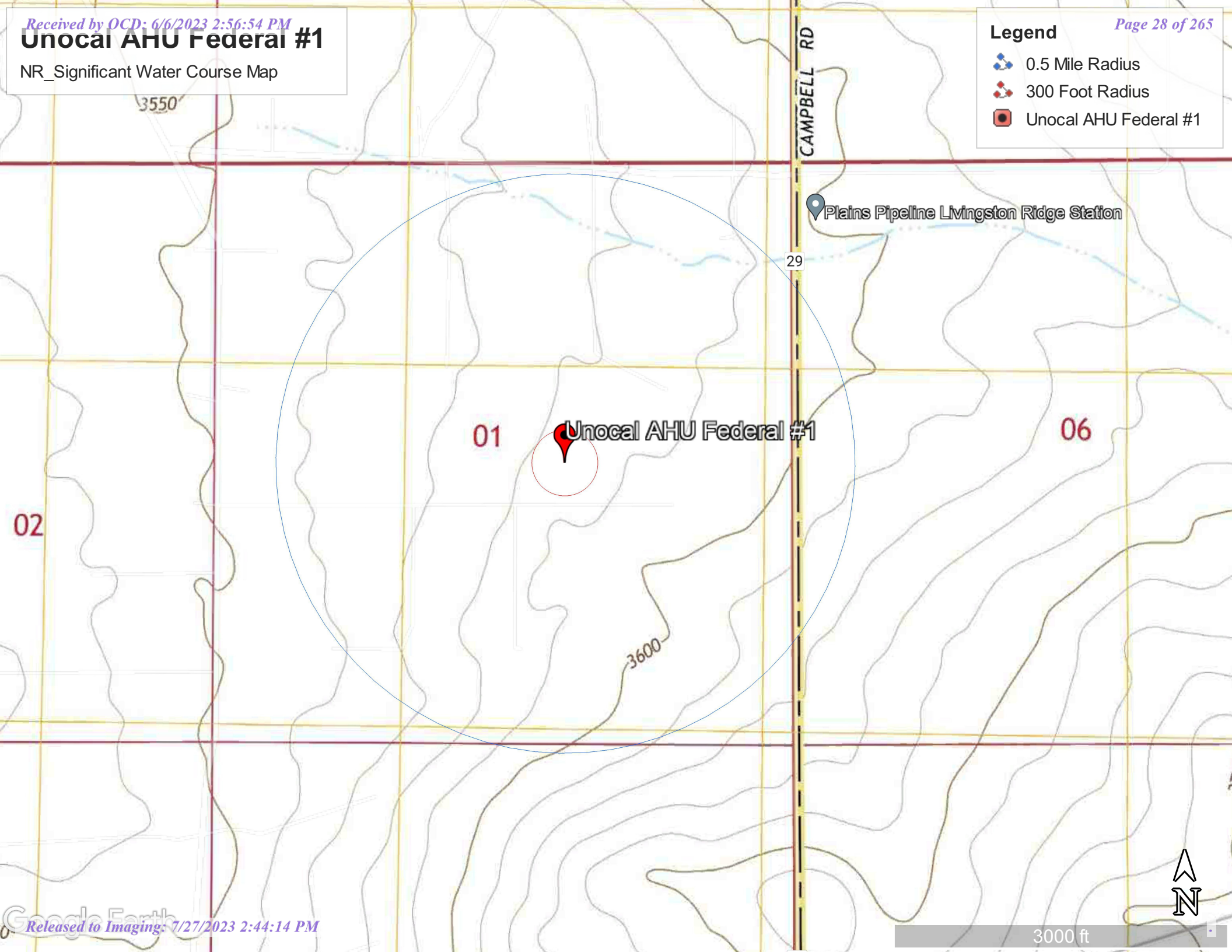
U.S. Department of Energy Office of Legacy Management, New Mexico State University, Texas Parks & Wildlife, CONANP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc., METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Maxar

Unocal AHU Federal #1

NR_Significant Water Course Map

Legend

-  0.5 Mile Radius
-  300 Foot Radius
-  Unocal AHU Federal #1



National Flood Hazard Layer FIRMette



103°44'8"W 32°25'29"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) <i>Zone A, V, A99</i>
		With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i>
		Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
		Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
		Area with Flood Risk due to Levee <i>Zone D</i>
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard <i>Zone D</i>
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
OTHER FEATURES		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped

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

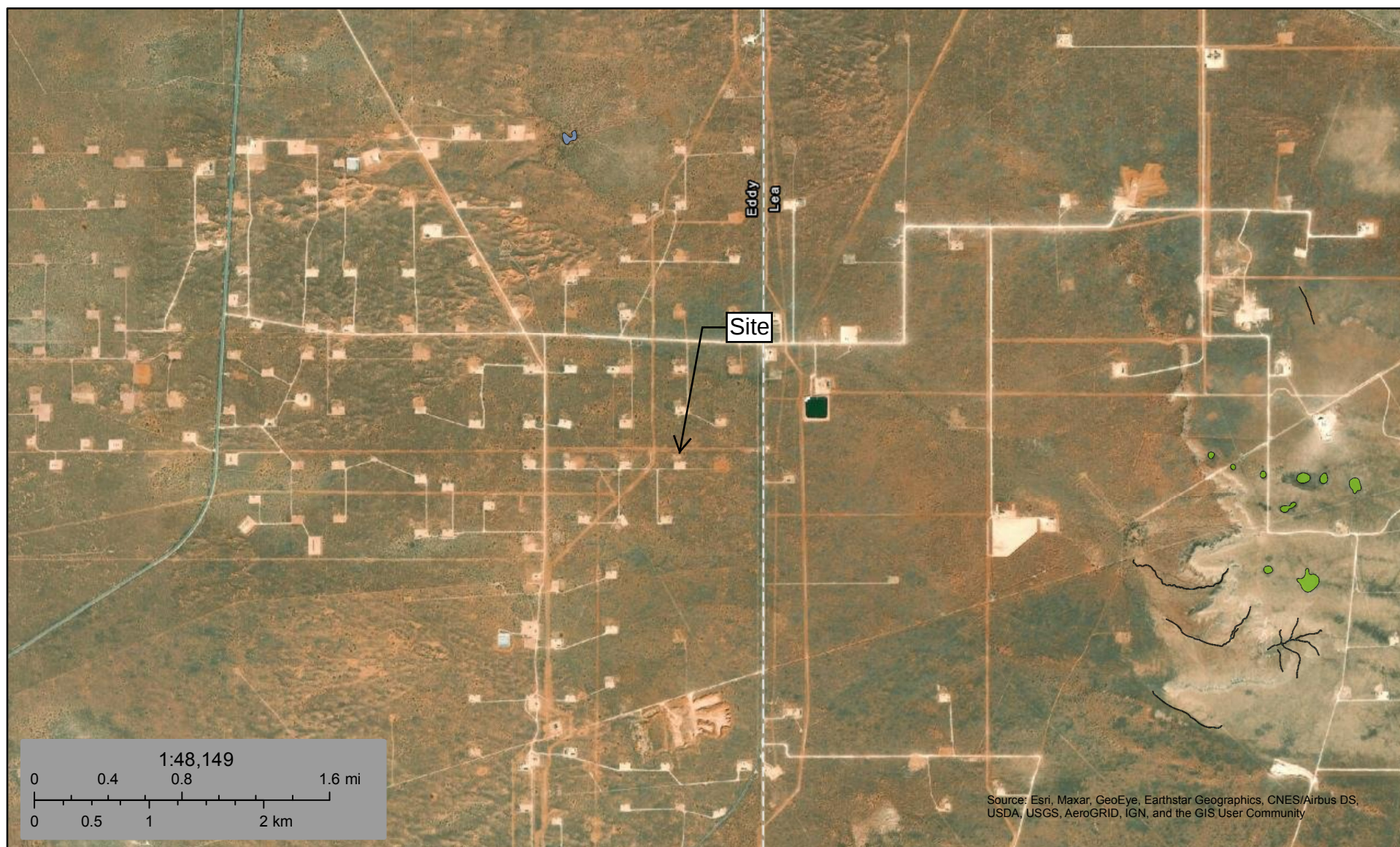
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/3/2022 at 4:54 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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



Wetlands Map



March 4, 2022

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

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

- Lake
- Other
- Riverine

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

Attachment B Soil Boring Log



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 2

PROJECT NAME: Unocal AHU Fed #1

HOLE DESIGNATION: SB-1

PROJECT NUMBER: 11220756

DATE COMPLETED: 5 May 2022

CLIENT: EOG Resources

DRILLING METHOD: Air Rotary/Split Spoons and Cuttings

LOCATION: Eddy County, New Mexico

FIELD PERSONNEL: L. Mullins

DRILLING CONTRACTOR: HCI Drilling

DRILLER: K. Cooper

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH BGS	MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	CHLORIDE (mg/kg)	
5	SP-SAND, fine to medium grained sand, orangish brown, dry							
10								
15	- light brown at 12.00ft BGS							
20								
25								
30								
35								
40								
45								
50								
55								
60								
65								

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

File: \\GHDNET\GHD\USMIDLAND\PROJECTS\11220756\LOGS\GPJ Library File: GHD_ENV\RO_V06.GLB Report: OVERBURDEN LOG Date: 22/6/22



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 2 of 2

PROJECT NAME: Unocal AHU Fed #1

HOLE DESIGNATION: SB-1

PROJECT NUMBER: 11220756

DATE COMPLETED: 5 May 2022

CLIENT: EOG Resources

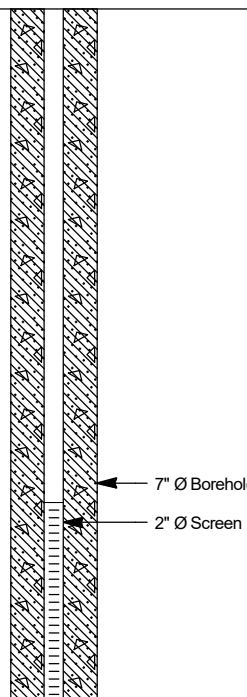
DRILLING METHOD: Air Rotary/Split Spoons and Cuttings

LOCATION: Eddy County, New Mexico

FIELD PERSONNEL: L. Mullins

DRILLING CONTRACTOR: HCI Drilling

DRILLER: K. Cooper

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH BGS	MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	CHLORIDE (mg/kg)	
75								
80								
85								
90								
95								
100								
105	END OF BOREHOLE @ 105.00ft BGS	105.00	 7" Ø Borehole 2" Ø Screen <u>WELL DETAILS</u> Screened interval: 95.00 to 105.00ft BGS Length: 10ft Diameter: 2in <u>NOTE:</u> This well was plugged and abandoned at a later date.					
110								
115								
120								
125								
130								
135								

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

File: \\GHDNET\GHD\USMIDLAND\PROJECTS\11220756\TECH\GINT\LOGS\11220756 LOGS.GPJ Library File: GHD_ENV\RO_V06.GLB Report: OVERBURDEN LOG Date: 22/6/22

Attachment C

Laboratory Analytical Reports and Chain-of-Custody Documentation



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 880-5040-1

Laboratory Sample Delivery Group: 11220756

Client Project/Site: Unocal AHM Federal #1

For:

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

Attn: Becky Haskell

A handwritten signature in black ink that reads "Debbie Simmons".

Authorized for release by:
8/19/2021 4:08:53 PM

Debbie Simmons, Project Manager
(281)240-4200
debbie.simmons@eurofinset.com

LINKS

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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: Unocal AHM Federal #1

Laboratory Job ID: 880-5040-1
SDG: 11220756

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Definitions/Glossary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5040-1
SDG: 11220756

Qualifiers

GC VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*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, low biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.
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.
α	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

Eurofins Xenco, Midland

Case Narrative

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5040-1
SDG: 11220756

Job ID: 880-5040-1

Laboratory: Eurofins Xenco, Midland

Narrative

Job Narrative 880-5040-1

Comments

No additional comments.

Receipt

The samples were received on 8/12/2021 10:14 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 1.6° C.

GC VOA

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

GC Semi VOA

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: Unocal AHM Federal #1

Job ID: 880-5040-1
SDG: 11220756

Client Sample ID: TP4-4

Lab Sample ID: 880-5040-1

Date Collected: 08/10/21 12:30

Matrix: Solid

Date Received: 08/12/21 10:16

Sample Depth: 4'

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		08/12/21 13:00	08/13/21 06:59	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		08/12/21 13:00	08/13/21 06:59	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		08/12/21 13:00	08/13/21 06:59	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		08/12/21 13:00	08/13/21 06:59	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		08/12/21 13:00	08/13/21 06:59	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		08/12/21 13:00	08/13/21 06:59	1
Total BTEX	<0.00101	U *1	0.00399	0.00101	mg/Kg		08/12/21 13:00	08/13/21 06:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130	08/12/21 13:00	08/13/21 06:59	1
1,4-Difluorobenzene (Surr)	104		70 - 130	08/12/21 13:00	08/13/21 06:59	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		08/13/21 11:23	08/13/21 18:37	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/13/21 11:23	08/13/21 18:37	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/13/21 11:23	08/13/21 18:37	1
Total TPH	<15.0	U	50.0	15.0	mg/Kg		08/13/21 11:23	08/13/21 18:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130	08/13/21 11:23	08/13/21 18:37	1
o-Terphenyl	106		70 - 130	08/13/21 11:23	08/13/21 18:37	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	28.0		5.04	0.865	mg/Kg			08/17/21 22:11	1

Client Sample ID: TP4-8

Lab Sample ID: 880-5040-2

Date Collected: 08/10/21 11:24

Matrix: Solid

Date Received: 08/12/21 10:16

Sample Depth: 8'

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		08/16/21 09:50	08/16/21 15:46	1
Toluene	<0.000461	U	0.00202	0.000461	mg/Kg		08/16/21 09:50	08/16/21 15:46	1
Ethylbenzene	<0.000571	U	0.00202	0.000571	mg/Kg		08/16/21 09:50	08/16/21 15:46	1
m-Xylene & p-Xylene	<0.00102	U	0.00404	0.00102	mg/Kg		08/16/21 09:50	08/16/21 15:46	1
o-Xylene	<0.000347	U	0.00202	0.000347	mg/Kg		08/16/21 09:50	08/16/21 15:46	1
Xylenes, Total	<0.00102	U	0.00404	0.00102	mg/Kg		08/16/21 09:50	08/16/21 15:46	1
Total BTEX	<0.00102	U	0.00404	0.00102	mg/Kg		08/16/21 09:50	08/16/21 15:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130	08/16/21 09:50	08/16/21 15:46	1
1,4-Difluorobenzene (Surr)	101		70 - 130	08/16/21 09:50	08/16/21 15:46	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5040-1
SDG: 11220756

Client Sample ID: TP4-8

Lab Sample ID: 880-5040-2

Date Collected: 08/10/21 11:24

Matrix: Solid

Date Received: 08/12/21 10:16

Sample Depth: 8'

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		08/13/21 11:23	08/13/21 19:40	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		08/13/21 11:23	08/13/21 19:40	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		08/13/21 11:23	08/13/21 19:40	1
Total TPH	<15.0	U	49.9	15.0	mg/Kg		08/13/21 11:23	08/13/21 19:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130	08/13/21 11:23	08/13/21 19:40	1
o-Terphenyl	110		70 - 130	08/13/21 11:23	08/13/21 19:40	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1300		4.98	0.855	mg/Kg			08/17/21 22:16	1

Client Sample ID: TP4-14

Lab Sample ID: 880-5040-3

Date Collected: 08/10/21 12:55

Matrix: Solid

Date Received: 08/12/21 10:16

Sample Depth: 14'

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		08/16/21 09:50	08/16/21 16:06	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		08/16/21 09:50	08/16/21 16:06	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		08/16/21 09:50	08/16/21 16:06	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		08/16/21 09:50	08/16/21 16:06	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		08/16/21 09:50	08/16/21 16:06	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		08/16/21 09:50	08/16/21 16:06	1
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg		08/16/21 09:50	08/16/21 16:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130	08/16/21 09:50	08/16/21 16:06	1
1,4-Difluorobenzene (Surr)	98		70 - 130	08/16/21 09:50	08/16/21 16:06	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		08/13/21 10:31	08/13/21 20:01	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/13/21 10:31	08/13/21 20:01	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/13/21 10:31	08/13/21 20:01	1
Total TPH	<15.0	U	50.0	15.0	mg/Kg		08/13/21 10:31	08/13/21 20:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130	08/13/21 10:31	08/13/21 20:01	1
o-Terphenyl	105		70 - 130	08/13/21 10:31	08/13/21 20:01	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	85.3		5.04	0.865	mg/Kg			08/17/21 22:33	1

Eurofins Xenco, Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5040-1
SDG: 11220756

Client Sample ID: TP5-S

Lab Sample ID: 880-5040-4

Date Collected: 08/10/21 13:25

Matrix: Solid

Date Received: 08/12/21 10:16

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		08/16/21 09:50	08/16/21 16:26	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		08/16/21 09:50	08/16/21 16:26	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		08/16/21 09:50	08/16/21 16:26	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/16/21 09:50	08/16/21 16:26	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		08/16/21 09:50	08/16/21 16:26	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/16/21 09:50	08/16/21 16:26	1
Total BTEX	<0.00101	U	0.00400	0.00101	mg/Kg		08/16/21 09:50	08/16/21 16:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130	08/16/21 09:50	08/16/21 16:26	1
1,4-Difluorobenzene (Surr)	101		70 - 130	08/16/21 09:50	08/16/21 16:26	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		08/13/21 10:31	08/14/21 02:51	1
Diesel Range Organics (Over C10-C28)	<14.9	U	49.8	14.9	mg/Kg		08/13/21 10:31	08/14/21 02:51	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		08/13/21 10:31	08/14/21 02:51	1
Total TPH	<14.9	U	49.8	14.9	mg/Kg		08/13/21 10:31	08/14/21 02:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	79		70 - 130	08/13/21 10:31	08/14/21 02:51	1
o-Terphenyl	78		70 - 130	08/13/21 10:31	08/14/21 02:51	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	22.1		5.05	0.867	mg/Kg			08/17/21 22:39	1

Client Sample ID: TP5-4

Lab Sample ID: 880-5040-5

Date Collected: 08/10/21 13:35

Matrix: Solid

Date Received: 08/12/21 10:16

Sample Depth: 4'

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		08/16/21 09:50	08/16/21 16:47	1
Toluene	<0.000460	U	0.00202	0.000460	mg/Kg		08/16/21 09:50	08/16/21 16:47	1
Ethylbenzene	<0.000570	U	0.00202	0.000570	mg/Kg		08/16/21 09:50	08/16/21 16:47	1
m-Xylene & p-Xylene	<0.00102	U	0.00403	0.00102	mg/Kg		08/16/21 09:50	08/16/21 16:47	1
o-Xylene	<0.000347	U	0.00202	0.000347	mg/Kg		08/16/21 09:50	08/16/21 16:47	1
Xylenes, Total	<0.00102	U	0.00403	0.00102	mg/Kg		08/16/21 09:50	08/16/21 16:47	1
Total BTEX	<0.00102	U	0.00403	0.00102	mg/Kg		08/16/21 09:50	08/16/21 16:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	120		70 - 130	08/16/21 09:50	08/16/21 16:47	1
1,4-Difluorobenzene (Surr)	102		70 - 130	08/16/21 09:50	08/16/21 16:47	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		08/13/21 10:31	08/14/21 03:12	1

Eurofins Xenco, Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5040-1
SDG: 11220756

Client Sample ID: TP5-4

Lab Sample ID: 880-5040-5

Date Collected: 08/10/21 13:35

Matrix: Solid

Date Received: 08/12/21 10:16

Sample Depth: 4'

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		08/13/21 10:31	08/14/21 03:12	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/13/21 10:31	08/14/21 03:12	1
Total TPH	<15.0	U	50.0	15.0	mg/Kg		08/13/21 10:31	08/14/21 03:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	79		70 - 130	08/13/21 10:31	08/14/21 03:12	1
o-Terphenyl	81		70 - 130	08/13/21 10:31	08/14/21 03:12	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	22.9		5.01	0.860	mg/Kg			08/17/21 22:55	1

Client Sample ID: TP5-6

Lab Sample ID: 880-5040-6

Date Collected: 08/10/21 13:40

Matrix: Solid

Date Received: 08/12/21 10:16

Sample Depth: 6'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.000527	J	0.00199	0.000383	mg/Kg		08/16/21 09:50	08/16/21 18:09	1
Toluene	<0.000454	U	0.00199	0.000454	mg/Kg		08/16/21 09:50	08/16/21 18:09	1
Ethylbenzene	<0.000563	U	0.00199	0.000563	mg/Kg		08/16/21 09:50	08/16/21 18:09	1
m-Xylene & p-Xylene	<0.00101	U	0.00398	0.00101	mg/Kg		08/16/21 09:50	08/16/21 18:09	1
o-Xylene	<0.000343	U	0.00199	0.000343	mg/Kg		08/16/21 09:50	08/16/21 18:09	1
Xylenes, Total	<0.00101	U	0.00398	0.00101	mg/Kg		08/16/21 09:50	08/16/21 18:09	1
Total BTEX	<0.00101	U	0.00398	0.00101	mg/Kg		08/16/21 09:50	08/16/21 18:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130	08/16/21 09:50	08/16/21 18:09	1
1,4-Difluorobenzene (Surr)	96		70 - 130	08/16/21 09:50	08/16/21 18:09	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		08/13/21 10:31	08/14/21 03:34	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/13/21 10:31	08/14/21 03:34	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/13/21 10:31	08/14/21 03:34	1
Total TPH	<15.0	U	50.0	15.0	mg/Kg		08/13/21 10:31	08/14/21 03:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	86		70 - 130	08/13/21 10:31	08/14/21 03:34	1
o-Terphenyl	91		70 - 130	08/13/21 10:31	08/14/21 03:34	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	215		4.98	0.855	mg/Kg			08/17/21 23:01	1

Eurofins Xenco, Midland

Surrogate Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5040-1
SDG: 11220756

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)
880-5040-1	TP4-4	110	104
880-5040-2	TP4-8	110	101
880-5040-3	TP4-14	116	98
880-5040-4	TP5-S	116	101
880-5040-5	TP5-4	120	102
880-5040-6	TP5-6	116	96
LCS 880-6416/1-A	Lab Control Sample	92	64 S1-
LCS 880-6596/1-A	Lab Control Sample	103	107
LCSD 880-6416/2-A	Lab Control Sample Dup	114	102
LCSD 880-6596/2-A	Lab Control Sample Dup	106	107
MB 880-6390/5-A	Method Blank	112	114
MB 880-6416/5-A	Method Blank	116	107
MB 880-6596/5-A	Method Blank	101	96
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)
880-5040-1	TP4-4	96	106
880-5040-1 MS	TP4-4	92	92
880-5040-1 MSD	TP4-4	94	91
880-5040-2	TP4-8	96	110
880-5040-3	TP4-14	100	105
880-5040-4	TP5-S	79	78
880-5040-5	TP5-4	79	81
880-5040-6	TP5-6	86	91
LCS 880-6516/2-A	Lab Control Sample	73	73
LCS 880-6517/2-A	Lab Control Sample	94	103
LCSD 880-6516/3-A	Lab Control Sample Dup	75	79
LCSD 880-6517/3-A	Lab Control Sample Dup	93	102
MB 880-6516/1-A	Method Blank	83	91
MB 880-6517/1-A	Method Blank	105	124
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

Eurofins Xenco, Midland

QC Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5040-1
SDG: 11220756

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-6390/5-A

Matrix: Solid

Analysis Batch: 6429

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6390

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.001225	J	0.00200	0.000385	mg/Kg		08/12/21 10:00	08/12/21 12:47	1
Toluene	0.0004963	J	0.00200	0.000456	mg/Kg		08/12/21 10:00	08/12/21 12:47	1
Ethylbenzene	0.001378	J	0.00200	0.000565	mg/Kg		08/12/21 10:00	08/12/21 12:47	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/12/21 10:00	08/12/21 12:47	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		08/12/21 10:00	08/12/21 12:47	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/12/21 10:00	08/12/21 12:47	1
Total BTEX	0.003099	J	0.00400	0.00101	mg/Kg		08/12/21 10:00	08/12/21 12:47	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	08/12/21 10:00	08/12/21 12:47	1
1,4-Difluorobenzene (Surr)	114		70 - 130	08/12/21 10:00	08/12/21 12:47	1

Lab Sample ID: MB 880-6416/5-A

Matrix: Solid

Analysis Batch: 6429

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6416

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		08/12/21 13:00	08/12/21 23:44	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		08/12/21 13:00	08/12/21 23:44	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		08/12/21 13:00	08/12/21 23:44	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/12/21 13:00	08/12/21 23:44	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		08/12/21 13:00	08/12/21 23:44	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/12/21 13:00	08/12/21 23:44	1
Total BTEX	<0.00101	U	0.00400	0.00101	mg/Kg		08/12/21 13:00	08/12/21 23:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130	08/12/21 13:00	08/12/21 23:44	1
1,4-Difluorobenzene (Surr)	107		70 - 130	08/12/21 13:00	08/12/21 23:44	1

Lab Sample ID: LCS 880-6416/1-A

Matrix: Solid

Analysis Batch: 6429

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6416

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.06716	*-	mg/Kg		67	70 - 130
Toluene	0.100	0.08824		mg/Kg		88	70 - 130
Ethylbenzene	0.100	0.08629		mg/Kg		86	70 - 130
m-Xylene & p-Xylene	0.200	0.1716		mg/Kg		86	70 - 130
o-Xylene	0.100	0.08000		mg/Kg		80	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	92		70 - 130
1,4-Difluorobenzene (Surr)	64	S1-	70 - 130

Eurofins Xenco, Midland

QC Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5040-1
SDG: 11220756

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

Lab Sample ID: LCSD 880-6416/2-A

Matrix: Solid

Analysis Batch: 6429

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6416

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.1020	*1	mg/Kg		102	70 - 130	41	35
Toluene	0.100	0.1063		mg/Kg		106	70 - 130	19	35
Ethylbenzene	0.100	0.1169		mg/Kg		117	70 - 130	30	35
m-Xylene & p-Xylene	0.200	0.2218		mg/Kg		111	70 - 130	26	35
o-Xylene	0.100	0.1063		mg/Kg		106	70 - 130	28	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	114		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: MB 880-6596/5-A

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6596

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
Total BTEX	<0.00101	U	0.00400	0.00101	mg/Kg		08/16/21 09:50	08/16/21 13:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	08/16/21 09:50	08/16/21 13:22	1
1,4-Difluorobenzene (Surr)	96		70 - 130	08/16/21 09:50	08/16/21 13:22	1

Lab Sample ID: LCS 880-6596/1-A

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6596

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1009		mg/Kg		101	70 - 130
Toluene	0.100	0.09300		mg/Kg		93	70 - 130
Ethylbenzene	0.100	0.09098		mg/Kg		91	70 - 130
m-Xylene & p-Xylene	0.200	0.1831		mg/Kg		92	70 - 130
o-Xylene	0.100	0.09076		mg/Kg		91	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: LCSD 880-6596/2-A

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6596

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.09968		mg/Kg		100	70 - 130	1	35

Eurofins Xenco, Midland

QC Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5040-1
SDG: 11220756

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

Lab Sample ID: LCSD 880-6596/2-A

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6596

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toluene	0.100	0.09328		mg/Kg		93	70 - 130	0	35
Ethylbenzene	0.100	0.09297		mg/Kg		93	70 - 130	2	35
m-Xylene & p-Xylene	0.200	0.1875		mg/Kg		94	70 - 130	2	35
o-Xylene	0.100	0.09331		mg/Kg		93	70 - 130	3	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

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

Lab Sample ID: MB 880-6516/1-A

Matrix: Solid

Analysis Batch: 6488

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6516

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		08/13/21 10:31	08/13/21 18:41	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/13/21 10:31	08/13/21 18:41	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/13/21 10:31	08/13/21 18:41	1
Total TPH	<15.0	U	50.0	15.0	mg/Kg		08/13/21 10:31	08/13/21 18:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	83		70 - 130	08/13/21 10:31	08/13/21 18:41	1
o-Terphenyl	91		70 - 130	08/13/21 10:31	08/13/21 18:41	1

Lab Sample ID: LCS 880-6516/2-A

Matrix: Solid

Analysis Batch: 6488

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6516

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	762.8		mg/Kg		76	70 - 130
Diesel Range Organics (Over C10-C28)	1000	766.6		mg/Kg		77	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	73		70 - 130
o-Terphenyl	73		70 - 130

Lab Sample ID: LCSD 880-6516/3-A

Matrix: Solid

Analysis Batch: 6488

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6516

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	823.1		mg/Kg		82	70 - 130	8	20
Diesel Range Organics (Over C10-C28)	1000	810.6		mg/Kg		81	70 - 130	6	20

Eurofins Xenco, Midland

QC Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5040-1
SDG: 11220756

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

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	75		70 - 130
o-Terphenyl	79		70 - 130

Lab Sample ID: MB 880-6517/1-A
Matrix: Solid
Analysis Batch: 6486

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 6517

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		08/13/21 11:23	08/13/21 17:34	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/13/21 11:23	08/13/21 17:34	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/13/21 11:23	08/13/21 17:34	1
Total TPH	<15.0	U	50.0	15.0	mg/Kg		08/13/21 11:23	08/13/21 17:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130	08/13/21 11:23	08/13/21 17:34	1
o-Terphenyl	124		70 - 130	08/13/21 11:23	08/13/21 17:34	1

Lab Sample ID: LCS 880-6517/2-A
Matrix: Solid
Analysis Batch: 6486

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 6517

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	838.8		mg/Kg		84	70 - 130
Diesel Range Organics (Over C10-C28)	1000	808.8		mg/Kg		81	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	94		70 - 130
o-Terphenyl	103		70 - 130

Lab Sample ID: LCSD 880-6517/3-A
Matrix: Solid
Analysis Batch: 6486

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 6517

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	830.0		mg/Kg		83	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	1000	802.3		mg/Kg		80	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	93		70 - 130
o-Terphenyl	102		70 - 130

Eurofins Xenco, Midland

QC Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5040-1
SDG: 11220756

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

Lab Sample ID: 880-5040-1 MS

Matrix: Solid

Analysis Batch: 6486

Client Sample ID: TP4-4

Prep Type: Total/NA

Prep Batch: 6517

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	995	898.4		mg/Kg		90	70 - 130
Diesel Range Organics (Over C10-C28)	<15.0	U	995	891.4		mg/Kg		90	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
1-Chlorooctane	92		70 - 130						
o-Terphenyl	92		70 - 130						

Lab Sample ID: 880-5040-1 MSD

Matrix: Solid

Analysis Batch: 6486

Client Sample ID: TP4-4

Prep Type: Total/NA

Prep Batch: 6517

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	998	956.7		mg/Kg		96	70 - 130	6	20
Diesel Range Organics (Over C10-C28)	<15.0	U	998	899.1		mg/Kg		90	70 - 130	1	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	94		70 - 130								
o-Terphenyl	91		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-6432/1-A

Matrix: Solid

Analysis Batch: 6666

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			08/17/21 20:41	1

Lab Sample ID: LCS 880-6432/2-A

Matrix: Solid

Analysis Batch: 6666

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	257.8		mg/Kg		103	90 - 110

Lab Sample ID: LCSD 880-6432/3-A

Matrix: Solid

Analysis Batch: 6666

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	257.8		mg/Kg		103	90 - 110	0	20

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QC Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5040-1
SDG: 11220756

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 880-5040-2 MS

Matrix: Solid

Analysis Batch: 6666

Client Sample ID: TP4-8

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	1300		249	1484	4	mg/Kg		74	90 - 110

Lab Sample ID: 880-5040-2 MSD

Matrix: Solid

Analysis Batch: 6666

Client Sample ID: TP4-8

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1300		249	1505	E 4	mg/Kg		83	90 - 110	NC	20

QC Association Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5040-1
SDG: 11220756

GC VOA

Prep Batch: 6390

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-6390/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 6416

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5040-1	TP4-4	Total/NA	Solid	5035	
MB 880-6416/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-6416/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-6416/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 6429

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5040-1	TP4-4	Total/NA	Solid	8021B	6416
MB 880-6390/5-A	Method Blank	Total/NA	Solid	8021B	6390
MB 880-6416/5-A	Method Blank	Total/NA	Solid	8021B	6416
LCS 880-6416/1-A	Lab Control Sample	Total/NA	Solid	8021B	6416
LCSD 880-6416/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	6416

Prep Batch: 6596

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5040-2	TP4-8	Total/NA	Solid	5035	
880-5040-3	TP4-14	Total/NA	Solid	5035	
880-5040-4	TP5-S	Total/NA	Solid	5035	
880-5040-5	TP5-4	Total/NA	Solid	5035	
880-5040-6	TP5-6	Total/NA	Solid	5035	
MB 880-6596/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-6596/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-6596/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 6599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5040-2	TP4-8	Total/NA	Solid	8021B	6596
880-5040-3	TP4-14	Total/NA	Solid	8021B	6596
880-5040-4	TP5-S	Total/NA	Solid	8021B	6596
880-5040-5	TP5-4	Total/NA	Solid	8021B	6596
880-5040-6	TP5-6	Total/NA	Solid	8021B	6596
MB 880-6596/5-A	Method Blank	Total/NA	Solid	8021B	6596
LCS 880-6596/1-A	Lab Control Sample	Total/NA	Solid	8021B	6596
LCSD 880-6596/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	6596

GC Semi VOA

Analysis Batch: 6486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5040-1	TP4-4	Total/NA	Solid	8015B NM	6517
880-5040-2	TP4-8	Total/NA	Solid	8015B NM	6517
880-5040-3	TP4-14	Total/NA	Solid	8015B NM	6516
MB 880-6517/1-A	Method Blank	Total/NA	Solid	8015B NM	6517
LCS 880-6517/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	6517
LCSD 880-6517/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	6517
880-5040-1 MS	TP4-4	Total/NA	Solid	8015B NM	6517
880-5040-1 MSD	TP4-4	Total/NA	Solid	8015B NM	6517

Eurofins Xenco, Midland

QC Association Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5040-1
SDG: 11220756

GC Semi VOA

Analysis Batch: 6488

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5040-4	TP5-S	Total/NA	Solid	8015B NM	6516
880-5040-5	TP5-4	Total/NA	Solid	8015B NM	6516
880-5040-6	TP5-6	Total/NA	Solid	8015B NM	6516
MB 880-6516/1-A	Method Blank	Total/NA	Solid	8015B NM	6516
LCS 880-6516/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	6516
LCSD 880-6516/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	6516

Prep Batch: 6516

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5040-3	TP4-14	Total/NA	Solid	8015NM Prep	
880-5040-4	TP5-S	Total/NA	Solid	8015NM Prep	
880-5040-5	TP5-4	Total/NA	Solid	8015NM Prep	
880-5040-6	TP5-6	Total/NA	Solid	8015NM Prep	
MB 880-6516/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-6516/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-6516/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Prep Batch: 6517

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5040-1	TP4-4	Total/NA	Solid	8015NM Prep	
880-5040-2	TP4-8	Total/NA	Solid	8015NM Prep	
MB 880-6517/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-6517/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-6517/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-5040-1 MS	TP4-4	Total/NA	Solid	8015NM Prep	
880-5040-1 MSD	TP4-4	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 6432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5040-1	TP4-4	Soluble	Solid	DI Leach	
880-5040-2	TP4-8	Soluble	Solid	DI Leach	
880-5040-3	TP4-14	Soluble	Solid	DI Leach	
880-5040-4	TP5-S	Soluble	Solid	DI Leach	
880-5040-5	TP5-4	Soluble	Solid	DI Leach	
880-5040-6	TP5-6	Soluble	Solid	DI Leach	
MB 880-6432/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-6432/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-6432/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-5040-2 MS	TP4-8	Soluble	Solid	DI Leach	
880-5040-2 MSD	TP4-8	Soluble	Solid	DI Leach	

Analysis Batch: 6666

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5040-1	TP4-4	Soluble	Solid	300.0	6432
880-5040-2	TP4-8	Soluble	Solid	300.0	6432
880-5040-3	TP4-14	Soluble	Solid	300.0	6432
880-5040-4	TP5-S	Soluble	Solid	300.0	6432
880-5040-5	TP5-4	Soluble	Solid	300.0	6432
880-5040-6	TP5-6	Soluble	Solid	300.0	6432

Eurofins Xenco, Midland

QC Association Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5040-1
SDG: 11220756

HPLC/IC (Continued)

Analysis Batch: 6666 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-6432/1-A	Method Blank	Soluble	Solid	300.0	6432
LCS 880-6432/2-A	Lab Control Sample	Soluble	Solid	300.0	6432
LCSD 880-6432/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	6432
880-5040-2 MS	TP4-8	Soluble	Solid	300.0	6432
880-5040-2 MSD	TP4-8	Soluble	Solid	300.0	6432

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5040-1
SDG: 11220756

Client Sample ID: TP4-4

Date Collected: 08/10/21 12:30

Date Received: 08/12/21 10:16

Lab Sample ID: 880-5040-1

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	6416	08/12/21 13:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6429	08/13/21 06:59	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	6517	08/13/21 11:23	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6486	08/13/21 18:37	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	6432	08/12/21 11:09	CH	XEN MID
Soluble	Analysis	300.0		1			6666	08/17/21 22:11	CH	XEN MID

Client Sample ID: TP4-8

Date Collected: 08/10/21 11:24

Date Received: 08/12/21 10:16

Lab Sample ID: 880-5040-2

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			4.95 g	5 mL	6596	08/16/21 09:50	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6599	08/16/21 15:46	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	6517	08/13/21 11:23	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6486	08/13/21 19:40	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	6432	08/12/21 11:09	CH	XEN MID
Soluble	Analysis	300.0		1			6666	08/17/21 22:16	CH	XEN MID

Client Sample ID: TP4-14

Date Collected: 08/10/21 12:55

Date Received: 08/12/21 10:16

Lab Sample ID: 880-5040-3

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	6596	08/16/21 09:50	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6599	08/16/21 16:06	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	6516	08/13/21 10:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6486	08/13/21 20:01	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	6432	08/12/21 11:09	CH	XEN MID
Soluble	Analysis	300.0		1			6666	08/17/21 22:33	CH	XEN MID

Client Sample ID: TP5-S

Date Collected: 08/10/21 13:25

Date Received: 08/12/21 10:16

Lab Sample ID: 880-5040-4

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			5.00 g	5 mL	6596	08/16/21 09:50	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6599	08/16/21 16:26	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	6516	08/13/21 10:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6488	08/14/21 02:51	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	6432	08/12/21 11:09	CH	XEN MID
Soluble	Analysis	300.0		1			6666	08/17/21 22:39	CH	XEN MID

Eurofins Xenco, Midland

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5040-1
SDG: 11220756

Client Sample ID: TP5-4

Date Collected: 08/10/21 13:35

Date Received: 08/12/21 10:16

Lab Sample ID: 880-5040-5

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			4.96 g	5 mL	6596	08/16/21 09:50	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6599	08/16/21 16:47	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	6516	08/13/21 10:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6488	08/14/21 03:12	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	6432	08/12/21 11:09	CH	XEN MID
Soluble	Analysis	300.0		1			6666	08/17/21 22:55	CH	XEN MID

Client Sample ID: TP5-6

Date Collected: 08/10/21 13:40

Date Received: 08/12/21 10:16

Lab Sample ID: 880-5040-6

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			5.02 g	5 mL	6596	08/16/21 09:50	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6599	08/16/21 18:09	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	6516	08/13/21 10:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6488	08/14/21 03:34	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	6432	08/12/21 11:09	CH	XEN MID
Soluble	Analysis	300.0		1			6666	08/17/21 23:01	CH	XEN MID

Laboratory References:

XEN MID = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5040-1
SDG: 11220756

Laboratory: Eurofins Xenco, Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	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
8015B NM	8015NM Prep	Solid	Total TPH
8021B	5035	Solid	Total BTEX

Method Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5040-1
SDG: 11220756

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (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.

Laboratory References:

XEN MID = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Xenco, Midland

Sample Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5040-1
SDG: 11220756

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-5040-1	TP4-4	Solid	08/10/21 12:30	08/12/21 10:16	4'
880-5040-2	TP4-8	Solid	08/10/21 11:24	08/12/21 10:16	8'
880-5040-3	TP4-14	Solid	08/10/21 12:55	08/12/21 10:16	14'
880-5040-4	TP5-S	Solid	08/10/21 13:25	08/12/21 10:16	
880-5040-5	TP5-4	Solid	08/10/21 13:35	08/12/21 10:16	4'
880-5040-6	TP5-6	Solid	08/10/21 13:40	08/12/21 10:16	6'

- 1
- 2
- 3
- 4
- 5
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- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



Chain of Custody

Houston TX (281) 240-4200 Dallas TX (214) 91
Midland TX (432) 704-5440 San Antonio TX (210)
El Paso, TX (915) 585-3443 Lubbock TX (806) 794-1296
Hobbs, NM (575) 392-7550 Carlsbad NM (575) 988-3199



880-5040 Chain of Custody

5040

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Page 1 of 1

Project Manager	Becky Haskell, Tom Larson	Bill to (if different)	James Kennedy w/ EOD
Company Name	GH D	Company Name	
Address	2135 S. Loop 250 W.	Address	
City, State ZIP	Midland, TX 79703	City, State ZIP	
Phone	(432) 250-7917	Email	Becky.Haskell@ghd.com, Tom.Larson@ghd.com

Project Name	Unocal ATM Federal #1	Turn Around	☒ Routine ☐ Rush
Project Number	11270756	Due Date	
Project Location	Lea County		
Sampler's Name	Heath Boyd		
PO #			
SAMPLE RECEIPT			
Samples Received Intact:	Temp Blank	Yes ☒ No ☐	Wet Ice
Cooler Custody Seals:	Yes ☒ No ☐	Thermometer ID:	188
Sample Custody Seals	Yes ☒ No ☐	Correction Factor	0.5
Total Containers	Yes ☒ No ☐	Temperature Reading	1.1
		Corrected Temperature	1.6

Sample Identification				Parameters				ANALYSIS REQUEST																Preservative Codes			
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont																					
TP4-4	5	8/10/21	1230	4'	Sal	1																					
TP4-8																											
TP4-14																											
TP5-5																											
TP5-4																											
TP5-6																											

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 SiO₂ Na Sr Ti 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 Ti 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

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 880-5040-1

SDG Number: 11220756

Login Number: 5040**List Number: 1****Creator: Teel, Brianna****List Source: Eurofins Xenco, 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	



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 880-5041-1
Laboratory Sample Delivery Group: 11220756
Client Project/Site: Unocal AHM Federal #1

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

Attn: Becky Haskell

A handwritten signature in black ink that reads "Debbie Simmons".

Authorized for release by:
8/19/2021 4:15:47 PM

Debbie Simmons, Project Manager
(281)240-4200
debbie.simmons@eurofinset.com

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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: Unocal AHM Federal #1

Laboratory Job ID: 880-5041-1
SDG: 11220756

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Definitions/Glossary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5041-1
SDG: 11220756

Qualifiers

GC VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*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
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.
α	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

Eurofins Xenco, Midland

Case Narrative

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5041-1
SDG: 11220756

Job ID: 880-5041-1

Laboratory: Eurofins Xenco, Midland

Narrative

Job Narrative 880-5041-1

Comments

No additional comments.

Receipt

The samples were received on 8/12/2021 10:14 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 1.6° C.

GC VOA

Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-6476 and analytical batch 880-6599 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 8021B: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-6476 and analytical batch 880-6599 recovered outside control limits for the following analytes: Benzene

Method 8021B: Surrogate recovery for the following samples were outside control limits: TP3-4 (880-5041-8) and TP3-6 (880-5041-9). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following samples were outside control limits: TP1-10 (880-5041-2) and TP1-20 (880-5041-3). 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

No analytical or quality issues were noted, other than those described 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: Unocal AHM Federal #1

Job ID: 880-5041-1
SDG: 11220756

Client Sample ID: TP1-4

Lab Sample ID: 880-5041-1

Date Collected: 08/10/21 09:00

Matrix: Solid

Date Received: 08/12/21 10:19

Sample Depth: 4'

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		08/16/21 16:39	08/17/21 00:35	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		08/16/21 16:39	08/17/21 00:35	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		08/16/21 16:39	08/17/21 00:35	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		08/16/21 16:39	08/17/21 00:35	1
o-Xylene	0.000461	J	0.00200	0.000343	mg/Kg		08/16/21 16:39	08/17/21 00:35	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		08/16/21 16:39	08/17/21 00:35	1
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg		08/16/21 16:39	08/17/21 00:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	130		70 - 130	08/16/21 16:39	08/17/21 00:35	1
1,4-Difluorobenzene (Surr)	101		70 - 130	08/16/21 16:39	08/17/21 00:35	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		08/13/21 11:23	08/13/21 20:23	1
Diesel Range Organics (Over C10-C28)	<14.9	U	49.8	14.9	mg/Kg		08/13/21 11:23	08/13/21 20:23	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		08/13/21 11:23	08/13/21 20:23	1
Total TPH	<14.9	U	49.8	14.9	mg/Kg		08/13/21 11:23	08/13/21 20:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	85		70 - 130	08/13/21 11:23	08/13/21 20:23	1
o-Terphenyl	93		70 - 130	08/13/21 11:23	08/13/21 20:23	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	431		4.95	0.850	mg/Kg			08/17/21 23:07	1

Client Sample ID: TP1-10

Lab Sample ID: 880-5041-2

Date Collected: 08/10/21 09:10

Matrix: Solid

Date Received: 08/12/21 10:19

Sample Depth: 10'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U *- *1	0.00200	0.000385	mg/Kg		08/16/21 16:39	08/17/21 00:56	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		08/16/21 16:39	08/17/21 00:56	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		08/16/21 16:39	08/17/21 00:56	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/16/21 16:39	08/17/21 00:56	1
o-Xylene	0.000354	J	0.00200	0.000344	mg/Kg		08/16/21 16:39	08/17/21 00:56	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/16/21 16:39	08/17/21 00:56	1
Total BTEX	<0.00101	U	0.00400	0.00101	mg/Kg		08/16/21 16:39	08/17/21 00:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	131	S1+	70 - 130	08/16/21 16:39	08/17/21 00:56	1
1,4-Difluorobenzene (Surr)	97		70 - 130	08/16/21 16:39	08/17/21 00:56	1

Eurofins Xenco, Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5041-1
SDG: 11220756

Client Sample ID: TP1-10

Lab Sample ID: 880-5041-2

Date Collected: 08/10/21 09:10

Matrix: Solid

Date Received: 08/12/21 10:19

Sample Depth: 10'

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		08/13/21 11:23	08/13/21 20:44	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		08/13/21 11:23	08/13/21 20:44	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		08/13/21 11:23	08/13/21 20:44	1
Total TPH	<15.0	U	49.9	15.0	mg/Kg		08/13/21 11:23	08/13/21 20:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130	08/13/21 11:23	08/13/21 20:44	1
o-Terphenyl	113		70 - 130	08/13/21 11:23	08/13/21 20:44	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2060		25.3	4.33	mg/Kg			08/17/21 23:12	5

Client Sample ID: TP1-20

Lab Sample ID: 880-5041-3

Date Collected: 08/10/21 09:35

Matrix: Solid

Date Received: 08/12/21 10:19

Sample Depth: 20'

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		08/16/21 16:39	08/17/21 01:16	1
Toluene	<0.000454	U	0.00199	0.000454	mg/Kg		08/16/21 16:39	08/17/21 01:16	1
Ethylbenzene	<0.000563	U	0.00199	0.000563	mg/Kg		08/16/21 16:39	08/17/21 01:16	1
m-Xylene & p-Xylene	<0.00101	U	0.00398	0.00101	mg/Kg		08/16/21 16:39	08/17/21 01:16	1
o-Xylene	<0.000343	U	0.00199	0.000343	mg/Kg		08/16/21 16:39	08/17/21 01:16	1
Xylenes, Total	<0.00101	U	0.00398	0.00101	mg/Kg		08/16/21 16:39	08/17/21 01:16	1
Total BTEX	<0.00101	U	0.00398	0.00101	mg/Kg		08/16/21 16:39	08/17/21 01:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	132	S1+	70 - 130	08/16/21 16:39	08/17/21 01:16	1
1,4-Difluorobenzene (Surr)	98		70 - 130	08/16/21 16:39	08/17/21 01:16	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		08/13/21 11:23	08/13/21 21:06	1
Diesel Range Organics (Over C10-C28)	<14.9	U	49.8	14.9	mg/Kg		08/13/21 11:23	08/13/21 21:06	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		08/13/21 11:23	08/13/21 21:06	1
Total TPH	<14.9	U	49.8	14.9	mg/Kg		08/13/21 11:23	08/13/21 21:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	91		70 - 130	08/13/21 11:23	08/13/21 21:06	1
o-Terphenyl	92		70 - 130	08/13/21 11:23	08/13/21 21:06	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	569		4.97	0.853	mg/Kg			08/17/21 23:18	1

Eurofins Xenco, Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5041-1
SDG: 11220756

Client Sample ID: TP2-S

Lab Sample ID: 880-5041-4

Date Collected: 08/10/21 10:05

Matrix: Solid

Date Received: 08/12/21 10:19

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		08/16/21 16:39	08/17/21 01:37	1
Toluene	0.000477	J	0.00199	0.000453	mg/Kg		08/16/21 16:39	08/17/21 01:37	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		08/16/21 16:39	08/17/21 01:37	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		08/16/21 16:39	08/17/21 01:37	1
o-Xylene	0.000904	J	0.00199	0.000342	mg/Kg		08/16/21 16:39	08/17/21 01:37	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		08/16/21 16:39	08/17/21 01:37	1
Total BTEX	0.00138	J	0.00398	0.00100	mg/Kg		08/16/21 16:39	08/17/21 01:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	08/16/21 16:39	08/17/21 01:37	1
1,4-Difluorobenzene (Surr)	83		70 - 130	08/16/21 16:39	08/17/21 01:37	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		08/13/21 11:23	08/13/21 21:27	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		08/13/21 11:23	08/13/21 21:27	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		08/13/21 11:23	08/13/21 21:27	1
Total TPH	<15.0	U	49.9	15.0	mg/Kg		08/13/21 11:23	08/13/21 21:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	86		70 - 130	08/13/21 11:23	08/13/21 21:27	1
o-Terphenyl	92		70 - 130	08/13/21 11:23	08/13/21 21:27	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	17.4		4.95	0.850	mg/Kg			08/17/21 23:23	1

Client Sample ID: TP2-4

Lab Sample ID: 880-5041-5

Date Collected: 08/10/21 10:10

Matrix: Solid

Date Received: 08/12/21 10:19

Sample Depth: 4'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000382	U *- *1	0.00198	0.000382	mg/Kg		08/16/21 16:39	08/17/21 01:57	1
Toluene	<0.000452	U	0.00198	0.000452	mg/Kg		08/16/21 16:39	08/17/21 01:57	1
Ethylbenzene	<0.000561	U	0.00198	0.000561	mg/Kg		08/16/21 16:39	08/17/21 01:57	1
m-Xylene & p-Xylene	<0.00100	U	0.00397	0.00100	mg/Kg		08/16/21 16:39	08/17/21 01:57	1
o-Xylene	<0.000341	U	0.00198	0.000341	mg/Kg		08/16/21 16:39	08/17/21 01:57	1
Xylenes, Total	<0.00100	U	0.00397	0.00100	mg/Kg		08/16/21 16:39	08/17/21 01:57	1
Total BTEX	<0.00100	U	0.00397	0.00100	mg/Kg		08/16/21 16:39	08/17/21 01:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	130		70 - 130	08/16/21 16:39	08/17/21 01:57	1
1,4-Difluorobenzene (Surr)	90		70 - 130	08/16/21 16:39	08/17/21 01:57	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		08/13/21 11:23	08/13/21 21:48	1

Eurofins Xenco, Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5041-1
SDG: 11220756

Client Sample ID: TP2-4

Lab Sample ID: 880-5041-5

Date Collected: 08/10/21 10:10

Matrix: Solid

Date Received: 08/12/21 10:19

Sample Depth: 4'

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)	<14.9	U	49.8	14.9	mg/Kg		08/13/21 11:23	08/13/21 21:48	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		08/13/21 11:23	08/13/21 21:48	1
Total TPH	<14.9	U	49.8	14.9	mg/Kg		08/13/21 11:23	08/13/21 21:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130	08/13/21 11:23	08/13/21 21:48	1
o-Terphenyl	107		70 - 130	08/13/21 11:23	08/13/21 21:48	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	22.2		5.00	0.858	mg/Kg			08/17/21 23:29	1

Client Sample ID: TP2-6

Lab Sample ID: 880-5041-6

Date Collected: 08/10/21 10:15

Matrix: Solid

Date Received: 08/12/21 10:19

Sample Depth: 6'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000382	U *- *1	0.00198	0.000382	mg/Kg		08/16/21 16:39	08/17/21 02:17	1
Toluene	<0.000452	U	0.00198	0.000452	mg/Kg		08/16/21 16:39	08/17/21 02:17	1
Ethylbenzene	<0.000561	U	0.00198	0.000561	mg/Kg		08/16/21 16:39	08/17/21 02:17	1
m-Xylene & p-Xylene	<0.00100	U	0.00397	0.00100	mg/Kg		08/16/21 16:39	08/17/21 02:17	1
o-Xylene	<0.000341	U	0.00198	0.000341	mg/Kg		08/16/21 16:39	08/17/21 02:17	1
Xylenes, Total	<0.00100	U	0.00397	0.00100	mg/Kg		08/16/21 16:39	08/17/21 02:17	1
Total BTEX	<0.00100	U	0.00397	0.00100	mg/Kg		08/16/21 16:39	08/17/21 02:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	130		70 - 130	08/16/21 16:39	08/17/21 02:17	1
1,4-Difluorobenzene (Surr)	96		70 - 130	08/16/21 16:39	08/17/21 02:17	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		08/13/21 11:23	08/13/21 22:08	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		08/13/21 11:23	08/13/21 22:08	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		08/13/21 11:23	08/13/21 22:08	1
Total TPH	<15.0	U	49.9	15.0	mg/Kg		08/13/21 11:23	08/13/21 22:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	89		70 - 130	08/13/21 11:23	08/13/21 22:08	1
o-Terphenyl	96		70 - 130	08/13/21 11:23	08/13/21 22:08	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10.5		4.97	0.853	mg/Kg			08/16/21 10:54	1

Eurofins Xenco, Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5041-1
SDG: 11220756

Client Sample ID: TP3-S

Lab Sample ID: 880-5041-7

Date Collected: 08/10/21 10:50

Matrix: Solid

Date Received: 08/12/21 10:19

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		08/16/21 16:39	08/17/21 02:38	1
Toluene	<0.000457	U	0.00200	0.000457	mg/Kg		08/16/21 16:39	08/17/21 02:38	1
Ethylbenzene	<0.000566	U	0.00200	0.000566	mg/Kg		08/16/21 16:39	08/17/21 02:38	1
m-Xylene & p-Xylene	<0.00101	U	0.00401	0.00101	mg/Kg		08/16/21 16:39	08/17/21 02:38	1
o-Xylene	<0.000345	U	0.00200	0.000345	mg/Kg		08/16/21 16:39	08/17/21 02:38	1
Xylenes, Total	<0.00101	U	0.00401	0.00101	mg/Kg		08/16/21 16:39	08/17/21 02:38	1
Total BTEX	<0.00101	U	0.00401	0.00101	mg/Kg		08/16/21 16:39	08/17/21 02:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130	08/16/21 16:39	08/17/21 02:38	1
1,4-Difluorobenzene (Surr)	90		70 - 130	08/16/21 16:39	08/17/21 02:38	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	<15.0	U	49.9	15.0	mg/Kg		08/13/21 11:23	08/13/21 22:29	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		08/13/21 11:23	08/13/21 22:29	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		08/13/21 11:23	08/13/21 22:29	1
Total TPH	<15.0	U	49.9	15.0	mg/Kg		08/13/21 11:23	08/13/21 22:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130	08/13/21 11:23	08/13/21 22:29	1
o-Terphenyl	119		70 - 130	08/13/21 11:23	08/13/21 22:29	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.30		4.99	0.857	mg/Kg			08/16/21 10:59	1

Client Sample ID: TP3-4

Lab Sample ID: 880-5041-8

Date Collected: 08/10/21 10:55

Matrix: Solid

Date Received: 08/12/21 10:19

Sample Depth: 4'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U *- *1	0.00200	0.000385	mg/Kg		08/16/21 16:39	08/17/21 02:58	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		08/16/21 16:39	08/17/21 02:58	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		08/16/21 16:39	08/17/21 02:58	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/16/21 16:39	08/17/21 02:58	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		08/16/21 16:39	08/17/21 02:58	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/16/21 16:39	08/17/21 02:58	1
Total BTEX	<0.00101	U	0.00400	0.00101	mg/Kg		08/16/21 16:39	08/17/21 02:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	133	S1+	70 - 130	08/16/21 16:39	08/17/21 02:58	1
1,4-Difluorobenzene (Surr)	96		70 - 130	08/16/21 16:39	08/17/21 02:58	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	<14.9	U	49.8	14.9	mg/Kg		08/13/21 11:23	08/13/21 23:10	1

Eurofins Xenco, Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5041-1
SDG: 11220756

Client Sample ID: TP3-4

Lab Sample ID: 880-5041-8

Date Collected: 08/10/21 10:55

Matrix: Solid

Date Received: 08/12/21 10:19

Sample Depth: 4'

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)	15.3	J	49.8	14.9	mg/Kg		08/13/21 11:23	08/13/21 23:10	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		08/13/21 11:23	08/13/21 23:10	1
Total TPH	15.3	J	49.8	14.9	mg/Kg		08/13/21 11:23	08/13/21 23:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130	08/13/21 11:23	08/13/21 23:10	1
o-Terphenyl	111		70 - 130	08/13/21 11:23	08/13/21 23:10	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.61		4.98	0.855	mg/Kg			08/16/21 11:14	1

Client Sample ID: TP3-6

Lab Sample ID: 880-5041-9

Date Collected: 08/10/21 11:00

Matrix: Solid

Date Received: 08/12/21 10:19

Sample Depth: 6'

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		08/16/21 16:39	08/17/21 03:19	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		08/16/21 16:39	08/17/21 03:19	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		08/16/21 16:39	08/17/21 03:19	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		08/16/21 16:39	08/17/21 03:19	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		08/16/21 16:39	08/17/21 03:19	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		08/16/21 16:39	08/17/21 03:19	1
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg		08/16/21 16:39	08/17/21 03:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	132	S1+	70 - 130	08/16/21 16:39	08/17/21 03:19	1
1,4-Difluorobenzene (Surr)	92		70 - 130	08/16/21 16:39	08/17/21 03:19	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		08/13/21 11:23	08/13/21 23:31	1
Diesel Range Organics (Over C10-C28)	15.9	J	50.0	15.0	mg/Kg		08/13/21 11:23	08/13/21 23:31	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/13/21 11:23	08/13/21 23:31	1
Total TPH	15.9	J	50.0	15.0	mg/Kg		08/13/21 11:23	08/13/21 23:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	88		70 - 130	08/13/21 11:23	08/13/21 23:31	1
o-Terphenyl	96		70 - 130	08/13/21 11:23	08/13/21 23:31	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.04		5.00	0.858	mg/Kg			08/16/21 11:19	1

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Surrogate Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5041-1
SDG: 11220756

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)
880-5041-1	TP1-4	130	101
880-5041-1 MS	TP1-4	112	106
880-5041-1 MSD	TP1-4	117	101
880-5041-2	TP1-10	131 S1+	97
880-5041-3	TP1-20	132 S1+	98
880-5041-4	TP2-S	112	83
880-5041-5	TP2-4	130	90
880-5041-6	TP2-6	130	96
880-5041-7	TP3-S	114	90
880-5041-8	TP3-4	133 S1+	96
880-5041-9	TP3-6	132 S1+	92
LCS 880-6476/1-A	Lab Control Sample	107	106
LCSD 880-6476/2-A	Lab Control Sample Dup	111	107
MB 880-6476/5-A	Method Blank	122	98
MB 880-6596/5-A	Method Blank	101	96
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)
880-5041-1	TP1-4	85	93
880-5041-2	TP1-10	101	113
880-5041-3	TP1-20	91	92
880-5041-4	TP2-S	86	92
880-5041-5	TP2-4	93	107
880-5041-6	TP2-6	89	96
880-5041-7	TP3-S	105	119
880-5041-8	TP3-4	97	111
880-5041-9	TP3-6	88	96
LCS 880-6517/2-A	Lab Control Sample	94	103
LCSD 880-6517/3-A	Lab Control Sample Dup	93	102
MB 880-6517/1-A	Method Blank	105	124
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

Eurofins Xenco, Midland

QC Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5041-1
SDG: 11220756

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-6476/5-A

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6476

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		08/16/21 16:39	08/17/21 00:14	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		08/16/21 16:39	08/17/21 00:14	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		08/16/21 16:39	08/17/21 00:14	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/16/21 16:39	08/17/21 00:14	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		08/16/21 16:39	08/17/21 00:14	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/16/21 16:39	08/17/21 00:14	1
Total BTEX	<0.00101	U	0.00400	0.00101	mg/Kg		08/16/21 16:39	08/17/21 00:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	122		70 - 130	08/16/21 16:39	08/17/21 00:14	1
1,4-Difluorobenzene (Surr)	98		70 - 130	08/16/21 16:39	08/17/21 00:14	1

Lab Sample ID: LCS 880-6476/1-A

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6476

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.03564	*-	mg/Kg		36	70 - 130
Toluene	0.100	0.08815		mg/Kg		88	70 - 130
Ethylbenzene	0.100	0.08786		mg/Kg		88	70 - 130
m-Xylene & p-Xylene	0.200	0.1764		mg/Kg		88	70 - 130
o-Xylene	0.100	0.09019		mg/Kg		90	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Lab Sample ID: LCSD 880-6476/2-A

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6476

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.09517	*1	mg/Kg		95	70 - 130	91	35
Toluene	0.100	0.08807		mg/Kg		88	70 - 130	0	35
Ethylbenzene	0.100	0.08866		mg/Kg		89	70 - 130	1	35
m-Xylene & p-Xylene	0.200	0.1802		mg/Kg		90	70 - 130	2	35
o-Xylene	0.100	0.09195		mg/Kg		92	70 - 130	2	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	111		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: 880-5041-1 MS

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: TP1-4

Prep Type: Total/NA

Prep Batch: 6476

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.000384	U *- *1	0.101	0.08062		mg/Kg		80	70 - 130

Eurofins Xenco, Midland

QC Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5041-1
SDG: 11220756

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

Lab Sample ID: 880-5041-1 MS

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: TP1-4

Prep Type: Total/NA

Prep Batch: 6476

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	<0.000455	U	0.101	0.07730		mg/Kg		77	70 - 130
Ethylbenzene	<0.000564	U	0.101	0.07614		mg/Kg		75	70 - 130
m-Xylene & p-Xylene	<0.00101	U	0.202	0.1550		mg/Kg		77	70 - 130
o-Xylene	0.000461	J	0.101	0.07815		mg/Kg		77	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	112		70 - 130						
1,4-Difluorobenzene (Surr)	106		70 - 130						

Lab Sample ID: 880-5041-1 MSD

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: TP1-4

Prep Type: Total/NA

Prep Batch: 6476

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.000384	U *- *1	0.0996	0.07899		mg/Kg		79	70 - 130	2	35
Toluene	<0.000455	U	0.0996	0.07743		mg/Kg		78	70 - 130	0	35
Ethylbenzene	<0.000564	U	0.0996	0.07670		mg/Kg		77	70 - 130	1	35
m-Xylene & p-Xylene	<0.00101	U	0.199	0.1583		mg/Kg		79	70 - 130	2	35
o-Xylene	0.000461	J	0.0996	0.08007		mg/Kg		80	70 - 130	2	35
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	117		70 - 130								
1,4-Difluorobenzene (Surr)	101		70 - 130								

Lab Sample ID: MB 880-6596/5-A

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6596

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
Total BTEX	<0.00101	U	0.00400	0.00101	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130				08/16/21 09:50	08/16/21 13:22	1
1,4-Difluorobenzene (Surr)	96		70 - 130				08/16/21 09:50	08/16/21 13:22	1

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QC Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5041-1
SDG: 11220756

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

Lab Sample ID: MB 880-6517/1-A

Matrix: Solid

Analysis Batch: 6486

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6517

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		08/13/21 11:23	08/13/21 17:34	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/13/21 11:23	08/13/21 17:34	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/13/21 11:23	08/13/21 17:34	1
Total TPH	<15.0	U	50.0	15.0	mg/Kg		08/13/21 11:23	08/13/21 17:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130	08/13/21 11:23	08/13/21 17:34	1
o-Terphenyl	124		70 - 130	08/13/21 11:23	08/13/21 17:34	1

Lab Sample ID: LCS 880-6517/2-A

Matrix: Solid

Analysis Batch: 6486

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6517

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	838.8		mg/Kg		84	70 - 130
Diesel Range Organics (Over C10-C28)	1000	808.8		mg/Kg		81	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	94		70 - 130
o-Terphenyl	103		70 - 130

Lab Sample ID: LCSD 880-6517/3-A

Matrix: Solid

Analysis Batch: 6486

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6517

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	830.0		mg/Kg		83	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	1000	802.3		mg/Kg		80	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	93		70 - 130
o-Terphenyl	102		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-6469/1-A

Matrix: Solid

Analysis Batch: 6564

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			08/16/21 10:14	1

Eurofins Xenco, Midland

QC Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5041-1
SDG: 11220756

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-6469/2-A

Matrix: Solid

Analysis Batch: 6564

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	274.5		mg/Kg		110	90 - 110

Lab Sample ID: LCSD 880-6469/3-A

Matrix: Solid

Analysis Batch: 6564

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	269.7		mg/Kg		108	90 - 110	2	20

Lab Sample ID: MB 880-6432/1-A

Matrix: Solid

Analysis Batch: 6666

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			08/17/21 20:41	1

Lab Sample ID: LCS 880-6432/2-A

Matrix: Solid

Analysis Batch: 6666

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	257.8		mg/Kg		103	90 - 110

Lab Sample ID: LCSD 880-6432/3-A

Matrix: Solid

Analysis Batch: 6666

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	257.8		mg/Kg		103	90 - 110	0	20

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QC Association Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5041-1
SDG: 11220756

GC VOA

Prep Batch: 6476

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5041-1	TP1-4	Total/NA	Solid	5035	
880-5041-2	TP1-10	Total/NA	Solid	5035	
880-5041-3	TP1-20	Total/NA	Solid	5035	
880-5041-4	TP2-S	Total/NA	Solid	5035	
880-5041-5	TP2-4	Total/NA	Solid	5035	
880-5041-6	TP2-6	Total/NA	Solid	5035	
880-5041-7	TP3-S	Total/NA	Solid	5035	
880-5041-8	TP3-4	Total/NA	Solid	5035	
880-5041-9	TP3-6	Total/NA	Solid	5035	
MB 880-6476/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-6476/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-6476/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-5041-1 MS	TP1-4	Total/NA	Solid	5035	
880-5041-1 MSD	TP1-4	Total/NA	Solid	5035	

Prep Batch: 6596

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-6596/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 6599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5041-1	TP1-4	Total/NA	Solid	8021B	6476
880-5041-2	TP1-10	Total/NA	Solid	8021B	6476
880-5041-3	TP1-20	Total/NA	Solid	8021B	6476
880-5041-4	TP2-S	Total/NA	Solid	8021B	6476
880-5041-5	TP2-4	Total/NA	Solid	8021B	6476
880-5041-6	TP2-6	Total/NA	Solid	8021B	6476
880-5041-7	TP3-S	Total/NA	Solid	8021B	6476
880-5041-8	TP3-4	Total/NA	Solid	8021B	6476
880-5041-9	TP3-6	Total/NA	Solid	8021B	6476
MB 880-6476/5-A	Method Blank	Total/NA	Solid	8021B	6476
MB 880-6596/5-A	Method Blank	Total/NA	Solid	8021B	6596
LCS 880-6476/1-A	Lab Control Sample	Total/NA	Solid	8021B	6476
LCSD 880-6476/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	6476
880-5041-1 MS	TP1-4	Total/NA	Solid	8021B	6476
880-5041-1 MSD	TP1-4	Total/NA	Solid	8021B	6476

GC Semi VOA

Analysis Batch: 6486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5041-1	TP1-4	Total/NA	Solid	8015B NM	6517
880-5041-2	TP1-10	Total/NA	Solid	8015B NM	6517
880-5041-3	TP1-20	Total/NA	Solid	8015B NM	6517
880-5041-4	TP2-S	Total/NA	Solid	8015B NM	6517
880-5041-5	TP2-4	Total/NA	Solid	8015B NM	6517
880-5041-6	TP2-6	Total/NA	Solid	8015B NM	6517
880-5041-7	TP3-S	Total/NA	Solid	8015B NM	6517
880-5041-8	TP3-4	Total/NA	Solid	8015B NM	6517
880-5041-9	TP3-6	Total/NA	Solid	8015B NM	6517
MB 880-6517/1-A	Method Blank	Total/NA	Solid	8015B NM	6517

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QC Association Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5041-1
SDG: 11220756

GC Semi VOA (Continued)

Analysis Batch: 6486 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-6517/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	6517
LCSD 880-6517/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	6517

Prep Batch: 6517

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5041-1	TP1-4	Total/NA	Solid	8015NM Prep	
880-5041-2	TP1-10	Total/NA	Solid	8015NM Prep	
880-5041-3	TP1-20	Total/NA	Solid	8015NM Prep	
880-5041-4	TP2-S	Total/NA	Solid	8015NM Prep	
880-5041-5	TP2-4	Total/NA	Solid	8015NM Prep	
880-5041-6	TP2-6	Total/NA	Solid	8015NM Prep	
880-5041-7	TP3-S	Total/NA	Solid	8015NM Prep	
880-5041-8	TP3-4	Total/NA	Solid	8015NM Prep	
880-5041-9	TP3-6	Total/NA	Solid	8015NM Prep	
MB 880-6517/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-6517/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-6517/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 6432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5041-1	TP1-4	Soluble	Solid	DI Leach	
880-5041-2	TP1-10	Soluble	Solid	DI Leach	
880-5041-3	TP1-20	Soluble	Solid	DI Leach	
880-5041-4	TP2-S	Soluble	Solid	DI Leach	
880-5041-5	TP2-4	Soluble	Solid	DI Leach	
MB 880-6432/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-6432/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-6432/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Leach Batch: 6469

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5041-6	TP2-6	Soluble	Solid	DI Leach	
880-5041-7	TP3-S	Soluble	Solid	DI Leach	
880-5041-8	TP3-4	Soluble	Solid	DI Leach	
880-5041-9	TP3-6	Soluble	Solid	DI Leach	
MB 880-6469/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-6469/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-6469/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 6564

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5041-6	TP2-6	Soluble	Solid	300.0	6469
880-5041-7	TP3-S	Soluble	Solid	300.0	6469
880-5041-8	TP3-4	Soluble	Solid	300.0	6469
880-5041-9	TP3-6	Soluble	Solid	300.0	6469
MB 880-6469/1-A	Method Blank	Soluble	Solid	300.0	6469
LCS 880-6469/2-A	Lab Control Sample	Soluble	Solid	300.0	6469
LCSD 880-6469/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	6469

Eurofins Xenco, Midland

QC Association Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5041-1
SDG: 11220756

HPLC/IC

Analysis Batch: 6666

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5041-1	TP1-4	Soluble	Solid	300.0	6432
880-5041-2	TP1-10	Soluble	Solid	300.0	6432
880-5041-3	TP1-20	Soluble	Solid	300.0	6432
880-5041-4	TP2-S	Soluble	Solid	300.0	6432
880-5041-5	TP2-4	Soluble	Solid	300.0	6432
MB 880-6432/1-A	Method Blank	Soluble	Solid	300.0	6432
LCS 880-6432/2-A	Lab Control Sample	Soluble	Solid	300.0	6432
LCSD 880-6432/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	6432

Eurofins Xenco, Midland

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5041-1
SDG: 11220756

Client Sample ID: TP1-4

Lab Sample ID: 880-5041-1

Date Collected: 08/10/21 09:00

Matrix: Solid

Date Received: 08/12/21 10:19

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	6476	08/16/21 16:39	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6599	08/17/21 00:35	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	6517	08/13/21 11:23	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6486	08/13/21 20:23	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	6432	08/12/21 11:09	CH	XEN MID
Soluble	Analysis	300.0		1			6666	08/17/21 23:07	CH	XEN MID

Client Sample ID: TP1-10

Lab Sample ID: 880-5041-2

Date Collected: 08/10/21 09:10

Matrix: Solid

Date Received: 08/12/21 10:19

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	6476	08/16/21 16:39	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6599	08/17/21 00:56	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	6517	08/13/21 11:23	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6486	08/13/21 20:44	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	6432	08/12/21 11:09	CH	XEN MID
Soluble	Analysis	300.0		5			6666	08/17/21 23:12	CH	XEN MID

Client Sample ID: TP1-20

Lab Sample ID: 880-5041-3

Date Collected: 08/10/21 09:35

Matrix: Solid

Date Received: 08/12/21 10:19

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	6476	08/16/21 16:39	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6599	08/17/21 01:16	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	6517	08/13/21 11:23	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6486	08/13/21 21:06	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	6432	08/12/21 11:09	CH	XEN MID
Soluble	Analysis	300.0		1			6666	08/17/21 23:18	CH	XEN MID

Client Sample ID: TP2-S

Lab Sample ID: 880-5041-4

Date Collected: 08/10/21 10:05

Matrix: Solid

Date Received: 08/12/21 10:19

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	6476	08/16/21 16:39	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6599	08/17/21 01:37	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	6517	08/13/21 11:23	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6486	08/13/21 21:27	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	6432	08/12/21 11:09	CH	XEN MID
Soluble	Analysis	300.0		1			6666	08/17/21 23:23	CH	XEN MID

Eurofins Xenco, Midland

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5041-1
SDG: 11220756

Client Sample ID: TP2-4

Lab Sample ID: 880-5041-5

Date Collected: 08/10/21 10:10

Matrix: Solid

Date Received: 08/12/21 10:19

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	6476	08/16/21 16:39	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6599	08/17/21 01:57	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	6517	08/13/21 11:23	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6486	08/13/21 21:48	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	6432	08/12/21 11:09	CH	XEN MID
Soluble	Analysis	300.0		1			6666	08/17/21 23:29	CH	XEN MID

Client Sample ID: TP2-6

Lab Sample ID: 880-5041-6

Date Collected: 08/10/21 10:15

Matrix: Solid

Date Received: 08/12/21 10:19

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	6476	08/16/21 16:39	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6599	08/17/21 02:17	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	6517	08/13/21 11:23	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6486	08/13/21 22:08	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	6469	08/12/21 15:51	SC	XEN MID
Soluble	Analysis	300.0		1			6564	08/16/21 10:54	CH	XEN MID

Client Sample ID: TP3-S

Lab Sample ID: 880-5041-7

Date Collected: 08/10/21 10:50

Matrix: Solid

Date Received: 08/12/21 10:19

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	6476	08/16/21 16:39	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6599	08/17/21 02:38	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	6517	08/13/21 11:23	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6486	08/13/21 22:29	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	6469	08/12/21 15:51	SC	XEN MID
Soluble	Analysis	300.0		1			6564	08/16/21 10:59	CH	XEN MID

Client Sample ID: TP3-4

Lab Sample ID: 880-5041-8

Date Collected: 08/10/21 10:55

Matrix: Solid

Date Received: 08/12/21 10:19

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	6476	08/16/21 16:39	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6599	08/17/21 02:58	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	6517	08/13/21 11:23	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6486	08/13/21 23:10	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	6469	08/12/21 15:51	SC	XEN MID
Soluble	Analysis	300.0		1			6564	08/16/21 11:14	CH	XEN MID

Eurofins Xenco, Midland

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5041-1
SDG: 11220756

Client Sample ID: TP3-6

Lab Sample ID: 880-5041-9

Date Collected: 08/10/21 11:00

Matrix: Solid

Date Received: 08/12/21 10:19

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	6476	08/16/21 16:39	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6599	08/17/21 03:19	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	6517	08/13/21 11:23	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6486	08/13/21 23:31	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	6469	08/12/21 15:51	SC	XEN MID
Soluble	Analysis	300.0		1			6564	08/16/21 11:19	CH	XEN MID

Laboratory References:

XEN MID = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5041-1
SDG: 11220756

Laboratory: Eurofins Xenco, Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	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
8015B NM	8015NM Prep	Solid	Total TPH
8021B	5035	Solid	Total BTEX

Method Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5041-1
SDG: 11220756

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (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.

Laboratory References:

XEN MID = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Xenco, Midland

Sample Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5041-1
SDG: 11220756

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-5041-1	TP1-4	Solid	08/10/21 09:00	08/12/21 10:19	4'
880-5041-2	TP1-10	Solid	08/10/21 09:10	08/12/21 10:19	10'
880-5041-3	TP1-20	Solid	08/10/21 09:35	08/12/21 10:19	20'
880-5041-4	TP2-S	Solid	08/10/21 10:05	08/12/21 10:19	
880-5041-5	TP2-4	Solid	08/10/21 10:10	08/12/21 10:19	4'
880-5041-6	TP2-6	Solid	08/10/21 10:15	08/12/21 10:19	6'
880-5041-7	TP3-S	Solid	08/10/21 10:50	08/12/21 10:19	
880-5041-8	TP3-4	Solid	08/10/21 10:55	08/12/21 10:19	4'
880-5041-9	TP3-6	Solid	08/10/21 11:00	08/12/21 10:19	6'



Chain of Custody

Houston TX (281) 240-4200 Dallas, TX (214) 902-1
Midland TX (432) 704-5440 San Antonio TX (210) 501
El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-
Hobbs NM (575) 392-7550 Carlsbad NM (575) 398-3199



5041

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Page 1 of 1

Project Manager	Becky Haselci, Tom Larson	Bill to (if different)	James Kennedy w/ EOG
Company Name	EHCO	Company Name	
Address	2135 S. Loop 250 W.	Address	
City, State ZIP	Midland, TX 79703	City, State ZIP	
Phone	(432) 250-7917	Email	Becky.Haselci@ehco.com, Tom.Larson@ehco.com

Work Order Comments	
Program: UST/PST ☐ PRF ☐ Brownfield ☐ RRC ☐ Superfund ☐	
State of Project:	
Reporting Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐	
Deliverables: EDD ☐ ADAPT ☐ Other:	

Project Name	Unocal 44M Field #1	Turn Around	☒ Routine ☐ Rush	Pres. Code		ANALYSIS REQUEST																Preservative Codes		
Project Number	1172 0756	Due Date																				None NO	DI Water H ₂ O	
Project Location	Lee County																					Cool Cool	MeOH Me	
Sampler's Name	Heath Boyd	TAT starts the day received by the lab if received by 4:30pm																				HCL HC	HNO ₃ HN	
PO #																						H ₂ SO ₄ H ₂	NaOH Na	
SAMPLE RECEIPT		Temp Blank: Yes ☒ No ☐	Wet Ice: Yes ☒ No ☐	Thermometer ID: 188	COG																	H ₃ PO ₄ HP		
Samples Received Intact:	Yes ☒ No ☐	Correction Factor: N/A																				NaHSO ₄ NABIS		
Cooler Custody Seals:	Yes ☒ No ☐	Temperature Reading: 1.1																				Na ₂ S ₂ O ₃ NaSO ₃		
Sample Custody Seals:	Yes ☒ No ☐	Corrected Temperature: 1.6																				Zn Acetate+NaOH Zn		
Total Containers																						NaOH+Ascorbic Acid SAPC		
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters																Sample Comments	
TP1-4	S	8/10/21	900	4'	Anal	1	BTEX 80213																	
TP1-10			910	10'		1	TPH 8015 M.																	
TP1-20			935	20'		1	Chloride Method 300																	
TP2-5			1005	Surface		1																		
TP2-4			1010	4'		1																		
TP2-6			1015	6'		1																		
TP3-5			1050	Surface		1																		
TP3-4			1055	4'		1																		
TP3-6			1100	6'		1																		

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 SiO₂ Na Sr Ti 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 Ti 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
	Ega Caville	8/11/21 1330	Ega Caville	James Kennedy	8/12/21
					10/17

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 880-5041-1

SDG Number: 11220756

Login Number: 5041**List Number: 1****Creator: Teel, Brianna****List Source: Eurofins Xenco, 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	



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 880-5164-1

Laboratory Sample Delivery Group: 11220756

Client Project/Site: Unocal AHM Federal #1

For:

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

Attn: Becky Haskell

A handwritten signature in black ink, reading "Debbie Simmons".

Authorized for release by:
8/24/2021 1:37:39 PM

Debbie Simmons, Project Manager
(281)240-4200
debbie.simmons@eurofinset.com

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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: Unocal AHM Federal #1

Laboratory Job ID: 880-5164-1
SDG: 11220756

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Definitions/Glossary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5164-1
SDG: 11220756

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, 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, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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

Eurofins Xenco, Midland

Case Narrative

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5164-1
SDG: 11220756

Job ID: 880-5164-1**Laboratory: Eurofins Xenco, Midland****Narrative****Job Narrative
880-5164-1****Receipt**

The samples were received on 8/17/2021 11:43 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 2.0°C

GC VOA

Method 8021B: Surrogate recovery for the following sample was outside control limits: (MB 880-6651/5-A). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (MB 880-6670/5-A). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following sample was outside control limits: TP6-S (880-5164-1). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following sample was outside control limits: TP8-S (880-5164-7). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: TP7-6 (880-5164-6). 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 8015MOD_NM: The method blank for preparation batch 880-6769 and analytical batch 880-6808 contained 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

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-6746 and analytical batch 880-6860 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.

Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5164-1
SDG: 11220756

Client Sample ID: TP6-S

Lab Sample ID: 880-5164-1

Date Collected: 08/16/21 10:45

Matrix: Solid

Date Received: 08/17/21 11:43

Sample Depth: Surface

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00169	J	0.00199	0.000383	mg/Kg		08/17/21 11:52	08/18/21 11:58	1
Toluene	0.0228		0.00199	0.000454	mg/Kg		08/17/21 11:52	08/18/21 11:58	1
Ethylbenzene	0.0171		0.00199	0.000563	mg/Kg		08/17/21 11:52	08/18/21 11:58	1
m-Xylene & p-Xylene	0.00571		0.00398	0.00101	mg/Kg		08/17/21 11:52	08/18/21 11:58	1
o-Xylene	0.00948		0.00199	0.000343	mg/Kg		08/17/21 11:52	08/18/21 11:58	1
Xylenes, Total	0.0152		0.00398	0.00101	mg/Kg		08/17/21 11:52	08/18/21 11:58	1
Total BTEX	0.0568		0.00398	0.00101	mg/Kg		08/17/21 11:52	08/18/21 11:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	154	S1+	70 - 130	08/17/21 11:52	08/18/21 11:58	1
1,4-Difluorobenzene (Surr)	38	S1-	70 - 130	08/17/21 11:52	08/18/21 11:58	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	<15.0	U	50.0	15.0	mg/Kg		08/19/21 13:30	08/20/21 08:20	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/19/21 13:30	08/20/21 08:20	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/19/21 13:30	08/20/21 08:20	1
Total TPH	<15.0	U	50.0	15.0	mg/Kg		08/19/21 13:30	08/20/21 08:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	80		70 - 130	08/19/21 13:30	08/20/21 08:20	1
o-Terphenyl	93		70 - 130	08/19/21 13:30	08/20/21 08:20	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.96	J F1	4.95	0.850	mg/Kg			08/20/21 19:47	1

Client Sample ID: TP6-4

Lab Sample ID: 880-5164-2

Date Collected: 08/16/21 10:50

Matrix: Solid

Date Received: 08/17/21 11:43

Sample Depth: 4'

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		08/17/21 11:52	08/18/21 12:24	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		08/17/21 11:52	08/18/21 12:24	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		08/17/21 11:52	08/18/21 12:24	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		08/17/21 11:52	08/18/21 12:24	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		08/17/21 11:52	08/18/21 12:24	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		08/17/21 11:52	08/18/21 12:24	1
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg		08/17/21 11:52	08/18/21 12:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		70 - 130	08/17/21 11:52	08/18/21 12:24	1
1,4-Difluorobenzene (Surr)	111		70 - 130	08/17/21 11:52	08/18/21 12:24	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5164-1
SDG: 11220756

Client Sample ID: TP6-4

Lab Sample ID: 880-5164-2

Date Collected: 08/16/21 10:50

Matrix: Solid

Date Received: 08/17/21 11:43

Sample Depth: 4'

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	40.2	J	49.8	14.9	mg/Kg		08/19/21 09:02	08/20/21 07:45	1
Diesel Range Organics (Over C10-C28)	19.2	J B	49.8	14.9	mg/Kg		08/19/21 09:02	08/20/21 07:45	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		08/19/21 09:02	08/20/21 07:45	1
Total TPH	59.4	B	49.8	14.9	mg/Kg		08/19/21 09:02	08/20/21 07:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	108		70 - 130	08/19/21 09:02	08/20/21 07:45	1
o-Terphenyl	117		70 - 130	08/19/21 09:02	08/20/21 07:45	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.13		5.01	0.860	mg/Kg			08/20/21 20:04	1

Client Sample ID: TP6-6

Lab Sample ID: 880-5164-3

Date Collected: 08/16/21 10:55

Matrix: Solid

Date Received: 08/17/21 11:43

Sample Depth: 6'

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		08/17/21 11:52	08/18/21 12:51	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		08/17/21 11:52	08/18/21 12:51	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		08/17/21 11:52	08/18/21 12:51	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		08/17/21 11:52	08/18/21 12:51	1
o-Xylene	<0.000342	U	0.00199	0.000342	mg/Kg		08/17/21 11:52	08/18/21 12:51	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		08/17/21 11:52	08/18/21 12:51	1
Total BTEX	<0.00100	U	0.00398	0.00100	mg/Kg		08/17/21 11:52	08/18/21 12:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130	08/17/21 11:52	08/18/21 12:51	1
1,4-Difluorobenzene (Surr)	108		70 - 130	08/17/21 11:52	08/18/21 12:51	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	35.0	J	50.0	15.0	mg/Kg		08/19/21 09:02	08/20/21 08:06	1
Diesel Range Organics (Over C10-C28)	19.0	J B	50.0	15.0	mg/Kg		08/19/21 09:02	08/20/21 08:06	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/19/21 09:02	08/20/21 08:06	1
Total TPH	54.0	B	50.0	15.0	mg/Kg		08/19/21 09:02	08/20/21 08:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130	08/19/21 09:02	08/20/21 08:06	1
o-Terphenyl	110		70 - 130	08/19/21 09:02	08/20/21 08:06	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.90		5.00	0.858	mg/Kg			08/20/21 20:10	1

Eurofins Xenco, Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5164-1
SDG: 11220756

Client Sample ID: TP7-S

Lab Sample ID: 880-5164-4

Date Collected: 08/16/21 11:05

Matrix: Solid

Date Received: 08/17/21 11:43

Sample Depth: Surface

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		08/17/21 11:52	08/18/21 13:17	1
Toluene	<0.000457	U	0.00200	0.000457	mg/Kg		08/17/21 11:52	08/18/21 13:17	1
Ethylbenzene	<0.000566	U	0.00200	0.000566	mg/Kg		08/17/21 11:52	08/18/21 13:17	1
m-Xylene & p-Xylene	<0.00101	U	0.00401	0.00101	mg/Kg		08/17/21 11:52	08/18/21 13:17	1
o-Xylene	<0.000345	U	0.00200	0.000345	mg/Kg		08/17/21 11:52	08/18/21 13:17	1
Xylenes, Total	<0.00101	U	0.00401	0.00101	mg/Kg		08/17/21 11:52	08/18/21 13:17	1
Total BTEX	<0.00101	U	0.00401	0.00101	mg/Kg		08/17/21 11:52	08/18/21 13:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130	08/17/21 11:52	08/18/21 13:17	1
1,4-Difluorobenzene (Surr)	110		70 - 130	08/17/21 11:52	08/18/21 13:17	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	38.6	J	50.0	15.0	mg/Kg		08/19/21 09:02	08/20/21 08:26	1
Diesel Range Organics (Over C10-C28)	21.5	J B	50.0	15.0	mg/Kg		08/19/21 09:02	08/20/21 08:26	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/19/21 09:02	08/20/21 08:26	1
Total TPH	60.1	B	50.0	15.0	mg/Kg		08/19/21 09:02	08/20/21 08:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130	08/19/21 09:02	08/20/21 08:26	1
o-Terphenyl	112		70 - 130	08/19/21 09:02	08/20/21 08:26	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.855	U	4.98	0.855	mg/Kg			08/20/21 20:15	1

Client Sample ID: TP7-4

Lab Sample ID: 880-5164-5

Date Collected: 08/16/21 11:10

Matrix: Solid

Date Received: 08/17/21 11:43

Sample Depth: 4'

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		08/18/21 08:45	08/21/21 15:04	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		08/18/21 08:45	08/21/21 15:04	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		08/18/21 08:45	08/21/21 15:04	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		08/18/21 08:45	08/21/21 15:04	1
o-Xylene	0.000679	J	0.00199	0.000342	mg/Kg		08/18/21 08:45	08/21/21 15:04	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		08/18/21 08:45	08/21/21 15:04	1
Total BTEX	<0.00100	U	0.00398	0.00100	mg/Kg		08/18/21 08:45	08/21/21 15:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130	08/18/21 08:45	08/21/21 15:04	1
1,4-Difluorobenzene (Surr)	101		70 - 130	08/18/21 08:45	08/21/21 15:04	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5164-1
SDG: 11220756

Client Sample ID: TP7-4

Lab Sample ID: 880-5164-5

Date Collected: 08/16/21 11:10

Matrix: Solid

Date Received: 08/17/21 11:43

Sample Depth: 4'

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	15.3	J	50.0	15.0	mg/Kg		08/18/21 09:10	08/18/21 17:09	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/18/21 09:10	08/18/21 17:09	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/18/21 09:10	08/18/21 17:09	1
Total TPH	15.3	J B	50.0	15.0	mg/Kg		08/18/21 09:10	08/18/21 17:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130	08/18/21 09:10	08/18/21 17:09	1
o-Terphenyl	102		70 - 130	08/18/21 09:10	08/18/21 17:09	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.03	J	4.97	0.853	mg/Kg			08/20/21 20:21	1

Client Sample ID: TP7-6

Lab Sample ID: 880-5164-6

Date Collected: 08/16/21 11:15

Matrix: Solid

Date Received: 08/17/21 11:43

Sample Depth: 6'

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		08/18/21 08:45	08/21/21 15:25	1
Toluene	<0.000457	U	0.00200	0.000457	mg/Kg		08/18/21 08:45	08/21/21 15:25	1
Ethylbenzene	<0.000566	U	0.00200	0.000566	mg/Kg		08/18/21 08:45	08/21/21 15:25	1
m-Xylene & p-Xylene	<0.00101	U	0.00401	0.00101	mg/Kg		08/18/21 08:45	08/21/21 15:25	1
o-Xylene	<0.000345	U	0.00200	0.000345	mg/Kg		08/18/21 08:45	08/21/21 15:25	1
Xylenes, Total	<0.00101	U	0.00401	0.00101	mg/Kg		08/18/21 08:45	08/21/21 15:25	1
Total BTEX	<0.00101	U	0.00401	0.00101	mg/Kg		08/18/21 08:45	08/21/21 15:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	186	S1+	70 - 130	08/18/21 08:45	08/21/21 15:25	1
1,4-Difluorobenzene (Surr)	136	S1+	70 - 130	08/18/21 08:45	08/21/21 15:25	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	49.9	15.0	mg/Kg		08/18/21 09:10	08/18/21 17:30	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		08/18/21 09:10	08/18/21 17:30	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		08/18/21 09:10	08/18/21 17:30	1
Total TPH	21.6	J B	49.9	15.0	mg/Kg		08/18/21 09:10	08/18/21 17:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	92		70 - 130	08/18/21 09:10	08/18/21 17:30	1
o-Terphenyl	98		70 - 130	08/18/21 09:10	08/18/21 17:30	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	22.4		4.96	0.851	mg/Kg			08/20/21 20:38	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5164-1
SDG: 11220756

Client Sample ID: TP8-S

Lab Sample ID: 880-5164-7

Date Collected: 08/16/21 11:30

Matrix: Solid

Date Received: 08/17/21 11:43

Sample Depth: Surface

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		08/18/21 08:45	08/21/21 16:50	1
Toluene	<0.000459	U	0.00201	0.000459	mg/Kg		08/18/21 08:45	08/21/21 16:50	1
Ethylbenzene	<0.000568	U	0.00201	0.000568	mg/Kg		08/18/21 08:45	08/21/21 16:50	1
m-Xylene & p-Xylene	<0.00102	U	0.00402	0.00102	mg/Kg		08/18/21 08:45	08/21/21 16:50	1
o-Xylene	0.00897		0.00201	0.000346	mg/Kg		08/18/21 08:45	08/21/21 16:50	1
Xylenes, Total	0.00897		0.00402	0.00102	mg/Kg		08/18/21 08:45	08/21/21 16:50	1
Total BTEX	0.00897		0.00402	0.00102	mg/Kg		08/18/21 08:45	08/21/21 16:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	46	S1-	70 - 130	08/18/21 08:45	08/21/21 16:50	1
1,4-Difluorobenzene (Surr)	110		70 - 130	08/18/21 08:45	08/21/21 16:50	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		08/18/21 09:10	08/18/21 17:52	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		08/18/21 09:10	08/18/21 17:52	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		08/18/21 09:10	08/18/21 17:52	1
Total TPH	<15.0	U	49.9	15.0	mg/Kg		08/18/21 09:10	08/18/21 17:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130	08/18/21 09:10	08/18/21 17:52	1
o-Terphenyl	102		70 - 130	08/18/21 09:10	08/18/21 17:52	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.24	J	4.96	0.851	mg/Kg			08/20/21 20:44	1

Client Sample ID: TP8-4

Lab Sample ID: 880-5164-8

Date Collected: 08/16/21 11:35

Matrix: Solid

Date Received: 08/17/21 11:43

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		08/18/21 08:45	08/21/21 17:11	1
Toluene	<0.000459	U	0.00201	0.000459	mg/Kg		08/18/21 08:45	08/21/21 17:11	1
Ethylbenzene	<0.000568	U	0.00201	0.000568	mg/Kg		08/18/21 08:45	08/21/21 17:11	1
m-Xylene & p-Xylene	<0.00102	U	0.00402	0.00102	mg/Kg		08/18/21 08:45	08/21/21 17:11	1
o-Xylene	0.000443	J	0.00201	0.000346	mg/Kg		08/18/21 08:45	08/21/21 17:11	1
Xylenes, Total	<0.00102	U	0.00402	0.00102	mg/Kg		08/18/21 08:45	08/21/21 17:11	1
Total BTEX	<0.00102	U	0.00402	0.00102	mg/Kg		08/18/21 08:45	08/21/21 17:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130	08/18/21 08:45	08/21/21 17:11	1
1,4-Difluorobenzene (Surr)	103		70 - 130	08/18/21 08:45	08/21/21 17:11	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5164-1
SDG: 11220756

Client Sample ID: TP8-4

Lab Sample ID: 880-5164-8

Date Collected: 08/16/21 11:35

Matrix: Solid

Date Received: 08/17/21 11:43

Sample Depth: 4'

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	22.3	J	49.8	14.9	mg/Kg		08/18/21 09:10	08/18/21 18:13	1
Diesel Range Organics (Over C10-C28)	<14.9	U	49.8	14.9	mg/Kg		08/18/21 09:10	08/18/21 18:13	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		08/18/21 09:10	08/18/21 18:13	1
Total TPH	22.3	J B	49.8	14.9	mg/Kg		08/18/21 09:10	08/18/21 18:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	83		70 - 130	08/18/21 09:10	08/18/21 18:13	1
o-Terphenyl	86		70 - 130	08/18/21 09:10	08/18/21 18:13	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.49	J	4.95	0.850	mg/Kg			08/20/21 20:49	1

Client Sample ID: TP8-6

Lab Sample ID: 880-5164-9

Date Collected: 08/16/21 11:40

Matrix: Solid

Date Received: 08/17/21 11:43

Sample Depth: 6'

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		08/18/21 08:45	08/21/21 17:32	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		08/18/21 08:45	08/21/21 17:32	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		08/18/21 08:45	08/21/21 17:32	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		08/18/21 08:45	08/21/21 17:32	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		08/18/21 08:45	08/21/21 17:32	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		08/18/21 08:45	08/21/21 17:32	1
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg		08/18/21 08:45	08/21/21 17:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130	08/18/21 08:45	08/21/21 17:32	1
1,4-Difluorobenzene (Surr)	99		70 - 130	08/18/21 08:45	08/21/21 17:32	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		08/18/21 09:10	08/18/21 18:35	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		08/18/21 09:10	08/18/21 18:35	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		08/18/21 09:10	08/18/21 18:35	1
Total TPH	<15.0	U	49.9	15.0	mg/Kg		08/18/21 09:10	08/18/21 18:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130	08/18/21 09:10	08/18/21 18:35	1
o-Terphenyl	101		70 - 130	08/18/21 09:10	08/18/21 18:35	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.76	J	5.04	0.865	mg/Kg			08/20/21 20:55	1

Eurofins Xenco, Midland

Surrogate Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5164-1
SDG: 11220756

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)
880-5164-1	TP6-S	154 S1+	38 S1-
880-5164-2	TP6-4	91	111
880-5164-3	TP6-6	95	108
880-5164-4	TP7-S	97	110
880-5164-5	TP7-4	100	101
880-5164-6	TP7-6	186 S1+	136 S1+
880-5164-7	TP8-S	46 S1-	110
880-5164-8	TP8-4	95	103
880-5164-9	TP8-6	95	99
LCS 880-6670/1-A	Lab Control Sample	77	103
LCS 880-6686/1-A	Lab Control Sample	104	103
LCSD 880-6670/2-A	Lab Control Sample Dup	84	100
LCSD 880-6686/2-A	Lab Control Sample Dup	102	90
MB 880-6651/5-A	Method Blank	60 S1-	99
MB 880-6670/5-A	Method Blank	59 S1-	98
MB 880-6686/5-A	Method Blank	102	84
MB 880-6784/5-A	Method Blank	100	72
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)
880-5164-1	TP6-S	80	93
880-5164-2	TP6-4	108	117
880-5164-3	TP6-6	98	110
880-5164-4	TP7-S	99	112
880-5164-5	TP7-4	96	102
880-5164-6	TP7-6	92	98
880-5164-7	TP8-S	96	102
880-5164-8	TP8-4	83	86
880-5164-9	TP8-6	95	101
LCS 880-6702/2-A	Lab Control Sample	97	98
LCS 880-6769/2-A	Lab Control Sample	108	115
LCS 880-6811/2-A	Lab Control Sample	88	96
LCSD 880-6702/3-A	Lab Control Sample Dup	93	93
LCSD 880-6769/3-A	Lab Control Sample Dup	106	116
LCSD 880-6811/3-A	Lab Control Sample Dup	94	104
MB 880-6702/1-A	Method Blank	124	132 S1+
MB 880-6769/1-A	Method Blank	104	119
MB 880-6811/1-A	Method Blank	92	107
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

Eurofins Xenco, Midland

QC Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5164-1
SDG: 11220756

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-6651/5-A

Matrix: Solid

Analysis Batch: 6652

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6651

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		08/17/21 09:21	08/17/21 13:27	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		08/17/21 09:21	08/17/21 13:27	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		08/17/21 09:21	08/17/21 13:27	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/17/21 09:21	08/17/21 13:27	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		08/17/21 09:21	08/17/21 13:27	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/17/21 09:21	08/17/21 13:27	1
Total BTEX	<0.00101	U	0.00400	0.00101	mg/Kg		08/17/21 09:21	08/17/21 13:27	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	60	S1-	70 - 130	08/17/21 09:21	08/17/21 13:27	1
1,4-Difluorobenzene (Surr)	99		70 - 130	08/17/21 09:21	08/17/21 13:27	1

Lab Sample ID: MB 880-6670/5-A

Matrix: Solid

Analysis Batch: 6652

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6670

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		08/17/21 11:52	08/18/21 03:07	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		08/17/21 11:52	08/18/21 03:07	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		08/17/21 11:52	08/18/21 03:07	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/17/21 11:52	08/18/21 03:07	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		08/17/21 11:52	08/18/21 03:07	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/17/21 11:52	08/18/21 03:07	1
Total BTEX	<0.00101	U	0.00400	0.00101	mg/Kg		08/17/21 11:52	08/18/21 03:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	59	S1-	70 - 130	08/17/21 11:52	08/18/21 03:07	1
1,4-Difluorobenzene (Surr)	98		70 - 130	08/17/21 11:52	08/18/21 03:07	1

Lab Sample ID: LCS 880-6670/1-A

Matrix: Solid

Analysis Batch: 6652

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6670

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.07405		mg/Kg		74	70 - 130
Toluene	0.100	0.07816		mg/Kg		78	70 - 130
Ethylbenzene	0.100	0.07724		mg/Kg		77	70 - 130
m-Xylene & p-Xylene	0.200	0.1547		mg/Kg		77	70 - 130
o-Xylene	0.100	0.07543		mg/Kg		75	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	77		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Eurofins Xenco, Midland

QC Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5164-1
SDG: 11220756

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

Lab Sample ID: LCSD 880-6670/2-A

Matrix: Solid

Analysis Batch: 6652

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6670

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.08175		mg/Kg		82	70 - 130	10	35
Toluene	0.100	0.08598		mg/Kg		86	70 - 130	10	35
Ethylbenzene	0.100	0.08510		mg/Kg		85	70 - 130	10	35
m-Xylene & p-Xylene	0.200	0.1707		mg/Kg		85	70 - 130	10	35
o-Xylene	0.100	0.08415		mg/Kg		84	70 - 130	11	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	84		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

Lab Sample ID: MB 880-6686/5-A

Matrix: Solid

Analysis Batch: 6831

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6686

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		08/18/21 08:45	08/21/21 11:56	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		08/18/21 08:45	08/21/21 11:56	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		08/18/21 08:45	08/21/21 11:56	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/18/21 08:45	08/21/21 11:56	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		08/18/21 08:45	08/21/21 11:56	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/18/21 08:45	08/21/21 11:56	1
Total BTEX	<0.00101	U	0.00400	0.00101	mg/Kg		08/18/21 08:45	08/21/21 11:56	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130	08/18/21 08:45	08/21/21 11:56	1
1,4-Difluorobenzene (Surr)	84		70 - 130	08/18/21 08:45	08/21/21 11:56	1

Lab Sample ID: LCS 880-6686/1-A

Matrix: Solid

Analysis Batch: 6831

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6686

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.09114		mg/Kg		91	70 - 130
Toluene	0.100	0.08142		mg/Kg		81	70 - 130
Ethylbenzene	0.100	0.08902		mg/Kg		89	70 - 130
m-Xylene & p-Xylene	0.200	0.1525		mg/Kg		76	70 - 130
o-Xylene	0.100	0.07851		mg/Kg		79	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Lab Sample ID: LCSD 880-6686/2-A

Matrix: Solid

Analysis Batch: 6831

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6686

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.08159		mg/Kg		82	70 - 130	11	35

Eurofins Xenco, Midland

QC Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5164-1
SDG: 11220756

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

Lab Sample ID: LCSD 880-6686/2-A

Matrix: Solid

Analysis Batch: 6831

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6686

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toluene	0.100	0.08229		mg/Kg		82	70 - 130	1	35
Ethylbenzene	0.100	0.08924		mg/Kg		89	70 - 130	0	35
m-Xylene & p-Xylene	0.200	0.1552		mg/Kg		78	70 - 130	2	35
o-Xylene	0.100	0.07889		mg/Kg		79	70 - 130	0	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,4-Difluorobenzene (Surr)	90		70 - 130

Lab Sample ID: MB 880-6784/5-A

Matrix: Solid

Analysis Batch: 6831

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6784

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		08/20/21 09:30	08/21/21 00:53	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		08/20/21 09:30	08/21/21 00:53	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		08/20/21 09:30	08/21/21 00:53	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/20/21 09:30	08/21/21 00:53	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		08/20/21 09:30	08/21/21 00:53	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/20/21 09:30	08/21/21 00:53	1
Total BTEX	<0.00101	U	0.00400	0.00101	mg/Kg		08/20/21 09:30	08/21/21 00:53	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130	08/20/21 09:30	08/21/21 00:53	1
1,4-Difluorobenzene (Surr)	72		70 - 130	08/20/21 09:30	08/21/21 00:53	1

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

Lab Sample ID: MB 880-6702/1-A

Matrix: Solid

Analysis Batch: 6700

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6702

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		08/18/21 09:10	08/18/21 11:06	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/18/21 09:10	08/18/21 11:06	1
Oil Range Organics (Over C28-C36)	15.31	J	50.0	15.0	mg/Kg		08/18/21 09:10	08/18/21 11:06	1
Total TPH	15.31	J	50.0	15.0	mg/Kg		08/18/21 09:10	08/18/21 11:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	124		70 - 130	08/18/21 09:10	08/18/21 11:06	1
o-Terphenyl	132	S1+	70 - 130	08/18/21 09:10	08/18/21 11:06	1

Eurofins Xenco, Midland

QC Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5164-1
SDG: 11220756

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

Lab Sample ID: LCS 880-6702/2-A

Matrix: Solid

Analysis Batch: 6700

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6702

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	Limits		
Gasoline Range Organics (GRO)-C6-C10	1000	848.1		mg/Kg		85		70 - 130		
Diesel Range Organics (Over C10-C28)	1000	970.3		mg/Kg		97		70 - 130		

Lab Sample ID: LCSD 880-6702/3-A

Matrix: Solid

Analysis Batch: 6700

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6702

Top Bottom of 20											
Analyte			Spike	LCSD	LCSD				%Rec.	RPD	RPD
			Added	Result	Qualifier	Unit	D	%Rec	Limits		Limit
Gasoline Range Organics (GRO)-C6-C10			1000	778.9		mg/Kg		78	70 - 130	8	20
Diesel Range Organics (Over C10-C28)			1000	924.0		mg/Kg		92	70 - 130	5	20

Lab Sample ID: MB 880-6769/1-A

Matrix: Solid

Analysis Batch: 6808

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6769

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		08/19/21 09:02	08/20/21 00:07	1
Diesel Range Organics (Over C10-C28)	21.00	J	50.0	15.0	mg/Kg		08/19/21 09:02	08/20/21 00:07	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/19/21 09:02	08/20/21 00:07	1
Total TPH	21.00	J	50.0	15.0	mg/Kg		08/19/21 09:02	08/20/21 00:07	1
Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac			
%Recovery	Qualifier								
1-Chlorooctane	104		70 - 130	08/19/21 09:02	08/20/21 00:07	1			
o-Terphenyl	119		70 - 130	08/19/21 09:02	08/20/21 00:07	1			

Lab Sample ID: LCS 880-6769/2-A

Matrix: Solid

Analysis Batch: 6808

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6769

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1209		mg/Kg		121	70 - 130
Diesel Range Organics (Over C10-C28)	1000	840.9		mg/Kg		84	70 - 130

Eurofins Xenco, Midland

QC Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5164-1
SDG: 11220756

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

Lab Sample ID: LCS 880-6769/2-A

Matrix: Solid

Analysis Batch: 6808

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6769

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	108		70 - 130
o-Terphenyl	115		70 - 130

Lab Sample ID: LCSD 880-6769/3-A

Matrix: Solid

Analysis Batch: 6808

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6769

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1187		mg/Kg		119	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	1000	857.6		mg/Kg		86	70 - 130	2	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	106		70 - 130
o-Terphenyl	116		70 - 130

Lab Sample ID: MB 880-6811/1-A

Matrix: Solid

Analysis Batch: 6797

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6811

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		08/19/21 13:30	08/19/21 23:57	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/19/21 13:30	08/19/21 23:57	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/19/21 13:30	08/19/21 23:57	1
Total TPH	<15.0	U	50.0	15.0	mg/Kg		08/19/21 13:30	08/19/21 23:57	1

	MB	MB					Prepared	Analyzed	Dil Fac
Surrogate	%Recovery	Qualifier	Limits						
1-Chlorooctane	92		70 - 130				08/19/21 13:30	08/19/21 23:57	1
o-Terphenyl	107		70 - 130				08/19/21 13:30	08/19/21 23:57	1

Lab Sample ID: LCS 880-6811/2-A

Matrix: Solid

Analysis Batch: 6797

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6811

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10	1000	788.2		mg/Kg		79	70 - 130		
Diesel Range Organics (Over C10-C28)	1000	926.2		mg/Kg		93	70 - 130		

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	88		70 - 130
o-Terphenyl	96		70 - 130

Eurofins Xenco, Midland

QC Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5164-1
SDG: 11220756

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

Lab Sample ID: LCSD 880-6811/3-A

Matrix: Solid

Analysis Batch: 6797

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6811

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	861.2		mg/Kg		86	70 - 130	9	20
Diesel Range Organics (Over C10-C28)	1000	1004		mg/Kg		100	70 - 130	8	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	94		70 - 130						
o-Terphenyl	104		70 - 130						

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-6746/1-A

Matrix: Solid

Analysis Batch: 6860

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			08/20/21 19:30	1

Lab Sample ID: LCS 880-6746/2-A

Matrix: Solid

Analysis Batch: 6860

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	250	259.6		mg/Kg		104	90 - 110		

Lab Sample ID: LCSD 880-6746/3-A

Matrix: Solid

Analysis Batch: 6860

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	260.8		mg/Kg		104	90 - 110	0	20

Lab Sample ID: 880-5164-1 MS

Matrix: Solid

Analysis Batch: 6860

Client Sample ID: TP6-S

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	3.96	J F1	248	266.3		mg/Kg		106	90 - 110		

Lab Sample ID: 880-5164-1 MSD

Matrix: Solid

Analysis Batch: 6860

Client Sample ID: TP6-S

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	3.96	J F1	248	280.1	F1	mg/Kg		112	90 - 110	5	20

Eurofins Xenco, Midland

QC Association Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5164-1
SDG: 11220756

GC VOA

Prep Batch: 6651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-6651/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 6652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5164-1	TP6-S	Total/NA	Solid	8021B	6670
880-5164-2	TP6-4	Total/NA	Solid	8021B	6670
880-5164-3	TP6-6	Total/NA	Solid	8021B	6670
880-5164-4	TP7-S	Total/NA	Solid	8021B	6670
MB 880-6651/5-A	Method Blank	Total/NA	Solid	8021B	6651
MB 880-6670/5-A	Method Blank	Total/NA	Solid	8021B	6670
LCS 880-6670/1-A	Lab Control Sample	Total/NA	Solid	8021B	6670
LCSD 880-6670/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	6670

Prep Batch: 6670

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5164-1	TP6-S	Total/NA	Solid	5035	
880-5164-2	TP6-4	Total/NA	Solid	5035	
880-5164-3	TP6-6	Total/NA	Solid	5035	
880-5164-4	TP7-S	Total/NA	Solid	5035	
MB 880-6670/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-6670/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-6670/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Prep Batch: 6686

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5164-5	TP7-4	Total/NA	Solid	5035	
880-5164-6	TP7-6	Total/NA	Solid	5035	
880-5164-7	TP8-S	Total/NA	Solid	5035	
880-5164-8	TP8-4	Total/NA	Solid	5035	
880-5164-9	TP8-6	Total/NA	Solid	5035	
MB 880-6686/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-6686/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-6686/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Prep Batch: 6784

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-6784/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 6831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5164-5	TP7-4	Total/NA	Solid	8021B	6686
880-5164-6	TP7-6	Total/NA	Solid	8021B	6686
880-5164-7	TP8-S	Total/NA	Solid	8021B	6686
880-5164-8	TP8-4	Total/NA	Solid	8021B	6686
880-5164-9	TP8-6	Total/NA	Solid	8021B	6686
MB 880-6686/5-A	Method Blank	Total/NA	Solid	8021B	6686
MB 880-6784/5-A	Method Blank	Total/NA	Solid	8021B	6784
LCS 880-6686/1-A	Lab Control Sample	Total/NA	Solid	8021B	6686
LCSD 880-6686/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	6686

Eurofins Xenco, Midland

QC Association Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5164-1
SDG: 11220756

GC Semi VOA

Analysis Batch: 6700

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5164-5	TP7-4	Total/NA	Solid	8015B NM	6702
880-5164-6	TP7-6	Total/NA	Solid	8015B NM	6702
880-5164-7	TP8-S	Total/NA	Solid	8015B NM	6702
880-5164-8	TP8-4	Total/NA	Solid	8015B NM	6702
880-5164-9	TP8-6	Total/NA	Solid	8015B NM	6702
MB 880-6702/1-A	Method Blank	Total/NA	Solid	8015B NM	6702
LCS 880-6702/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	6702
LCSD 880-6702/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	6702

Prep Batch: 6702

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5164-5	TP7-4	Total/NA	Solid	8015NM Prep	
880-5164-6	TP7-6	Total/NA	Solid	8015NM Prep	
880-5164-7	TP8-S	Total/NA	Solid	8015NM Prep	
880-5164-8	TP8-4	Total/NA	Solid	8015NM Prep	
880-5164-9	TP8-6	Total/NA	Solid	8015NM Prep	
MB 880-6702/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-6702/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-6702/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Prep Batch: 6769

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5164-2	TP6-4	Total/NA	Solid	8015NM Prep	
880-5164-3	TP6-6	Total/NA	Solid	8015NM Prep	
880-5164-4	TP7-S	Total/NA	Solid	8015NM Prep	
MB 880-6769/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-6769/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-6769/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 6797

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5164-1	TP6-S	Total/NA	Solid	8015B NM	6811
MB 880-6811/1-A	Method Blank	Total/NA	Solid	8015B NM	6811
LCS 880-6811/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	6811
LCSD 880-6811/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	6811

Analysis Batch: 6808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5164-2	TP6-4	Total/NA	Solid	8015B NM	6769
880-5164-3	TP6-6	Total/NA	Solid	8015B NM	6769
880-5164-4	TP7-S	Total/NA	Solid	8015B NM	6769
MB 880-6769/1-A	Method Blank	Total/NA	Solid	8015B NM	6769
LCS 880-6769/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	6769
LCSD 880-6769/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	6769

Prep Batch: 6811

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5164-1	TP6-S	Total/NA	Solid	8015NM Prep	
MB 880-6811/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-6811/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-6811/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Eurofins Xenco, Midland

QC Association Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5164-1
SDG: 11220756

HPLC/IC

Leach Batch: 6746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5164-1	TP6-S	Soluble	Solid	DI Leach	
880-5164-2	TP6-4	Soluble	Solid	DI Leach	
880-5164-3	TP6-6	Soluble	Solid	DI Leach	
880-5164-4	TP7-S	Soluble	Solid	DI Leach	
880-5164-5	TP7-4	Soluble	Solid	DI Leach	
880-5164-6	TP7-6	Soluble	Solid	DI Leach	
880-5164-7	TP8-S	Soluble	Solid	DI Leach	
880-5164-8	TP8-4	Soluble	Solid	DI Leach	
880-5164-9	TP8-6	Soluble	Solid	DI Leach	
MB 880-6746/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-6746/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-6746/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-5164-1 MS	TP6-S	Soluble	Solid	DI Leach	
880-5164-1 MSD	TP6-S	Soluble	Solid	DI Leach	

Analysis Batch: 6860

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5164-1	TP6-S	Soluble	Solid	300.0	6746
880-5164-2	TP6-4	Soluble	Solid	300.0	6746
880-5164-3	TP6-6	Soluble	Solid	300.0	6746
880-5164-4	TP7-S	Soluble	Solid	300.0	6746
880-5164-5	TP7-4	Soluble	Solid	300.0	6746
880-5164-6	TP7-6	Soluble	Solid	300.0	6746
880-5164-7	TP8-S	Soluble	Solid	300.0	6746
880-5164-8	TP8-4	Soluble	Solid	300.0	6746
880-5164-9	TP8-6	Soluble	Solid	300.0	6746
MB 880-6746/1-A	Method Blank	Soluble	Solid	300.0	6746
LCS 880-6746/2-A	Lab Control Sample	Soluble	Solid	300.0	6746
LCSD 880-6746/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	6746
880-5164-1 MS	TP6-S	Soluble	Solid	300.0	6746
880-5164-1 MSD	TP6-S	Soluble	Solid	300.0	6746

Eurofins Xenco, Midland

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5164-1
SDG: 11220756

Client Sample ID: TP6-S

Lab Sample ID: 880-5164-1

Date Collected: 08/16/21 10:45

Matrix: Solid

Date Received: 08/17/21 11:43

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	6670	08/17/21 11:52	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6652	08/18/21 11:58	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	6811	08/19/21 13:30	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6797	08/20/21 08:20	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	6746	08/18/21 14:25	SC	XEN MID
Soluble	Analysis	300.0		1			6860	08/20/21 19:47	CH	XEN MID

Client Sample ID: TP6-4

Lab Sample ID: 880-5164-2

Date Collected: 08/16/21 10:50

Matrix: Solid

Date Received: 08/17/21 11:43

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	6670	08/17/21 11:52	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6652	08/18/21 12:24	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	6769	08/19/21 09:02	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6808	08/20/21 07:45	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	6746	08/18/21 14:25	SC	XEN MID
Soluble	Analysis	300.0		1			6860	08/20/21 20:04	CH	XEN MID

Client Sample ID: TP6-6

Lab Sample ID: 880-5164-3

Date Collected: 08/16/21 10:55

Matrix: Solid

Date Received: 08/17/21 11:43

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	6670	08/17/21 11:52	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6652	08/18/21 12:51	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	6769	08/19/21 09:02	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6808	08/20/21 08:06	AJ	XEN MID
Soluble	Leach	DI Leach			5.00 g	50 mL	6746	08/18/21 14:25	SC	XEN MID
Soluble	Analysis	300.0		1			6860	08/20/21 20:10	CH	XEN MID

Client Sample ID: TP7-S

Lab Sample ID: 880-5164-4

Date Collected: 08/16/21 11:05

Matrix: Solid

Date Received: 08/17/21 11:43

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	6670	08/17/21 11:52	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6652	08/18/21 13:17	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	6769	08/19/21 09:02	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6808	08/20/21 08:26	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	6746	08/18/21 14:25	SC	XEN MID
Soluble	Analysis	300.0		1			6860	08/20/21 20:15	CH	XEN MID

Eurofins Xenco, Midland

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5164-1
SDG: 11220756

Client Sample ID: TP7-4

Lab Sample ID: 880-5164-5

Date Collected: 08/16/21 11:10

Matrix: Solid

Date Received: 08/17/21 11:43

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	6686	08/18/21 08:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6831	08/21/21 15:04	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	6702	08/18/21 09:10	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6700	08/18/21 17:09	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	6746	08/18/21 14:25	SC	XEN MID
Soluble	Analysis	300.0		1			6860	08/20/21 20:21	CH	XEN MID

Client Sample ID: TP7-6

Lab Sample ID: 880-5164-6

Date Collected: 08/16/21 11:15

Matrix: Solid

Date Received: 08/17/21 11:43

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	6686	08/18/21 08:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6831	08/21/21 15:25	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	6702	08/18/21 09:10	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6700	08/18/21 17:30	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	6746	08/18/21 14:25	SC	XEN MID
Soluble	Analysis	300.0		1			6860	08/20/21 20:38	CH	XEN MID

Client Sample ID: TP8-S

Lab Sample ID: 880-5164-7

Date Collected: 08/16/21 11:30

Matrix: Solid

Date Received: 08/17/21 11:43

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	6686	08/18/21 08:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6831	08/21/21 16:50	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	6702	08/18/21 09:10	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6700	08/18/21 17:52	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	6746	08/18/21 14:25	SC	XEN MID
Soluble	Analysis	300.0		1			6860	08/20/21 20:44	CH	XEN MID

Client Sample ID: TP8-4

Lab Sample ID: 880-5164-8

Date Collected: 08/16/21 11:35

Matrix: Solid

Date Received: 08/17/21 11:43

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	6686	08/18/21 08:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6831	08/21/21 17:11	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	6702	08/18/21 09:10	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6700	08/18/21 18:13	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	6746	08/18/21 14:25	SC	XEN MID
Soluble	Analysis	300.0		1			6860	08/20/21 20:49	CH	XEN MID

Eurofins Xenco, Midland

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5164-1
SDG: 11220756

Client Sample ID: TP8-6
Date Collected: 08/16/21 11:40
Date Received: 08/17/21 11:43

Lab Sample ID: 880-5164-9
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			5.01 g	5 mL	6686	08/18/21 08:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6831	08/21/21 17:32	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	6702	08/18/21 09:10	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6700	08/18/21 18:35	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	6746	08/18/21 14:25	SC	XEN MID
Soluble	Analysis	300.0		1			6860	08/20/21 20:55	CH	XEN MID

Laboratory References:
XEN MID = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5164-1
SDG: 11220756

Laboratory: Eurofins Xenco, Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	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
8015B NM	8015NM Prep	Solid	Total TPH
8021B	5035	Solid	Total BTEX

Method Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5164-1
SDG: 11220756

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (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.

Laboratory References:

XEN MID = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

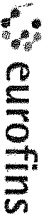
Eurofins Xenco, Midland

Sample Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5164-1
SDG: 11220756

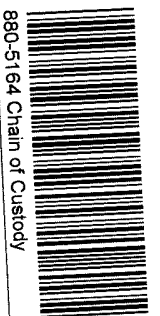
Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-5164-1	TP6-S	Solid	08/16/21 10:45	08/17/21 11:43	Surface
880-5164-2	TP6-4	Solid	08/16/21 10:50	08/17/21 11:43	4'
880-5164-3	TP6-6	Solid	08/16/21 10:55	08/17/21 11:43	6'
880-5164-4	TP7-S	Solid	08/16/21 11:05	08/17/21 11:43	Surface
880-5164-5	TP7-4	Solid	08/16/21 11:10	08/17/21 11:43	4'
880-5164-6	TP7-6	Solid	08/16/21 11:15	08/17/21 11:43	6'
880-5164-7	TP8-S	Solid	08/16/21 11:30	08/17/21 11:43	Surface
880-5164-8	TP8-4	Solid	08/16/21 11:35	08/17/21 11:43	4'
880-5164-9	TP8-6	Solid	08/16/21 11:40	08/17/21 11:43	6'



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Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 508-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Chain of Custody



880-5164 Chain of Custody

www.xenco.com Page 1 of 1

Project Manager:	Becky Haskell, Tom Larsen	Bill to: (if different)	James Kennedy w/ EOG
Company Name:	GHD	Company Name:	
Address:	2135 S. Loop 250 W.	Address:	
City, State ZIP	Midland, TX 79703	City, State ZIP	
Phone:	(432) 250-7917	Email:	Becky.Haskell@ghd.com, Tom.Larsen@ghd.com

Project Name:	Unocal M/M Federal #1	Turn Around	
Project Number:	11720756	☒ Routine ☐ Rush	Pre. Code
Project Location:	Lee County	Due Date:	
Sampler's Name:	Heath Boyd	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT	Temp Blank	Yes ☒ No ☐	Well Ice	Yes ☒ No ☐
Samples Received Intact:	Yes ☒ No ☐	Thermometer ID:	100	
Cooler Custody Seals:	Yes ☒ No ☐	Correction Factor	0.5	
Sample Custody Seals:	Yes ☒ No ☐	Temperature Reading:	1.0	
Total Containers:		Corrected Temperature:	1.5	

Parameters	BIEX 8021 B	TPH 8015 M	Chloride Method 300
------------	-------------	------------	---------------------

ANALYSIS REQUEST			
None	NO	DI Water	H ₂ O
Cool	Cool	MeOH	Me
HCL	HC	HNO ₃	HN
H ₂ SO ₄	H ₂	NaOH	Na
H ₃ PO ₄	HP		
NaHSO ₄	NABIS		
Na ₂ S ₂ O ₃	NaSO ₃		
Zn Acetate	NaOH	Zn	
NaOH+Ascorbic Acid	SAPC		

Program:	USTPST ☐ PRF ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:	
Reporting:	Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level N ☐
Deliverables:	EDD ☐ ADAPT ☐ Other ☐

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grav/Comp	# of Cont	Parameters	ANALYSIS REQUEST	Preservative Codes	Sample Comments
TP6-5	S	8/16/21	1045	Surface	1	1	BIEX 8021 B			
TP6-4			1050	4'			TPH 8015 M			
TP6-b			1055	6'			Chloride Method 300			
TP7-5			1105	Surface						
TP7-4			1110	4'						
TP7-b			1115	6'						
TP8-5			1130	Surface						
TP8-4			1135	4'						
TP8-b			1140	6'						

Sys: PRIORITY OVERNIGHT
TRCK: 9882 9666 5260

Date: 16 Aug 21
Wgt: 15.00 LBS
DV: 0.00
SHIPPING SPECIAL HANDLING TOTAL: 0.00

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 SiO₂ Na Sr Ti 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 Ti 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:
	Epa Caldwell	8/16/21 1:30		Heath Boyd	8/17/21 1:00

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 880-5164-1

SDG Number: 11220756

Login Number: 5164

List Number: 1

Creator: Teel, Brianna

List Source: Eurofins Xenco, 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	



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 880-5219-1

Laboratory Sample Delivery Group: 11220756

Client Project/Site: Unocal AHM Federal #1

For:

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

Attn: Becky Haskell

A handwritten signature in black ink that reads "Debbie Simmons".

Authorized for release by:
8/25/2021 4:18:24 PM

Debbie Simmons, Project Manager
(281)240-4200
debbie.simmons@eurofinset.com

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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: Unocal AHM Federal #1

Laboratory Job ID: 880-5219-1
SDG: 11220756

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Definitions/Glossary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Qualifiers

GC VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD 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, 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
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
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.

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)

Eurofins Xenco, Midland

Definitions/Glossary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Case Narrative

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Job ID: 880-5219-1**Laboratory: Eurofins Xenco, Midland****Narrative****Job Narrative
880-5219-1****Receipt**

The samples were received on 8/18/2021 10:18 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 1.7°C

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-6819 and analytical batch 880-6871 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.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-6819 and analytical batch 880-6871 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: Surrogate recovery for the following sample was outside control limits: TP11-20 (880-5219-9). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following sample was outside control limits: TP10-12 (880-5219-5). Evidence of matrix interferences is not obvious.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-6740 and analytical batch 880-6879 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: Surrogate recovery for the following samples were outside control limits: TP16-6 (880-5219-24), TP17-S (880-5219-25) and (MB 880-6740/5-A). 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

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: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Client Sample ID: TP9-S

Lab Sample ID: 880-5219-1

Date Collected: 08/17/21 08:30

Matrix: Solid

Date Received: 08/18/21 10:18

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000386	U F2 F1	0.00200	0.000386	mg/Kg		08/20/21 08:45	08/21/21 04:52	1
Toluene	0.000491	J F2 F1	0.00200	0.000457	mg/Kg		08/20/21 08:45	08/21/21 04:52	1
Ethylbenzene	<0.000566	U F2 F1	0.00200	0.000566	mg/Kg		08/20/21 08:45	08/21/21 04:52	1
m-Xylene & p-Xylene	<0.00101	U F2 F1	0.00401	0.00101	mg/Kg		08/20/21 08:45	08/21/21 04:52	1
o-Xylene	0.000405	J F2 F1	0.00200	0.000345	mg/Kg		08/20/21 08:45	08/21/21 04:52	1
Xylenes, Total	<0.00101	U F2 F1	0.00401	0.00101	mg/Kg		08/20/21 08:45	08/21/21 04:52	1
Total BTEX	<0.00101	U F2 F1	0.00401	0.00101	mg/Kg		08/20/21 08:45	08/21/21 04:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130	08/20/21 08:45	08/21/21 04:52	1
1,4-Difluorobenzene (Surr)	88		70 - 130	08/20/21 08:45	08/21/21 04:52	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	37.1	J	50.0	15.0	mg/Kg		08/20/21 09:51	08/20/21 23:04	1
Diesel Range Organics (Over C10-C28)	24.2	J	50.0	15.0	mg/Kg		08/20/21 09:51	08/20/21 23:04	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/20/21 09:51	08/20/21 23:04	1
Total TPH	61.3		50.0	15.0	mg/Kg		08/20/21 09:51	08/20/21 23:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130	08/20/21 09:51	08/20/21 23:04	1
o-Terphenyl	107		70 - 130	08/20/21 09:51	08/20/21 23:04	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	22.9		5.01	0.860	mg/Kg			08/23/21 20:48	1

Client Sample ID: TP9-4

Lab Sample ID: 880-5219-2

Date Collected: 08/17/21 08:35

Matrix: Solid

Date Received: 08/18/21 10:18

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		08/20/21 08:45	08/21/21 05:12	1
Toluene	0.00162	J	0.00200	0.000455	mg/Kg		08/20/21 08:45	08/21/21 05:12	1
Ethylbenzene	0.00158	J	0.00200	0.000564	mg/Kg		08/20/21 08:45	08/21/21 05:12	1
m-Xylene & p-Xylene	0.00139	J	0.00399	0.00101	mg/Kg		08/20/21 08:45	08/21/21 05:12	1
o-Xylene	0.000373	J	0.00200	0.000343	mg/Kg		08/20/21 08:45	08/21/21 05:12	1
Xylenes, Total	0.00176	J	0.00399	0.00101	mg/Kg		08/20/21 08:45	08/21/21 05:12	1
Total BTEX	0.00496		0.00399	0.00101	mg/Kg		08/20/21 08:45	08/21/21 05:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	08/20/21 08:45	08/21/21 05:12	1
1,4-Difluorobenzene (Surr)	80		70 - 130	08/20/21 08:45	08/21/21 05:12	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	44.8	J	49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 00:07	1

Eurofins Xenco, Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Client Sample ID: TP9-4

Lab Sample ID: 880-5219-2

Date Collected: 08/17/21 08:35

Matrix: Solid

Date Received: 08/18/21 10:18

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)	26.2	J	49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 00:07	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 00:07	1
Total TPH	71.0		49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 00:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	89		70 - 130				08/20/21 09:51	08/21/21 00:07	1
o-Terphenyl	86		70 - 130				08/20/21 09:51	08/21/21 00:07	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	25.2		4.98	0.855	mg/Kg			08/23/21 20:54	1

Client Sample ID: TP9-6

Lab Sample ID: 880-5219-3

Date Collected: 08/17/21 08:40

Matrix: Solid

Date Received: 08/18/21 10:18

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		08/20/21 08:45	08/21/21 05:33	1
Toluene	<0.000454	U	0.00199	0.000454	mg/Kg		08/20/21 08:45	08/21/21 05:33	1
Ethylbenzene	<0.000563	U	0.00199	0.000563	mg/Kg		08/20/21 08:45	08/21/21 05:33	1
m-Xylene & p-Xylene	<0.00101	U	0.00398	0.00101	mg/Kg		08/20/21 08:45	08/21/21 05:33	1
o-Xylene	<0.000343	U	0.00199	0.000343	mg/Kg		08/20/21 08:45	08/21/21 05:33	1
Xylenes, Total	<0.00101	U	0.00398	0.00101	mg/Kg		08/20/21 08:45	08/21/21 05:33	1
Total BTEX	<0.00101	U	0.00398	0.00101	mg/Kg		08/20/21 08:45	08/21/21 05:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130				08/20/21 08:45	08/21/21 05:33	1
1,4-Difluorobenzene (Surr)	95		70 - 130				08/20/21 08:45	08/21/21 05:33	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	48.9	J	49.8	14.9	mg/Kg		08/20/21 09:51	08/21/21 00:28	1
Diesel Range Organics (Over C10-C28)	23.9	J	49.8	14.9	mg/Kg		08/20/21 09:51	08/21/21 00:28	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		08/20/21 09:51	08/21/21 00:28	1
Total TPH	72.8		49.8	14.9	mg/Kg		08/20/21 09:51	08/21/21 00:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130				08/20/21 09:51	08/21/21 00:28	1
o-Terphenyl	96		70 - 130				08/20/21 09:51	08/21/21 00:28	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	25.0		4.95	0.850	mg/Kg			08/23/21 20:59	1

Eurofins Xenco, Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Client Sample ID: TP10-4

Lab Sample ID: 880-5219-4

Date Collected: 08/17/21 09:00

Matrix: Solid

Date Received: 08/18/21 10:18

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.000695	J	0.00200	0.000385	mg/Kg		08/20/21 08:45	08/21/21 05:53	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		08/20/21 08:45	08/21/21 05:53	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		08/20/21 08:45	08/21/21 05:53	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/20/21 08:45	08/21/21 05:53	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		08/20/21 08:45	08/21/21 05:53	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/20/21 08:45	08/21/21 05:53	1
Total BTEX	<0.00101	U	0.00400	0.00101	mg/Kg		08/20/21 08:45	08/21/21 05:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130	08/20/21 08:45	08/21/21 05:53	1
1,4-Difluorobenzene (Surr)	79		70 - 130	08/20/21 08:45	08/21/21 05:53	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	37.5	J	49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 00:49	1
Diesel Range Organics (Over C10-C28)	38.3	J	49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 00:49	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 00:49	1
Total TPH	75.8		49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 00:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	112		70 - 130	08/20/21 09:51	08/21/21 00:49	1
o-Terphenyl	116		70 - 130	08/20/21 09:51	08/21/21 00:49	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	77.1		5.05	0.867	mg/Kg			08/23/21 21:05	1

Client Sample ID: TP10-12

Lab Sample ID: 880-5219-5

Date Collected: 08/17/21 09:15

Matrix: Solid

Date Received: 08/18/21 10:18

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		08/20/21 08:45	08/21/21 06:14	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		08/20/21 08:45	08/21/21 06:14	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		08/20/21 08:45	08/21/21 06:14	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/20/21 08:45	08/21/21 06:14	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		08/20/21 08:45	08/21/21 06:14	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/20/21 08:45	08/21/21 06:14	1
Total BTEX	<0.00101	U	0.00400	0.00101	mg/Kg		08/20/21 08:45	08/21/21 06:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	140	S1+	70 - 130	08/20/21 08:45	08/21/21 06:14	1
1,4-Difluorobenzene (Surr)	98		70 - 130	08/20/21 08:45	08/21/21 06:14	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	40.9	J	49.8	14.9	mg/Kg		08/20/21 09:51	08/21/21 01:10	1

Eurofins Xenco, Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Client Sample ID: TP10-12

Lab Sample ID: 880-5219-5

Date Collected: 08/17/21 09:15

Matrix: Solid

Date Received: 08/18/21 10:18

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)	30.8	J	49.8	14.9	mg/Kg		08/20/21 09:51	08/21/21 01:10	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		08/20/21 09:51	08/21/21 01:10	1
Total TPH	71.7		49.8	14.9	mg/Kg		08/20/21 09:51	08/21/21 01:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130				08/20/21 09:51	08/21/21 01:10	1
o-Terphenyl	97		70 - 130				08/20/21 09:51	08/21/21 01:10	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1080		4.98	0.855	mg/Kg			08/23/21 21:11	1

Client Sample ID: TP10-20

Lab Sample ID: 880-5219-6

Date Collected: 08/17/21 09:35

Matrix: Solid

Date Received: 08/18/21 10:18

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00142	J	0.00198	0.000381	mg/Kg		08/20/21 08:45	08/21/21 06:34	1
Toluene	0.00137	J	0.00198	0.000451	mg/Kg		08/20/21 08:45	08/21/21 06:34	1
Ethylbenzene	<0.000559	U	0.00198	0.000559	mg/Kg		08/20/21 08:45	08/21/21 06:34	1
m-Xylene & p-Xylene	<0.00100	U	0.00396	0.00100	mg/Kg		08/20/21 08:45	08/21/21 06:34	1
o-Xylene	0.00214		0.00198	0.000341	mg/Kg		08/20/21 08:45	08/21/21 06:34	1
Xylenes, Total	0.00214	J	0.00396	0.00100	mg/Kg		08/20/21 08:45	08/21/21 06:34	1
Total BTEX	0.00493		0.00396	0.00100	mg/Kg		08/20/21 08:45	08/21/21 06:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130				08/20/21 08:45	08/21/21 06:34	1
1,4-Difluorobenzene (Surr)	111		70 - 130				08/20/21 08:45	08/21/21 06:34	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	39.8	J	49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 01:31	1
Diesel Range Organics (Over C10-C28)	29.8	J	49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 01:31	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 01:31	1
Total TPH	69.6		49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 01:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130				08/20/21 09:51	08/21/21 01:31	1
o-Terphenyl	95		70 - 130				08/20/21 09:51	08/21/21 01:31	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1210		5.00	0.858	mg/Kg			08/23/21 21:16	1

Eurofins Xenco, Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Client Sample ID: TP11-4

Lab Sample ID: 880-5219-7

Date Collected: 08/17/21 10:00

Matrix: Solid

Date Received: 08/18/21 10:18

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.000650	J	0.00202	0.000389	mg/Kg		08/20/21 08:45	08/21/21 06:55	1
Toluene	<0.000461	U	0.00202	0.000461	mg/Kg		08/20/21 08:45	08/21/21 06:55	1
Ethylbenzene	<0.000571	U	0.00202	0.000571	mg/Kg		08/20/21 08:45	08/21/21 06:55	1
m-Xylene & p-Xylene	<0.00102	U	0.00404	0.00102	mg/Kg		08/20/21 08:45	08/21/21 06:55	1
o-Xylene	<0.000347	U	0.00202	0.000347	mg/Kg		08/20/21 08:45	08/21/21 06:55	1
Xylenes, Total	<0.00102	U	0.00404	0.00102	mg/Kg		08/20/21 08:45	08/21/21 06:55	1
Total BTEX	<0.00102	U	0.00404	0.00102	mg/Kg		08/20/21 08:45	08/21/21 06:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		70 - 130	08/20/21 08:45	08/21/21 06:55	1
1,4-Difluorobenzene (Surr)	84		70 - 130	08/20/21 08:45	08/21/21 06:55	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	39.5	J	49.8	14.9	mg/Kg		08/20/21 09:51	08/21/21 01:53	1
Diesel Range Organics (Over C10-C28)	37.8	J	49.8	14.9	mg/Kg		08/20/21 09:51	08/21/21 01:53	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		08/20/21 09:51	08/21/21 01:53	1
Total TPH	77.3		49.8	14.9	mg/Kg		08/20/21 09:51	08/21/21 01:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130	08/20/21 09:51	08/21/21 01:53	1
o-Terphenyl	107		70 - 130	08/20/21 09:51	08/21/21 01:53	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6120		50.0	8.58	mg/Kg			08/23/21 21:22	10

Client Sample ID: TP11-12

Lab Sample ID: 880-5219-8

Date Collected: 08/17/21 10:15

Matrix: Solid

Date Received: 08/18/21 10:18

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		08/20/21 08:45	08/21/21 07:15	1
Toluene	<0.000457	U	0.00200	0.000457	mg/Kg		08/20/21 08:45	08/21/21 07:15	1
Ethylbenzene	<0.000566	U	0.00200	0.000566	mg/Kg		08/20/21 08:45	08/21/21 07:15	1
m-Xylene & p-Xylene	<0.00101	U	0.00401	0.00101	mg/Kg		08/20/21 08:45	08/21/21 07:15	1
o-Xylene	<0.000345	U	0.00200	0.000345	mg/Kg		08/20/21 08:45	08/21/21 07:15	1
Xylenes, Total	<0.00101	U	0.00401	0.00101	mg/Kg		08/20/21 08:45	08/21/21 07:15	1
Total BTEX	<0.00101	U	0.00401	0.00101	mg/Kg		08/20/21 08:45	08/21/21 07:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130	08/20/21 08:45	08/21/21 07:15	1
1,4-Difluorobenzene (Surr)	97		70 - 130	08/20/21 08:45	08/21/21 07:15	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	47.6	J	49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 02:14	1

Eurofins Xenco, Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Client Sample ID: TP11-12

Lab Sample ID: 880-5219-8

Date Collected: 08/17/21 10:15

Matrix: Solid

Date Received: 08/18/21 10:18

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)	25.8	J	49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 02:14	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 02:14	1
Total TPH	73.4		49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 02:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130				08/20/21 09:51	08/21/21 02:14	1
o-Terphenyl	100		70 - 130				08/20/21 09:51	08/21/21 02:14	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	481	F1	4.95	0.850	mg/Kg			08/23/21 17:49	1

Client Sample ID: TP11-20

Lab Sample ID: 880-5219-9

Date Collected: 08/17/21 10:25

Matrix: Solid

Date Received: 08/18/21 10:18

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		08/20/21 08:45	08/21/21 07:35	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		08/20/21 08:45	08/21/21 07:35	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		08/20/21 08:45	08/21/21 07:35	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		08/20/21 08:45	08/21/21 07:35	1
o-Xylene	<0.000342	U	0.00199	0.000342	mg/Kg		08/20/21 08:45	08/21/21 07:35	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		08/20/21 08:45	08/21/21 07:35	1
Total BTEX	<0.00100	U	0.00398	0.00100	mg/Kg		08/20/21 08:45	08/21/21 07:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	189	S1+	70 - 130				08/20/21 08:45	08/21/21 07:35	1
1,4-Difluorobenzene (Surr)	228	S1+	70 - 130				08/20/21 08:45	08/21/21 07:35	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	37.9	J	49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 02:35	1
Diesel Range Organics (Over C10-C28)	24.9	J	49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 02:35	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 02:35	1
Total TPH	62.8		49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 02:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130				08/20/21 09:51	08/21/21 02:35	1
o-Terphenyl	102		70 - 130				08/20/21 09:51	08/21/21 02:35	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	979		5.04	0.865	mg/Kg			08/23/21 18:06	1

Eurofins Xenco, Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Client Sample ID: TP12-4

Lab Sample ID: 880-5219-10

Date Collected: 08/17/21 10:45

Matrix: Solid

Date Received: 08/18/21 10:18

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		08/20/21 08:45	08/21/21 07:56	1
Toluene	<0.000451	U	0.00198	0.000451	mg/Kg		08/20/21 08:45	08/21/21 07:56	1
Ethylbenzene	<0.000559	U	0.00198	0.000559	mg/Kg		08/20/21 08:45	08/21/21 07:56	1
m-Xylene & p-Xylene	<0.00100	U	0.00396	0.00100	mg/Kg		08/20/21 08:45	08/21/21 07:56	1
o-Xylene	<0.000341	U	0.00198	0.000341	mg/Kg		08/20/21 08:45	08/21/21 07:56	1
Xylenes, Total	<0.00100	U	0.00396	0.00100	mg/Kg		08/20/21 08:45	08/21/21 07:56	1
Total BTEX	<0.00100	U	0.00396	0.00100	mg/Kg		08/20/21 08:45	08/21/21 07:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		70 - 130	08/20/21 08:45	08/21/21 07:56	1
1,4-Difluorobenzene (Surr)	87		70 - 130	08/20/21 08:45	08/21/21 07:56	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	44.3	J	49.8	14.9	mg/Kg		08/20/21 09:51	08/21/21 02:57	1
Diesel Range Organics (Over C10-C28)	24.7	J	49.8	14.9	mg/Kg		08/20/21 09:51	08/21/21 02:57	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		08/20/21 09:51	08/21/21 02:57	1
Total TPH	69.0		49.8	14.9	mg/Kg		08/20/21 09:51	08/21/21 02:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130	08/20/21 09:51	08/21/21 02:57	1
o-Terphenyl	98		70 - 130	08/20/21 09:51	08/21/21 02:57	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1700		25.1	4.30	mg/Kg			08/24/21 13:02	5

Client Sample ID: TP12-8

Lab Sample ID: 880-5219-11

Date Collected: 08/17/21 10:50

Matrix: Solid

Date Received: 08/18/21 10:18

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		08/20/21 08:45	08/21/21 09:18	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		08/20/21 08:45	08/21/21 09:18	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		08/20/21 08:45	08/21/21 09:18	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		08/20/21 08:45	08/21/21 09:18	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		08/20/21 08:45	08/21/21 09:18	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		08/20/21 08:45	08/21/21 09:18	1
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg		08/20/21 08:45	08/21/21 09:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130	08/20/21 08:45	08/21/21 09:18	1
1,4-Difluorobenzene (Surr)	99		70 - 130	08/20/21 08:45	08/21/21 09:18	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	38.9	J	50.0	15.0	mg/Kg		08/20/21 09:51	08/21/21 03:40	1

Eurofins Xenco, Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Client Sample ID: TP12-8

Lab Sample ID: 880-5219-11

Date Collected: 08/17/21 10:50

Matrix: Solid

Date Received: 08/18/21 10:18

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)	23.9	J	50.0	15.0	mg/Kg		08/20/21 09:51	08/21/21 03:40	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/20/21 09:51	08/21/21 03:40	1
Total TPH	62.8		50.0	15.0	mg/Kg		08/20/21 09:51	08/21/21 03:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130	08/20/21 09:51	08/21/21 03:40	1
o-Terphenyl	99		70 - 130	08/20/21 09:51	08/21/21 03:40	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	765		4.98	0.855	mg/Kg			08/23/21 18:18	1

Client Sample ID: TP12-14

Lab Sample ID: 880-5219-12

Date Collected: 08/17/21 11:00

Matrix: Solid

Date Received: 08/18/21 10:18

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		08/20/21 08:45	08/21/21 09:38	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		08/20/21 08:45	08/21/21 09:38	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		08/20/21 08:45	08/21/21 09:38	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		08/20/21 08:45	08/21/21 09:38	1
o-Xylene	0.000355	J	0.00200	0.000343	mg/Kg		08/20/21 08:45	08/21/21 09:38	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		08/20/21 08:45	08/21/21 09:38	1
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg		08/20/21 08:45	08/21/21 09:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130	08/20/21 08:45	08/21/21 09:38	1
1,4-Difluorobenzene (Surr)	95		70 - 130	08/20/21 08:45	08/21/21 09:38	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	34.6	J	50.0	15.0	mg/Kg		08/20/21 09:51	08/21/21 04:02	1
Diesel Range Organics (Over C10-C28)	25.1	J	50.0	15.0	mg/Kg		08/20/21 09:51	08/21/21 04:02	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/20/21 09:51	08/21/21 04:02	1
Total TPH	59.7		50.0	15.0	mg/Kg		08/20/21 09:51	08/21/21 04:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130	08/20/21 09:51	08/21/21 04:02	1
o-Terphenyl	104		70 - 130	08/20/21 09:51	08/21/21 04:02	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	443		4.97	0.853	mg/Kg			08/23/21 18:23	1

Eurofins Xenco, Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Client Sample ID: TP13-S

Lab Sample ID: 880-5219-13

Date Collected: 08/17/21 11:20

Matrix: Solid

Date Received: 08/18/21 10:18

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		08/20/21 08:45	08/21/21 09:59	1
Toluene	<0.000458	U	0.00201	0.000458	mg/Kg		08/20/21 08:45	08/21/21 09:59	1
Ethylbenzene	<0.000567	U	0.00201	0.000567	mg/Kg		08/20/21 08:45	08/21/21 09:59	1
m-Xylene & p-Xylene	<0.00101	U	0.00402	0.00101	mg/Kg		08/20/21 08:45	08/21/21 09:59	1
o-Xylene	<0.000345	U	0.00201	0.000345	mg/Kg		08/20/21 08:45	08/21/21 09:59	1
Xylenes, Total	<0.00101	U	0.00402	0.00101	mg/Kg		08/20/21 08:45	08/21/21 09:59	1
Total BTEX	<0.00101	U	0.00402	0.00101	mg/Kg		08/20/21 08:45	08/21/21 09:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	121		70 - 130	08/20/21 08:45	08/21/21 09:59	1
1,4-Difluorobenzene (Surr)	97		70 - 130	08/20/21 08:45	08/21/21 09:59	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	33.2	J	49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 04:23	1
Diesel Range Organics (Over C10-C28)	32.9	J	49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 04:23	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 04:23	1
Total TPH	66.1		49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 04:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130	08/20/21 09:51	08/21/21 04:23	1
o-Terphenyl	109		70 - 130	08/20/21 09:51	08/21/21 04:23	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.17	J	4.95	0.850	mg/Kg			08/23/21 18:40	1

Client Sample ID: TP13-4

Lab Sample ID: 880-5219-14

Date Collected: 08/17/21 11:25

Matrix: Solid

Date Received: 08/18/21 10:18

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		08/20/21 08:45	08/21/21 10:19	1
Toluene	<0.000457	U	0.00200	0.000457	mg/Kg		08/20/21 08:45	08/21/21 10:19	1
Ethylbenzene	<0.000566	U	0.00200	0.000566	mg/Kg		08/20/21 08:45	08/21/21 10:19	1
m-Xylene & p-Xylene	<0.00101	U	0.00401	0.00101	mg/Kg		08/20/21 08:45	08/21/21 10:19	1
o-Xylene	0.000581	J	0.00200	0.000345	mg/Kg		08/20/21 08:45	08/21/21 10:19	1
Xylenes, Total	<0.00101	U	0.00401	0.00101	mg/Kg		08/20/21 08:45	08/21/21 10:19	1
Total BTEX	<0.00101	U	0.00401	0.00101	mg/Kg		08/20/21 08:45	08/21/21 10:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		70 - 130	08/20/21 08:45	08/21/21 10:19	1
1,4-Difluorobenzene (Surr)	80		70 - 130	08/20/21 08:45	08/21/21 10:19	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	43.5	J	49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 04:43	1

Eurofins Xenco, Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Client Sample ID: TP13-4

Lab Sample ID: 880-5219-14

Date Collected: 08/17/21 11:25

Matrix: Solid

Date Received: 08/18/21 10:18

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)	40.2	J	49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 04:43	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 04:43	1
Total TPH	83.7		49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 04:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130				08/20/21 09:51	08/21/21 04:43	1
o-Terphenyl	91		70 - 130				08/20/21 09:51	08/21/21 04:43	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12.7		5.01	0.860	mg/Kg			08/23/21 18:46	1

Client Sample ID: TP13-6

Lab Sample ID: 880-5219-15

Date Collected: 08/17/21 11:30

Matrix: Solid

Date Received: 08/18/21 10:18

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		08/20/21 08:45	08/21/21 10:40	1
Toluene	<0.000461	U	0.00202	0.000461	mg/Kg		08/20/21 08:45	08/21/21 10:40	1
Ethylbenzene	<0.000571	U	0.00202	0.000571	mg/Kg		08/20/21 08:45	08/21/21 10:40	1
m-Xylene & p-Xylene	<0.00102	U	0.00404	0.00102	mg/Kg		08/20/21 08:45	08/21/21 10:40	1
o-Xylene	<0.000347	U	0.00202	0.000347	mg/Kg		08/20/21 08:45	08/21/21 10:40	1
Xylenes, Total	<0.00102	U	0.00404	0.00102	mg/Kg		08/20/21 08:45	08/21/21 10:40	1
Total BTEX	<0.00102	U	0.00404	0.00102	mg/Kg		08/20/21 08:45	08/21/21 10:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130				08/20/21 08:45	08/21/21 10:40	1
1,4-Difluorobenzene (Surr)	99		70 - 130				08/20/21 08:45	08/21/21 10:40	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	44.8	J	49.8	14.9	mg/Kg		08/20/21 09:51	08/21/21 05:04	1
Diesel Range Organics (Over C10-C28)	21.1	J	49.8	14.9	mg/Kg		08/20/21 09:51	08/21/21 05:04	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		08/20/21 09:51	08/21/21 05:04	1
Total TPH	65.9		49.8	14.9	mg/Kg		08/20/21 09:51	08/21/21 05:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130				08/20/21 09:51	08/21/21 05:04	1
o-Terphenyl	100		70 - 130				08/20/21 09:51	08/21/21 05:04	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	20.4		4.98	0.855	mg/Kg			08/23/21 18:52	1

Eurofins Xenco, Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Client Sample ID: TP14-S

Lab Sample ID: 880-5219-16

Date Collected: 08/17/21 12:30

Matrix: Solid

Date Received: 08/18/21 10:18

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		08/20/21 08:45	08/21/21 11:00	1
Toluene	<0.000451	U	0.00198	0.000451	mg/Kg		08/20/21 08:45	08/21/21 11:00	1
Ethylbenzene	<0.000559	U	0.00198	0.000559	mg/Kg		08/20/21 08:45	08/21/21 11:00	1
m-Xylene & p-Xylene	<0.00100	U	0.00396	0.00100	mg/Kg		08/20/21 08:45	08/21/21 11:00	1
o-Xylene	<0.000341	U	0.00198	0.000341	mg/Kg		08/20/21 08:45	08/21/21 11:00	1
Xylenes, Total	<0.00100	U	0.00396	0.00100	mg/Kg		08/20/21 08:45	08/21/21 11:00	1
Total BTEX	<0.00100	U	0.00396	0.00100	mg/Kg		08/20/21 08:45	08/21/21 11:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		70 - 130	08/20/21 08:45	08/21/21 11:00	1
1,4-Difluorobenzene (Surr)	91		70 - 130	08/20/21 08:45	08/21/21 11:00	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	45.1	J	49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 05:24	1
Diesel Range Organics (Over C10-C28)	23.0	J	49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 05:24	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 05:24	1
Total TPH	68.1		49.9	15.0	mg/Kg		08/20/21 09:51	08/21/21 05:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	103		70 - 130	08/20/21 09:51	08/21/21 05:24	1
o-Terphenyl	105		70 - 130	08/20/21 09:51	08/21/21 05:24	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.07	J	4.96	0.851	mg/Kg			08/23/21 18:57	1

Client Sample ID: TP14-4

Lab Sample ID: 880-5219-17

Date Collected: 08/17/21 12:35

Matrix: Solid

Date Received: 08/18/21 10:18

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		08/20/21 08:45	08/21/21 11:20	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		08/20/21 08:45	08/21/21 11:20	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		08/20/21 08:45	08/21/21 11:20	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/20/21 08:45	08/21/21 11:20	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		08/20/21 08:45	08/21/21 11:20	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/20/21 08:45	08/21/21 11:20	1
Total BTEX	<0.00101	U	0.00400	0.00101	mg/Kg		08/20/21 08:45	08/21/21 11:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	117		70 - 130	08/20/21 08:45	08/21/21 11:20	1
1,4-Difluorobenzene (Surr)	97		70 - 130	08/20/21 08:45	08/21/21 11:20	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	45.8	J	50.0	15.0	mg/Kg		08/20/21 09:51	08/21/21 05:43	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Client Sample ID: TP14-4

Lab Sample ID: 880-5219-17

Date Collected: 08/17/21 12:35

Matrix: Solid

Date Received: 08/18/21 10:18

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)	19.9	J	50.0	15.0	mg/Kg		08/20/21 09:51	08/21/21 05:43	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/20/21 09:51	08/21/21 05:43	1
Total TPH	65.7		50.0	15.0	mg/Kg		08/20/21 09:51	08/21/21 05:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130				08/20/21 09:51	08/21/21 05:43	1
o-Terphenyl	97		70 - 130				08/20/21 09:51	08/21/21 05:43	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.23	J	4.98	0.855	mg/Kg			08/23/21 19:03	1

Client Sample ID: TP14-6

Lab Sample ID: 880-5219-18

Date Collected: 08/17/21 12:40

Matrix: Solid

Date Received: 08/18/21 10:18

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		08/20/21 08:45	08/21/21 11:41	1
Toluene	<0.000459	U	0.00201	0.000459	mg/Kg		08/20/21 08:45	08/21/21 11:41	1
Ethylbenzene	<0.000568	U	0.00201	0.000568	mg/Kg		08/20/21 08:45	08/21/21 11:41	1
m-Xylene & p-Xylene	<0.00102	U	0.00402	0.00102	mg/Kg		08/20/21 08:45	08/21/21 11:41	1
o-Xylene	<0.000346	U	0.00201	0.000346	mg/Kg		08/20/21 08:45	08/21/21 11:41	1
Xylenes, Total	<0.00102	U	0.00402	0.00102	mg/Kg		08/20/21 08:45	08/21/21 11:41	1
Total BTEX	<0.00102	U	0.00402	0.00102	mg/Kg		08/20/21 08:45	08/21/21 11:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130				08/20/21 08:45	08/21/21 11:41	1
1,4-Difluorobenzene (Surr)	96		70 - 130				08/20/21 08:45	08/21/21 11:41	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	29.2	J	49.8	14.9	mg/Kg		08/20/21 09:51	08/21/21 06:04	1
Diesel Range Organics (Over C10-C28)	20.5	J	49.8	14.9	mg/Kg		08/20/21 09:51	08/21/21 06:04	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		08/20/21 09:51	08/21/21 06:04	1
Total TPH	49.7	J	49.8	14.9	mg/Kg		08/20/21 09:51	08/21/21 06:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130				08/20/21 09:51	08/21/21 06:04	1
o-Terphenyl	95		70 - 130				08/20/21 09:51	08/21/21 06:04	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.09	J	5.00	0.858	mg/Kg			08/23/21 19:09	1

Eurofins Xenco, Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Client Sample ID: TP15-4

Lab Sample ID: 880-5219-19

Date Collected: 08/17/21 13:00

Matrix: Solid

Date Received: 08/18/21 10:18

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		08/20/21 08:45	08/21/21 12:01	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		08/20/21 08:45	08/21/21 12:01	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		08/20/21 08:45	08/21/21 12:01	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		08/20/21 08:45	08/21/21 12:01	1
o-Xylene	<0.000342	U	0.00199	0.000342	mg/Kg		08/20/21 08:45	08/21/21 12:01	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		08/20/21 08:45	08/21/21 12:01	1
Total BTEX	<0.00100	U	0.00398	0.00100	mg/Kg		08/20/21 08:45	08/21/21 12:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		70 - 130	08/20/21 08:45	08/21/21 12:01	1
1,4-Difluorobenzene (Surr)	96		70 - 130	08/20/21 08:45	08/21/21 12:01	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	47.4	J	50.0	15.0	mg/Kg		08/20/21 09:51	08/21/21 06:23	1
Diesel Range Organics (Over C10-C28)	28.5	J	50.0	15.0	mg/Kg		08/20/21 09:51	08/21/21 06:23	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/20/21 09:51	08/21/21 06:23	1
Total TPH	75.9		50.0	15.0	mg/Kg		08/20/21 09:51	08/21/21 06:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	94		70 - 130	08/20/21 09:51	08/21/21 06:23	1
o-Terphenyl	100		70 - 130	08/20/21 09:51	08/21/21 06:23	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	245		4.97	0.853	mg/Kg			08/23/21 19:26	1

Client Sample ID: TP15-12

Lab Sample ID: 880-5219-20

Date Collected: 08/17/21 13:15

Matrix: Solid

Date Received: 08/18/21 10:18

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		08/20/21 08:45	08/21/21 12:22	1
Toluene	<0.000451	U	0.00198	0.000451	mg/Kg		08/20/21 08:45	08/21/21 12:22	1
Ethylbenzene	<0.000559	U	0.00198	0.000559	mg/Kg		08/20/21 08:45	08/21/21 12:22	1
m-Xylene & p-Xylene	<0.00100	U	0.00396	0.00100	mg/Kg		08/20/21 08:45	08/21/21 12:22	1
o-Xylene	<0.000341	U	0.00198	0.000341	mg/Kg		08/20/21 08:45	08/21/21 12:22	1
Xylenes, Total	<0.00100	U	0.00396	0.00100	mg/Kg		08/20/21 08:45	08/21/21 12:22	1
Total BTEX	<0.00100	U	0.00396	0.00100	mg/Kg		08/20/21 08:45	08/21/21 12:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	08/20/21 08:45	08/21/21 12:22	1
1,4-Difluorobenzene (Surr)	97		70 - 130	08/20/21 08:45	08/21/21 12:22	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	32.0	J	50.0	15.0	mg/Kg		08/20/21 09:51	08/21/21 06:44	1

Eurofins Xenco, Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Client Sample ID: TP15-12

Lab Sample ID: 880-5219-20

Date Collected: 08/17/21 13:15

Matrix: Solid

Date Received: 08/18/21 10:18

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)	18.8	J	50.0	15.0	mg/Kg		08/20/21 09:51	08/21/21 06:44	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/20/21 09:51	08/21/21 06:44	1
Total TPH	50.8		50.0	15.0	mg/Kg		08/20/21 09:51	08/21/21 06:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130				08/20/21 09:51	08/21/21 06:44	1
o-Terphenyl	99		70 - 130				08/20/21 09:51	08/21/21 06:44	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11400		50.4	8.65	mg/Kg			08/23/21 19:31	10

Client Sample ID: TP15-20

Lab Sample ID: 880-5219-21

Date Collected: 08/17/21 13:35

Matrix: Solid

Date Received: 08/18/21 10:18

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		08/18/21 14:09	08/22/21 05:43	1
Toluene	<0.000456	U *	0.00200	0.000456	mg/Kg		08/18/21 14:09	08/22/21 05:43	1
Ethylbenzene	<0.000565	U *	0.00200	0.000565	mg/Kg		08/18/21 14:09	08/22/21 05:43	1
m-Xylene & p-Xylene	<0.00101	U *	0.00400	0.00101	mg/Kg		08/18/21 14:09	08/22/21 05:43	1
o-Xylene	0.000374	J *	0.00200	0.000344	mg/Kg		08/18/21 14:09	08/22/21 05:43	1
Xylenes, Total	<0.00101	U *	0.00400	0.00101	mg/Kg		08/18/21 14:09	08/22/21 05:43	1
Total BTEX	<0.00101	U *	0.00400	0.00101	mg/Kg		08/18/21 14:09	08/22/21 05:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130				08/18/21 14:09	08/22/21 05:43	1
1,4-Difluorobenzene (Surr)	107		70 - 130				08/18/21 14:09	08/22/21 05:43	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		08/18/21 15:17	08/19/21 21:18	1
Diesel Range Organics (Over C10-C28)	<14.9	U	49.8	14.9	mg/Kg		08/18/21 15:17	08/19/21 21:18	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		08/18/21 15:17	08/19/21 21:18	1
Total TPH	<14.9	U	49.8	14.9	mg/Kg		08/18/21 15:17	08/19/21 21:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130				08/18/21 15:17	08/19/21 21:18	1
o-Terphenyl	116		70 - 130				08/18/21 15:17	08/19/21 21:18	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8330		49.7	8.53	mg/Kg			08/23/21 19:48	10

Eurofins Xenco, Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Client Sample ID: TP16-S

Lab Sample ID: 880-5219-22

Date Collected: 08/17/21 13:55

Matrix: Solid

Date Received: 08/18/21 10:18

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		08/18/21 14:09	08/22/21 06:08	1
Toluene	<0.000454	U *	0.00199	0.000454	mg/Kg		08/18/21 14:09	08/22/21 06:08	1
Ethylbenzene	<0.000563	U *	0.00199	0.000563	mg/Kg		08/18/21 14:09	08/22/21 06:08	1
m-Xylene & p-Xylene	<0.00101	U *	0.00398	0.00101	mg/Kg		08/18/21 14:09	08/22/21 06:08	1
o-Xylene	<0.000343	U *	0.00199	0.000343	mg/Kg		08/18/21 14:09	08/22/21 06:08	1
Xylenes, Total	<0.00101	U *	0.00398	0.00101	mg/Kg		08/18/21 14:09	08/22/21 06:08	1
Total BTEX	<0.00101	U *	0.00398	0.00101	mg/Kg		08/18/21 14:09	08/22/21 06:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		70 - 130	08/18/21 14:09	08/22/21 06:08	1
1,4-Difluorobenzene (Surr)	92		70 - 130	08/18/21 14:09	08/22/21 06:08	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		08/18/21 15:17	08/19/21 21:38	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		08/18/21 15:17	08/19/21 21:38	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		08/18/21 15:17	08/19/21 21:38	1
Total TPH	<15.0	U	49.9	15.0	mg/Kg		08/18/21 15:17	08/19/21 21:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	103		70 - 130	08/18/21 15:17	08/19/21 21:38	1
o-Terphenyl	120		70 - 130	08/18/21 15:17	08/19/21 21:38	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.11		4.95	0.850	mg/Kg			08/23/21 19:54	1

Client Sample ID: TP16-4

Lab Sample ID: 880-5219-23

Date Collected: 08/17/21 14:00

Matrix: Solid

Date Received: 08/18/21 10:18

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		08/18/21 14:09	08/22/21 06:34	1
Toluene	<0.000453	U *	0.00199	0.000453	mg/Kg		08/18/21 14:09	08/22/21 06:34	1
Ethylbenzene	<0.000562	U *	0.00199	0.000562	mg/Kg		08/18/21 14:09	08/22/21 06:34	1
m-Xylene & p-Xylene	<0.00100	U *	0.00398	0.00100	mg/Kg		08/18/21 14:09	08/22/21 06:34	1
o-Xylene	<0.000342	U *	0.00199	0.000342	mg/Kg		08/18/21 14:09	08/22/21 06:34	1
Xylenes, Total	<0.00100	U *	0.00398	0.00100	mg/Kg		08/18/21 14:09	08/22/21 06:34	1
Total BTEX	<0.00100	U *	0.00398	0.00100	mg/Kg		08/18/21 14:09	08/22/21 06:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130	08/18/21 14:09	08/22/21 06:34	1
1,4-Difluorobenzene (Surr)	117		70 - 130	08/18/21 14:09	08/22/21 06:34	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		08/18/21 15:17	08/19/21 22:02	1

Eurofins Xenco, Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Client Sample ID: TP16-4

Lab Sample ID: 880-5219-23

Date Collected: 08/17/21 14:00

Matrix: Solid

Date Received: 08/18/21 10:18

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		08/18/21 15:17	08/19/21 22:02	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/18/21 15:17	08/19/21 22:02	1
Total TPH	<15.0	U	50.0	15.0	mg/Kg		08/18/21 15:17	08/19/21 22:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	94		70 - 130				08/18/21 15:17	08/19/21 22:02	1
o-Terphenyl	107		70 - 130				08/18/21 15:17	08/19/21 22:02	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	18.5		5.01	0.860	mg/Kg			08/23/21 20:00	1

Client Sample ID: TP16-6

Lab Sample ID: 880-5219-24

Date Collected: 08/17/21 14:05

Matrix: Solid

Date Received: 08/18/21 10:18

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		08/18/21 14:09	08/22/21 07:01	1
Toluene	<0.000457	U *	0.00200	0.000457	mg/Kg		08/18/21 14:09	08/22/21 07:01	1
Ethylbenzene	<0.000566	U *	0.00200	0.000566	mg/Kg		08/18/21 14:09	08/22/21 07:01	1
m-Xylene & p-Xylene	<0.00101	U *	0.00401	0.00101	mg/Kg		08/18/21 14:09	08/22/21 07:01	1
o-Xylene	<0.000345	U *	0.00200	0.000345	mg/Kg		08/18/21 14:09	08/22/21 07:01	1
Xylenes, Total	<0.00101	U *	0.00401	0.00101	mg/Kg		08/18/21 14:09	08/22/21 07:01	1
Total BTEX	<0.00101	U *	0.00401	0.00101	mg/Kg		08/18/21 14:09	08/22/21 07:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	164	S1+	70 - 130				08/18/21 14:09	08/22/21 07:01	1
1,4-Difluorobenzene (Surr)	107		70 - 130				08/18/21 14:09	08/22/21 07:01	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		08/18/21 15:17	08/19/21 22:23	1
Diesel Range Organics (Over C10-C28)	<14.9	U	49.8	14.9	mg/Kg		08/18/21 15:17	08/19/21 22:23	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		08/18/21 15:17	08/19/21 22:23	1
Total TPH	<14.9	U	49.8	14.9	mg/Kg		08/18/21 15:17	08/19/21 22:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130				08/18/21 15:17	08/19/21 22:23	1
o-Terphenyl	101		70 - 130				08/18/21 15:17	08/19/21 22:23	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.00	J	4.95	0.850	mg/Kg			08/23/21 20:05	1

Eurofins Xenco, Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Client Sample ID: TP17-S

Lab Sample ID: 880-5219-25

Date Collected: 08/17/21 14:20

Matrix: Solid

Date Received: 08/18/21 10:18

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		08/18/21 14:09	08/22/21 07:28	1
Toluene	<0.000455	U *	0.00200	0.000455	mg/Kg		08/18/21 14:09	08/22/21 07:28	1
Ethylbenzene	<0.000564	U *	0.00200	0.000564	mg/Kg		08/18/21 14:09	08/22/21 07:28	1
m-Xylene & p-Xylene	<0.00101	U *	0.00399	0.00101	mg/Kg		08/18/21 14:09	08/22/21 07:28	1
o-Xylene	<0.000343	U *	0.00200	0.000343	mg/Kg		08/18/21 14:09	08/22/21 07:28	1
Xylenes, Total	<0.00101	U *	0.00399	0.00101	mg/Kg		08/18/21 14:09	08/22/21 07:28	1
Total BTEX	<0.00101	U *	0.00399	0.00101	mg/Kg		08/18/21 14:09	08/22/21 07:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	178	S1+	70 - 130	08/18/21 14:09	08/22/21 07:28	1
1,4-Difluorobenzene (Surr)	107		70 - 130	08/18/21 14:09	08/22/21 07:28	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		08/18/21 15:17	08/19/21 22:50	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/18/21 15:17	08/19/21 22:50	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/18/21 15:17	08/19/21 22:50	1
Total TPH	<15.0	U	50.0	15.0	mg/Kg		08/18/21 15:17	08/19/21 22:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	108		70 - 130	08/18/21 15:17	08/19/21 22:50	1
o-Terphenyl	115		70 - 130	08/18/21 15:17	08/19/21 22:50	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.39	J	4.98	0.855	mg/Kg			08/23/21 20:11	1

Client Sample ID: TP17-4

Lab Sample ID: 880-5219-26

Date Collected: 08/17/21 14:25

Matrix: Solid

Date Received: 08/18/21 10:18

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		08/18/21 14:09	08/22/21 07:55	1
Toluene	<0.000451	U *	0.00198	0.000451	mg/Kg		08/18/21 14:09	08/22/21 07:55	1
Ethylbenzene	<0.000559	U *	0.00198	0.000559	mg/Kg		08/18/21 14:09	08/22/21 07:55	1
m-Xylene & p-Xylene	<0.00100	U *	0.00396	0.00100	mg/Kg		08/18/21 14:09	08/22/21 07:55	1
o-Xylene	<0.000341	U *	0.00198	0.000341	mg/Kg		08/18/21 14:09	08/22/21 07:55	1
Xylenes, Total	<0.00100	U *	0.00396	0.00100	mg/Kg		08/18/21 14:09	08/22/21 07:55	1
Total BTEX	<0.00100	U *	0.00396	0.00100	mg/Kg		08/18/21 14:09	08/22/21 07:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		70 - 130	08/18/21 14:09	08/22/21 07:55	1
1,4-Difluorobenzene (Surr)	106		70 - 130	08/18/21 14:09	08/22/21 07:55	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		08/18/21 15:17	08/19/21 23:15	1

Eurofins Xenco, Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Client Sample ID: TP17-4

Lab Sample ID: 880-5219-26

Date Collected: 08/17/21 14:25

Matrix: Solid

Date Received: 08/18/21 10:18

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		08/18/21 15:17	08/19/21 23:15	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/18/21 15:17	08/19/21 23:15	1
Total TPH	<15.0	U	50.0	15.0	mg/Kg		08/18/21 15:17	08/19/21 23:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130				08/18/21 15:17	08/19/21 23:15	1
o-Terphenyl	111		70 - 130				08/18/21 15:17	08/19/21 23:15	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.90		5.00	0.858	mg/Kg			08/23/21 20:17	1

Client Sample ID: TP17-6

Lab Sample ID: 880-5219-27

Date Collected: 08/17/21 14:30

Matrix: Solid

Date Received: 08/18/21 10:18

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		08/18/21 14:09	08/22/21 08:22	1
Toluene	<0.000460	U *	0.00202	0.000460	mg/Kg		08/18/21 14:09	08/22/21 08:22	1
Ethylbenzene	<0.000570	U *	0.00202	0.000570	mg/Kg		08/18/21 14:09	08/22/21 08:22	1
m-Xylene & p-Xylene	<0.00102	U *	0.00403	0.00102	mg/Kg		08/18/21 14:09	08/22/21 08:22	1
o-Xylene	<0.000347	U *	0.00202	0.000347	mg/Kg		08/18/21 14:09	08/22/21 08:22	1
Xylenes, Total	<0.00102	U *	0.00403	0.00102	mg/Kg		08/18/21 14:09	08/22/21 08:22	1
Total BTEX	<0.00102	U *	0.00403	0.00102	mg/Kg		08/18/21 14:09	08/22/21 08:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		70 - 130				08/18/21 14:09	08/22/21 08:22	1
1,4-Difluorobenzene (Surr)	111		70 - 130				08/18/21 14:09	08/22/21 08:22	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		08/19/21 13:30	08/20/21 08:41	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/19/21 13:30	08/20/21 08:41	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/19/21 13:30	08/20/21 08:41	1
Total TPH	<15.0	U	50.0	15.0	mg/Kg		08/19/21 13:30	08/20/21 08:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	83		70 - 130				08/19/21 13:30	08/20/21 08:41	1
o-Terphenyl	94		70 - 130				08/19/21 13:30	08/20/21 08:41	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.41	J	4.99	0.857	mg/Kg			08/23/21 20:22	1

Eurofins Xenco, Midland

Surrogate Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

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)
880-5219-1	TP9-S	96	88
880-5219-1 MS	TP9-S	84	109
880-5219-1 MSD	TP9-S	119	102
880-5219-2	TP9-4	112	80
880-5219-3	TP9-6	116	95
880-5219-4	TP10-4	105	79
880-5219-5	TP10-12	140 S1+	98
880-5219-6	TP10-20	119	111
880-5219-7	TP11-4	86	84
880-5219-8	TP11-12	116	97
880-5219-9	TP11-20	189 S1+	228 S1+
880-5219-10	TP12-4	86	87
880-5219-11	TP12-8	109	99
880-5219-12	TP12-14	119	95
880-5219-13	TP13-S	121	97
880-5219-14	TP13-4	88	80
880-5219-15	TP13-6	115	99
880-5219-16	TP14-S	91	91
880-5219-17	TP14-4	117	97
880-5219-18	TP14-6	105	96
880-5219-19	TP15-4	94	96
880-5219-20	TP15-12	112	97
880-5219-21	TP15-20	108	107
880-5219-22	TP16-S	85	92
880-5219-23	TP16-4	103	117
880-5219-24	TP16-6	164 S1+	107
880-5219-25	TP17-S	178 S1+	107
880-5219-26	TP17-4	88	106
880-5219-27	TP17-6	88	111
LCS 880-6819/1-A	Lab Control Sample	109	104
LCS 880-6879/3	Lab Control Sample	96	120
LCSD 880-6740/2-A	Lab Control Sample Dup	97	118
LCSD 880-6819/2-A	Lab Control Sample Dup	107	107
LCSD 880-6879/4	Lab Control Sample Dup	90	119
MB 880-6740/5-A	Method Blank	64 S1-	99
MB 880-6819/5-A	Method Blank	104	96
MB 880-6835/5-A	Method Blank	104	95
MB 880-6879/8	Method Blank	61 S1-	98
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)
880-5219-1	TP9-S	104	107

Eurofins Xenco, Midland

Surrogate Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

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)
880-5219-1 MS	TP9-S	92	81
880-5219-1 MSD	TP9-S	92	81
880-5219-2	TP9-4	89	86
880-5219-3	TP9-6	96	96
880-5219-4	TP10-4	112	116
880-5219-5	TP10-12	96	97
880-5219-6	TP10-20	95	95
880-5219-7	TP11-4	105	107
880-5219-8	TP11-12	97	100
880-5219-9	TP11-20	100	102
880-5219-10	TP12-4	97	98
880-5219-11	TP12-8	96	99
880-5219-12	TP12-14	99	104
880-5219-13	TP13-S	106	109
880-5219-14	TP13-4	95	91
880-5219-15	TP13-6	99	100
880-5219-16	TP14-S	103	105
880-5219-17	TP14-4	98	97
880-5219-18	TP14-6	98	95
880-5219-19	TP15-4	94	100
880-5219-20	TP15-12	96	99
880-5219-21	TP15-20	99	116
880-5219-22	TP16-S	103	120
880-5219-23	TP16-4	94	107
880-5219-24	TP16-6	95	101
880-5219-25	TP17-S	108	115
880-5219-26	TP17-4	96	111
880-5219-27	TP17-6	83	94
LCS 880-6751/2-A	Lab Control Sample	93	93
LCS 880-6811/2-A	Lab Control Sample	88	96
LCS 880-6847/2-A	Lab Control Sample	124	119
LCSD 880-6751/3-A	Lab Control Sample Dup	106	110
LCSD 880-6811/3-A	Lab Control Sample Dup	94	104
LCSD 880-6847/3-A	Lab Control Sample Dup	125	117
MB 880-6751/1-A	Method Blank	120	131 S1+
MB 880-6811/1-A	Method Blank	92	107
MB 880-6847/1-A	Method Blank	114	119
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

Eurofins Xenco, Midland

QC Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-6740/5-A

Matrix: Solid

Analysis Batch: 6879

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6740

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		08/18/21 14:09	08/21/21 23:44	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		08/18/21 14:09	08/21/21 23:44	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		08/18/21 14:09	08/21/21 23:44	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/18/21 14:09	08/21/21 23:44	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		08/18/21 14:09	08/21/21 23:44	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/18/21 14:09	08/21/21 23:44	1
Total BTEX	<0.00101	U	0.00400	0.00101	mg/Kg		08/18/21 14:09	08/21/21 23:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	64	S1-	70 - 130	08/18/21 14:09	08/21/21 23:44	1
1,4-Difluorobenzene (Surr)	99		70 - 130	08/18/21 14:09	08/21/21 23:44	1

Lab Sample ID: LCSD 880-6740/2-A

Matrix: Solid

Analysis Batch: 6879

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6740

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.200	0.1039	*-	mg/Kg		52	70 - 130	8	35
Toluene	0.200	0.1030	*-	mg/Kg		52	70 - 130	7	35
Ethylbenzene	0.200	0.1022	*-	mg/Kg		51	70 - 130	1	35
m-Xylene & p-Xylene	0.400	0.2039	*-	mg/Kg		51	70 - 130	4	35
o-Xylene	0.200	0.09995	*-	mg/Kg		50	70 - 130	0	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		70 - 130
1,4-Difluorobenzene (Surr)	118		70 - 130

Lab Sample ID: MB 880-6819/5-A

Matrix: Solid

Analysis Batch: 6871

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6819

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		08/20/21 08:45	08/21/21 04:31	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		08/20/21 08:45	08/21/21 04:31	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		08/20/21 08:45	08/21/21 04:31	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/20/21 08:45	08/21/21 04:31	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		08/20/21 08:45	08/21/21 04:31	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/20/21 08:45	08/21/21 04:31	1
Total BTEX	<0.00101	U	0.00400	0.00101	mg/Kg		08/20/21 08:45	08/21/21 04:31	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130	08/20/21 08:45	08/21/21 04:31	1
1,4-Difluorobenzene (Surr)	96		70 - 130	08/20/21 08:45	08/21/21 04:31	1

Eurofins Xenco, Midland

QC Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

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

Lab Sample ID: LCS 880-6819/1-A

Matrix: Solid

Analysis Batch: 6871

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6819

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.07805		mg/Kg		78	70 - 130
Toluene	0.100	0.07616		mg/Kg		76	70 - 130
Ethylbenzene	0.100	0.07833		mg/Kg		78	70 - 130
m-Xylene & p-Xylene	0.200	0.1592		mg/Kg		80	70 - 130
o-Xylene	0.100	0.08340		mg/Kg		83	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	109		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: LCSD 880-6819/2-A

Matrix: Solid

Analysis Batch: 6871

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6819

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.07366		mg/Kg		74	70 - 130	6	35
Toluene	0.100	0.07059		mg/Kg		71	70 - 130	8	35
Ethylbenzene	0.100	0.07229		mg/Kg		72	70 - 130	8	35
m-Xylene & p-Xylene	0.200	0.1439		mg/Kg		72	70 - 130	10	35
o-Xylene	0.100	0.07555		mg/Kg		76	70 - 130	10	35

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

Lab Sample ID: 880-5219-1 MS

Matrix: Solid

Analysis Batch: 6871

Client Sample ID: TP9-S

Prep Type: Total/NA

Prep Batch: 6819

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.000386	U F2 F1	0.100	0.01320	F1	mg/Kg		13	70 - 130
Toluene	0.000491	J F2 F1	0.100	0.01386	F1	mg/Kg		13	70 - 130
Ethylbenzene	<0.000566	U F2 F1	0.100	0.01709	F1	mg/Kg		17	70 - 130
m-Xylene & p-Xylene	<0.00101	U F2 F1	0.201	0.03517	F1	mg/Kg		18	70 - 130
o-Xylene	0.000405	J F2 F1	0.100	0.02028	F1	mg/Kg		20	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	84		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: 880-5219-1 MSD

Matrix: Solid

Analysis Batch: 6871

Client Sample ID: TP9-S

Prep Type: Total/NA

Prep Batch: 6819

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.000386	U F2 F1	0.100	0.02978	F2 F1	mg/Kg		30	70 - 130	77	35
Toluene	0.000491	J F2 F1	0.100	0.02989	F2 F1	mg/Kg		29	70 - 130	73	35
Ethylbenzene	<0.000566	U F2 F1	0.100	0.03196	F2 F1	mg/Kg		32	70 - 130	61	35

Eurofins Xenco, Midland

QC Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

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

Lab Sample ID: 880-5219-1 MSD

Matrix: Solid

Analysis Batch: 6871

Client Sample ID: TP9-S

Prep Type: Total/NA

Prep Batch: 6819

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
m-Xylene & p-Xylene	<0.00101	U F2 F1	0.200	0.06556	F2 F1	mg/Kg		33	70 - 130	60	35
o-Xylene	0.000405	J F2 F1	0.100	0.03754	F2 F1	mg/Kg		37	70 - 130	60	35
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	119		70 - 130								
1,4-Difluorobenzene (Surr)	102		70 - 130								

Lab Sample ID: MB 880-6835/5-A

Matrix: Solid

Analysis Batch: 6871

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6835

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		08/20/21 08:30	08/20/21 17:37	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		08/20/21 08:30	08/20/21 17:37	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		08/20/21 08:30	08/20/21 17:37	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/20/21 08:30	08/20/21 17:37	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		08/20/21 08:30	08/20/21 17:37	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/20/21 08:30	08/20/21 17:37	1
Total BTEX	<0.00101	U	0.00400	0.00101	mg/Kg		08/20/21 08:30	08/20/21 17:37	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130				08/20/21 08:30	08/20/21 17:37	1
1,4-Difluorobenzene (Surr)	95		70 - 130				08/20/21 08:30	08/20/21 17:37	1

Lab Sample ID: MB 880-6879/8

Matrix: Solid

Analysis Batch: 6879

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			08/21/21 14:05	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg			08/21/21 14:05	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg			08/21/21 14:05	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg			08/21/21 14:05	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg			08/21/21 14:05	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg			08/21/21 14:05	1
Total BTEX	<0.00101	U	0.00400	0.00101	mg/Kg			08/21/21 14:05	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	61	S1-	70 - 130					08/21/21 14:05	1
1,4-Difluorobenzene (Surr)	98		70 - 130					08/21/21 14:05	1

Lab Sample ID: LCS 880-6879/3

Matrix: Solid

Analysis Batch: 6879

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.09284		mg/Kg		93	70 - 130
Toluene	0.100	0.09533		mg/Kg		95	70 - 130

Eurofins Xenco, Midland

QC Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

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

Lab Sample ID: LCS 880-6879/3

Matrix: Solid

Analysis Batch: 6879

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	0.100	0.09966		mg/Kg		100	70 - 130
m-Xylene & p-Xylene	0.200	0.1968		mg/Kg		98	70 - 130
o-Xylene	0.100	0.09604		mg/Kg		96	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		70 - 130
1,4-Difluorobenzene (Surr)	120		70 - 130

Lab Sample ID: LCSD 880-6879/4

Matrix: Solid

Analysis Batch: 6879

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.08925		mg/Kg		89	70 - 130	4	35
Toluene	0.100	0.08833		mg/Kg		88	70 - 130	8	35
Ethylbenzene	0.100	0.09310		mg/Kg		93	70 - 130	7	35
m-Xylene & p-Xylene	0.200	0.1847		mg/Kg		92	70 - 130	6	35
o-Xylene	0.100	0.09129		mg/Kg		91	70 - 130	5	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		70 - 130
1,4-Difluorobenzene (Surr)	119		70 - 130

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

Lab Sample ID: MB 880-6751/1-A

Matrix: Solid

Analysis Batch: 6802

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6751

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	26.13	J	50.0	15.0	mg/Kg		08/18/21 15:17	08/19/21 13:30	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/18/21 15:17	08/19/21 13:30	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/18/21 15:17	08/19/21 13:30	1
Total TPH	26.13	J	50.0	15.0	mg/Kg		08/18/21 15:17	08/19/21 13:30	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	120		70 - 130	08/18/21 15:17	08/19/21 13:30	1
o-Terphenyl	131	S1+	70 - 130	08/18/21 15:17	08/19/21 13:30	1

Lab Sample ID: LCS 880-6751/2-A

Matrix: Solid

Analysis Batch: 6802

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6751

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	808.8		mg/Kg		81	70 - 130

Eurofins Xenco, Midland

QC Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

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

Lab Sample ID: LCS 880-6751/2-A

Matrix: Solid

Analysis Batch: 6802

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6751

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics (Over C10-C28)	1000	926.3		mg/Kg		93	70 - 130

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

Lab Sample ID: LCSD 880-6751/3-A

Matrix: Solid

Analysis Batch: 6802

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6751

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	815.9		mg/Kg		82	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	1000	1085		mg/Kg		108	70 - 130	16	20

	LCSD %Recovery	LCSD Qualifier	Limits
Surrogate			
1-Chlorooctane	106		70 - 130
o-Terphenyl	110		70 - 130

Lab Sample ID: MB 880-6811/1-A

Matrix: Solid

Analysis Batch: 6797

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6811

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		08/19/21 13:30	08/19/21 23:57	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/19/21 13:30	08/19/21 23:57	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/19/21 13:30	08/19/21 23:57	1
Total TPH	<15.0	U	50.0	15.0	mg/Kg		08/19/21 13:30	08/19/21 23:57	1

	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Surrogate						
1-Chlorooctane	92		70 - 130	08/19/21 13:30	08/19/21 23:57	1
o-Terphenyl	107		70 - 130	08/19/21 13:30	08/19/21 23:57	1

Lab Sample ID: LCS 880-6811/2-A

Matrix: Solid

Analysis Batch: 6797

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6811

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	788.2		mg/Kg		79	70 - 130
Diesel Range Organics (Over C10-C28)	1000	926.2		mg/Kg		93	70 - 130

	LCS %Recovery	LCS Qualifier	Limits
Surrogate			
1-Chlorooctane	88		70 - 130

Eurofins Xenco, Midland

QC Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

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

Lab Sample ID: LCS 880-6811/2-A

Matrix: Solid

Analysis Batch: 6797

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6811

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
<i>o</i> -Terphenyl	96		70 - 130

Lab Sample ID: LCSD 880-6811/3-A

Matrix: Solid

Analysis Batch: 6797

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6811

	Spike	LCSD	LCSD					%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	1000	861.2		mg/Kg		86	70 - 130	9	20
Diesel Range Organics (Over C10-C28)	1000	1004		mg/Kg		100	70 - 130	8	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	94		70 - 130
<i>o</i> -Terphenyl	104		70 - 130

Lab Sample ID: MB 880-6847/1-A

Matrix: Solid

Analysis Batch: 6841

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6847

	MB	MB							
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		08/20/21 09:51	08/20/21 22:01	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/20/21 09:51	08/20/21 22:01	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/20/21 09:51	08/20/21 22:01	1
Total TPH	<15.0	U	50.0	15.0	mg/Kg		08/20/21 09:51	08/20/21 22:01	1

	MB	MB							
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1-Chlorooctane	114		70 - 130	08/20/21 09:51	08/20/21 22:01	1			
<i>o</i> -Terphenyl	119		70 - 130	08/20/21 09:51	08/20/21 22:01	1			

Lab Sample ID: LCS 880-6847/2-A

Matrix: Solid

Analysis Batch: 6841

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6847

	Spike	LCS	LCS					%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Gasoline Range Organics (GRO)-C6-C10	1000	1205		mg/Kg		120	70 - 130		
Diesel Range Organics (Over C10-C28)	1000	1014		mg/Kg		101	70 - 130		

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	124		70 - 130
<i>o</i> -Terphenyl	119		70 - 130

Eurofins Xenco, Midland

QC Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

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

Lab Sample ID: LCSD 880-6847/3-A

Matrix: Solid

Analysis Batch: 6841

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6847

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	12	20
Diesel Range Organics (Over C10-C28)	1000	1033		mg/Kg		103	70 - 130	2	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	125		70 - 130						
o-Terphenyl	117		70 - 130						

Lab Sample ID: 880-5219-1 MS

Matrix: Solid

Analysis Batch: 6841

Client Sample ID: TP9-S

Prep Type: Total/NA

Prep Batch: 6847

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	37.1	J	995	1038		mg/Kg		101	70 - 130		
Diesel Range Organics (Over C10-C28)	24.2	J	995	808.5		mg/Kg		79	70 - 130		
Surrogate	MS %Recovery	MS Qualifier	Limits								
1-Chlorooctane	92		70 - 130								
o-Terphenyl	81		70 - 130								

Lab Sample ID: 880-5219-1 MSD

Matrix: Solid

Analysis Batch: 6841

Client Sample ID: TP9-S

Prep Type: Total/NA

Prep Batch: 6847

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	37.1	J	998	1007		mg/Kg		97	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	24.2	J	998	837.2		mg/Kg		81	70 - 130	3	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	92		70 - 130								
o-Terphenyl	81		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-6748/1-A

Matrix: Solid

Analysis Batch: 6942

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			08/23/21 18:34	1

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QC Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-6748/2-A

Matrix: Solid

Analysis Batch: 6942

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	259.9		mg/Kg		104	90 - 110

Lab Sample ID: LCSD 880-6748/3-A

Matrix: Solid

Analysis Batch: 6942

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	260.0		mg/Kg		104	90 - 110	0	20

Lab Sample ID: MB 880-6788/1-A

Matrix: Solid

Analysis Batch: 6944

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			08/23/21 17:32	1

Lab Sample ID: LCS 880-6788/2-A

Matrix: Solid

Analysis Batch: 6944

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	263.9		mg/Kg		106	90 - 110

Lab Sample ID: LCSD 880-6788/3-A

Matrix: Solid

Analysis Batch: 6944

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	260.6		mg/Kg		104	90 - 110	1	20

Lab Sample ID: 880-5219-8 MS

Matrix: Solid

Analysis Batch: 6944

Client Sample ID: TP11-12

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	481	F1	248	701.8	F1	mg/Kg		89	90 - 110

Lab Sample ID: 880-5219-8 MSD

Matrix: Solid

Analysis Batch: 6944

Client Sample ID: TP11-12

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	481	F1	248	727.6		mg/Kg		100	90 - 110	4	20

Lab Sample ID: 880-5219-18 MS

Matrix: Solid

Analysis Batch: 6944

Client Sample ID: TP14-6

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	3.09	J	250	266.2		mg/Kg		105	90 - 110

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QC Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 880-5219-18 MSD							Client Sample ID: TP14-6					
Matrix: Solid							Prep Type: Soluble					
Analysis Batch: 6944												
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit	
Chloride	3.09	J	250	275.9		mg/Kg		109	90 - 110	4	20	

QC Association Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

GC VOA

Prep Batch: 6740

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5219-21	TP15-20	Total/NA	Solid	5035	
880-5219-22	TP16-S	Total/NA	Solid	5035	
880-5219-23	TP16-4	Total/NA	Solid	5035	
880-5219-24	TP16-6	Total/NA	Solid	5035	
880-5219-25	TP17-S	Total/NA	Solid	5035	
880-5219-26	TP17-4	Total/NA	Solid	5035	
880-5219-27	TP17-6	Total/NA	Solid	5035	
MB 880-6740/5-A	Method Blank	Total/NA	Solid	5035	
LCSD 880-6740/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Prep Batch: 6819

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5219-1	TP9-S	Total/NA	Solid	5035	
880-5219-2	TP9-4	Total/NA	Solid	5035	
880-5219-3	TP9-6	Total/NA	Solid	5035	
880-5219-4	TP10-4	Total/NA	Solid	5035	
880-5219-5	TP10-12	Total/NA	Solid	5035	
880-5219-6	TP10-20	Total/NA	Solid	5035	
880-5219-7	TP11-4	Total/NA	Solid	5035	
880-5219-8	TP11-12	Total/NA	Solid	5035	
880-5219-9	TP11-20	Total/NA	Solid	5035	
880-5219-10	TP12-4	Total/NA	Solid	5035	
880-5219-11	TP12-8	Total/NA	Solid	5035	
880-5219-12	TP12-14	Total/NA	Solid	5035	
880-5219-13	TP13-S	Total/NA	Solid	5035	
880-5219-14	TP13-4	Total/NA	Solid	5035	
880-5219-15	TP13-6	Total/NA	Solid	5035	
880-5219-16	TP14-S	Total/NA	Solid	5035	
880-5219-17	TP14-4	Total/NA	Solid	5035	
880-5219-18	TP14-6	Total/NA	Solid	5035	
880-5219-19	TP15-4	Total/NA	Solid	5035	
880-5219-20	TP15-12	Total/NA	Solid	5035	
MB 880-6819/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-6819/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-6819/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-5219-1 MS	TP9-S	Total/NA	Solid	5035	
880-5219-1 MSD	TP9-S	Total/NA	Solid	5035	

Prep Batch: 6835

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-6835/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 6871

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5219-1	TP9-S	Total/NA	Solid	8021B	6819
880-5219-2	TP9-4	Total/NA	Solid	8021B	6819
880-5219-3	TP9-6	Total/NA	Solid	8021B	6819
880-5219-4	TP10-4	Total/NA	Solid	8021B	6819
880-5219-5	TP10-12	Total/NA	Solid	8021B	6819
880-5219-6	TP10-20	Total/NA	Solid	8021B	6819
880-5219-7	TP11-4	Total/NA	Solid	8021B	6819

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QC Association Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

GC VOA (Continued)

Analysis Batch: 6871 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5219-8	TP11-12	Total/NA	Solid	8021B	6819
880-5219-9	TP11-20	Total/NA	Solid	8021B	6819
880-5219-10	TP12-4	Total/NA	Solid	8021B	6819
880-5219-11	TP12-8	Total/NA	Solid	8021B	6819
880-5219-12	TP12-14	Total/NA	Solid	8021B	6819
880-5219-13	TP13-S	Total/NA	Solid	8021B	6819
880-5219-14	TP13-4	Total/NA	Solid	8021B	6819
880-5219-15	TP13-6	Total/NA	Solid	8021B	6819
880-5219-16	TP14-S	Total/NA	Solid	8021B	6819
880-5219-17	TP14-4	Total/NA	Solid	8021B	6819
880-5219-18	TP14-6	Total/NA	Solid	8021B	6819
880-5219-19	TP15-4	Total/NA	Solid	8021B	6819
880-5219-20	TP15-12	Total/NA	Solid	8021B	6819
MB 880-6819/5-A	Method Blank	Total/NA	Solid	8021B	6819
MB 880-6835/5-A	Method Blank	Total/NA	Solid	8021B	6835
LCS 880-6819/1-A	Lab Control Sample	Total/NA	Solid	8021B	6819
LCSD 880-6819/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	6819
880-5219-1 MS	TP9-S	Total/NA	Solid	8021B	6819
880-5219-1 MSD	TP9-S	Total/NA	Solid	8021B	6819

Analysis Batch: 6879

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5219-21	TP15-20	Total/NA	Solid	8021B	6740
880-5219-22	TP16-S	Total/NA	Solid	8021B	6740
880-5219-23	TP16-4	Total/NA	Solid	8021B	6740
880-5219-24	TP16-6	Total/NA	Solid	8021B	6740
880-5219-25	TP17-S	Total/NA	Solid	8021B	6740
880-5219-26	TP17-4	Total/NA	Solid	8021B	6740
880-5219-27	TP17-6	Total/NA	Solid	8021B	6740
MB 880-6740/5-A	Method Blank	Total/NA	Solid	8021B	6740
MB 880-6879/8	Method Blank	Total/NA	Solid	8021B	
LCS 880-6879/3	Lab Control Sample	Total/NA	Solid	8021B	
LCSD 880-6740/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	6740
LCSD 880-6879/4	Lab Control Sample Dup	Total/NA	Solid	8021B	

GC Semi VOA

Prep Batch: 6751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5219-21	TP15-20	Total/NA	Solid	8015NM Prep	
880-5219-22	TP16-S	Total/NA	Solid	8015NM Prep	
880-5219-23	TP16-4	Total/NA	Solid	8015NM Prep	
880-5219-24	TP16-6	Total/NA	Solid	8015NM Prep	
880-5219-25	TP17-S	Total/NA	Solid	8015NM Prep	
880-5219-26	TP17-4	Total/NA	Solid	8015NM Prep	
MB 880-6751/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-6751/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-6751/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

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QC Association Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

GC Semi VOA

Analysis Batch: 6797

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5219-27	TP17-6	Total/NA	Solid	8015B NM	6811
MB 880-6811/1-A	Method Blank	Total/NA	Solid	8015B NM	6811
LCS 880-6811/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	6811
LCSD 880-6811/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	6811

Analysis Batch: 6802

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5219-21	TP15-20	Total/NA	Solid	8015B NM	6751
880-5219-22	TP16-S	Total/NA	Solid	8015B NM	6751
880-5219-23	TP16-4	Total/NA	Solid	8015B NM	6751
880-5219-24	TP16-6	Total/NA	Solid	8015B NM	6751
880-5219-25	TP17-S	Total/NA	Solid	8015B NM	6751
880-5219-26	TP17-4	Total/NA	Solid	8015B NM	6751
MB 880-6751/1-A	Method Blank	Total/NA	Solid	8015B NM	6751
LCS 880-6751/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	6751
LCSD 880-6751/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	6751

Prep Batch: 6811

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5219-27	TP17-6	Total/NA	Solid	8015NM Prep	
MB 880-6811/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-6811/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-6811/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 6841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5219-1	TP9-S	Total/NA	Solid	8015B NM	6847
880-5219-2	TP9-4	Total/NA	Solid	8015B NM	6847
880-5219-3	TP9-6	Total/NA	Solid	8015B NM	6847
880-5219-4	TP10-4	Total/NA	Solid	8015B NM	6847
880-5219-5	TP10-12	Total/NA	Solid	8015B NM	6847
880-5219-6	TP10-20	Total/NA	Solid	8015B NM	6847
880-5219-7	TP11-4	Total/NA	Solid	8015B NM	6847
880-5219-8	TP11-12	Total/NA	Solid	8015B NM	6847
880-5219-9	TP11-20	Total/NA	Solid	8015B NM	6847
880-5219-10	TP12-4	Total/NA	Solid	8015B NM	6847
880-5219-11	TP12-8	Total/NA	Solid	8015B NM	6847
880-5219-12	TP12-14	Total/NA	Solid	8015B NM	6847
880-5219-13	TP13-S	Total/NA	Solid	8015B NM	6847
880-5219-14	TP13-4	Total/NA	Solid	8015B NM	6847
880-5219-15	TP13-6	Total/NA	Solid	8015B NM	6847
880-5219-16	TP14-S	Total/NA	Solid	8015B NM	6847
880-5219-17	TP14-4	Total/NA	Solid	8015B NM	6847
880-5219-18	TP14-6	Total/NA	Solid	8015B NM	6847
880-5219-19	TP15-4	Total/NA	Solid	8015B NM	6847
880-5219-20	TP15-12	Total/NA	Solid	8015B NM	6847
MB 880-6847/1-A	Method Blank	Total/NA	Solid	8015B NM	6847
LCS 880-6847/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	6847
LCSD 880-6847/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	6847
880-5219-1 MS	TP9-S	Total/NA	Solid	8015B NM	6847
880-5219-1 MSD	TP9-S	Total/NA	Solid	8015B NM	6847

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QC Association Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

GC Semi VOA

Prep Batch: 6847

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5219-1	TP9-S	Total/NA	Solid	8015NM Prep	
880-5219-2	TP9-4	Total/NA	Solid	8015NM Prep	
880-5219-3	TP9-6	Total/NA	Solid	8015NM Prep	
880-5219-4	TP10-4	Total/NA	Solid	8015NM Prep	
880-5219-5	TP10-12	Total/NA	Solid	8015NM Prep	
880-5219-6	TP10-20	Total/NA	Solid	8015NM Prep	
880-5219-7	TP11-4	Total/NA	Solid	8015NM Prep	
880-5219-8	TP11-12	Total/NA	Solid	8015NM Prep	
880-5219-9	TP11-20	Total/NA	Solid	8015NM Prep	
880-5219-10	TP12-4	Total/NA	Solid	8015NM Prep	
880-5219-11	TP12-8	Total/NA	Solid	8015NM Prep	
880-5219-12	TP12-14	Total/NA	Solid	8015NM Prep	
880-5219-13	TP13-S	Total/NA	Solid	8015NM Prep	
880-5219-14	TP13-4	Total/NA	Solid	8015NM Prep	
880-5219-15	TP13-6	Total/NA	Solid	8015NM Prep	
880-5219-16	TP14-S	Total/NA	Solid	8015NM Prep	
880-5219-17	TP14-4	Total/NA	Solid	8015NM Prep	
880-5219-18	TP14-6	Total/NA	Solid	8015NM Prep	
880-5219-19	TP15-4	Total/NA	Solid	8015NM Prep	
880-5219-20	TP15-12	Total/NA	Solid	8015NM Prep	
MB 880-6847/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-6847/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-6847/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-5219-1 MS	TP9-S	Total/NA	Solid	8015NM Prep	
880-5219-1 MSD	TP9-S	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 6748

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5219-1	TP9-S	Soluble	Solid	DI Leach	
880-5219-2	TP9-4	Soluble	Solid	DI Leach	
880-5219-3	TP9-6	Soluble	Solid	DI Leach	
880-5219-4	TP10-4	Soluble	Solid	DI Leach	
880-5219-5	TP10-12	Soluble	Solid	DI Leach	
880-5219-6	TP10-20	Soluble	Solid	DI Leach	
880-5219-7	TP11-4	Soluble	Solid	DI Leach	
MB 880-6748/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-6748/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-6748/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Leach Batch: 6788

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5219-8	TP11-12	Soluble	Solid	DI Leach	
880-5219-9	TP11-20	Soluble	Solid	DI Leach	
880-5219-10	TP12-4	Soluble	Solid	DI Leach	
880-5219-11	TP12-8	Soluble	Solid	DI Leach	
880-5219-12	TP12-14	Soluble	Solid	DI Leach	
880-5219-13	TP13-S	Soluble	Solid	DI Leach	
880-5219-14	TP13-4	Soluble	Solid	DI Leach	
880-5219-15	TP13-6	Soluble	Solid	DI Leach	

Eurofins Xenco, Midland

QC Association Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

HPLC/IC (Continued)

Leach Batch: 6788 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5219-16	TP14-S	Soluble	Solid	DI Leach	
880-5219-17	TP14-4	Soluble	Solid	DI Leach	
880-5219-18	TP14-6	Soluble	Solid	DI Leach	
880-5219-19	TP15-4	Soluble	Solid	DI Leach	
880-5219-20	TP15-12	Soluble	Solid	DI Leach	
880-5219-21	TP15-20	Soluble	Solid	DI Leach	
880-5219-22	TP16-S	Soluble	Solid	DI Leach	
880-5219-23	TP16-4	Soluble	Solid	DI Leach	
880-5219-24	TP16-6	Soluble	Solid	DI Leach	
880-5219-25	TP17-S	Soluble	Solid	DI Leach	
880-5219-26	TP17-4	Soluble	Solid	DI Leach	
880-5219-27	TP17-6	Soluble	Solid	DI Leach	
MB 880-6788/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-6788/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-6788/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-5219-8 MS	TP11-12	Soluble	Solid	DI Leach	
880-5219-8 MSD	TP11-12	Soluble	Solid	DI Leach	
880-5219-18 MS	TP14-6	Soluble	Solid	DI Leach	
880-5219-18 MSD	TP14-6	Soluble	Solid	DI Leach	

Analysis Batch: 6942

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5219-1	TP9-S	Soluble	Solid	300.0	6748
880-5219-2	TP9-4	Soluble	Solid	300.0	6748
880-5219-3	TP9-6	Soluble	Solid	300.0	6748
880-5219-4	TP10-4	Soluble	Solid	300.0	6748
880-5219-5	TP10-12	Soluble	Solid	300.0	6748
880-5219-6	TP10-20	Soluble	Solid	300.0	6748
880-5219-7	TP11-4	Soluble	Solid	300.0	6748
MB 880-6748/1-A	Method Blank	Soluble	Solid	300.0	6748
LCS 880-6748/2-A	Lab Control Sample	Soluble	Solid	300.0	6748
LCSD 880-6748/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	6748

Analysis Batch: 6944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5219-8	TP11-12	Soluble	Solid	300.0	6788
880-5219-9	TP11-20	Soluble	Solid	300.0	6788
880-5219-10	TP12-4	Soluble	Solid	300.0	6788
880-5219-11	TP12-8	Soluble	Solid	300.0	6788
880-5219-12	TP12-14	Soluble	Solid	300.0	6788
880-5219-13	TP13-S	Soluble	Solid	300.0	6788
880-5219-14	TP13-4	Soluble	Solid	300.0	6788
880-5219-15	TP13-6	Soluble	Solid	300.0	6788
880-5219-16	TP14-S	Soluble	Solid	300.0	6788
880-5219-17	TP14-4	Soluble	Solid	300.0	6788
880-5219-18	TP14-6	Soluble	Solid	300.0	6788
880-5219-19	TP15-4	Soluble	Solid	300.0	6788
880-5219-20	TP15-12	Soluble	Solid	300.0	6788
880-5219-21	TP15-20	Soluble	Solid	300.0	6788
880-5219-22	TP16-S	Soluble	Solid	300.0	6788
880-5219-23	TP16-4	Soluble	Solid	300.0	6788

Eurofins Xenco, Midland

QC Association Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

HPLC/IC (Continued)

Analysis Batch: 6944 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5219-24	TP16-6	Soluble	Solid	300.0	6788
880-5219-25	TP17-S	Soluble	Solid	300.0	6788
880-5219-26	TP17-4	Soluble	Solid	300.0	6788
880-5219-27	TP17-6	Soluble	Solid	300.0	6788
MB 880-6788/1-A	Method Blank	Soluble	Solid	300.0	6788
LCS 880-6788/2-A	Lab Control Sample	Soluble	Solid	300.0	6788
LCSD 880-6788/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	6788
880-5219-8 MS	TP11-12	Soluble	Solid	300.0	6788
880-5219-8 MSD	TP11-12	Soluble	Solid	300.0	6788
880-5219-18 MS	TP14-6	Soluble	Solid	300.0	6788
880-5219-18 MSD	TP14-6	Soluble	Solid	300.0	6788

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Client Sample ID: TP9-S

Lab Sample ID: 880-5219-1

Date Collected: 08/17/21 08:30

Matrix: Solid

Date Received: 08/18/21 10:18

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	6819	08/20/21 08:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6871	08/21/21 04:52	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	6847	08/20/21 09:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6841	08/20/21 23:04	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	6748	08/18/21 14:29	SC	XEN MID
Soluble	Analysis	300.0		1			6942	08/23/21 20:48	CH	XEN MID

Client Sample ID: TP9-4

Lab Sample ID: 880-5219-2

Date Collected: 08/17/21 08:35

Matrix: Solid

Date Received: 08/18/21 10:18

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	6819	08/20/21 08:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6871	08/21/21 05:12	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	6847	08/20/21 09:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6841	08/21/21 00:07	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	6748	08/18/21 14:29	SC	XEN MID
Soluble	Analysis	300.0		1			6942	08/23/21 20:54	CH	XEN MID

Client Sample ID: TP9-6

Lab Sample ID: 880-5219-3

Date Collected: 08/17/21 08:40

Matrix: Solid

Date Received: 08/18/21 10:18

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	6819	08/20/21 08:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6871	08/21/21 05:33	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	6847	08/20/21 09:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6841	08/21/21 00:28	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	6748	08/18/21 14:29	SC	XEN MID
Soluble	Analysis	300.0		1			6942	08/23/21 20:59	CH	XEN MID

Client Sample ID: TP10-4

Lab Sample ID: 880-5219-4

Date Collected: 08/17/21 09:00

Matrix: Solid

Date Received: 08/18/21 10:18

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	6819	08/20/21 08:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6871	08/21/21 05:53	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	6847	08/20/21 09:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6841	08/21/21 00:49	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	6748	08/18/21 14:29	SC	XEN MID
Soluble	Analysis	300.0		1			6942	08/23/21 21:05	CH	XEN MID

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Lab Chronicle

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Client Sample ID: TP10-12

Lab Sample ID: 880-5219-5

Date Collected: 08/17/21 09:15

Matrix: Solid

Date Received: 08/18/21 10:18

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	6819	08/20/21 08:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6871	08/21/21 06:14	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	6847	08/20/21 09:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6841	08/21/21 01:10	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	6748	08/18/21 14:29	SC	XEN MID
Soluble	Analysis	300.0		1			6942	08/23/21 21:11	CH	XEN MID

Client Sample ID: TP10-20

Lab Sample ID: 880-5219-6

Date Collected: 08/17/21 09:35

Matrix: Solid

Date Received: 08/18/21 10:18

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	6819	08/20/21 08:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6871	08/21/21 06:34	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	6847	08/20/21 09:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6841	08/21/21 01:31	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	6748	08/18/21 14:29	SC	XEN MID
Soluble	Analysis	300.0		1			6942	08/23/21 21:16	CH	XEN MID

Client Sample ID: TP11-4

Lab Sample ID: 880-5219-7

Date Collected: 08/17/21 10:00

Matrix: Solid

Date Received: 08/18/21 10:18

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	6819	08/20/21 08:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6871	08/21/21 06:55	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	6847	08/20/21 09:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6841	08/21/21 01:53	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	6748	08/18/21 14:29	SC	XEN MID
Soluble	Analysis	300.0		10			6942	08/23/21 21:22	CH	XEN MID

Client Sample ID: TP11-12

Lab Sample ID: 880-5219-8

Date Collected: 08/17/21 10:15

Matrix: Solid

Date Received: 08/18/21 10:18

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	6819	08/20/21 08:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6871	08/21/21 07:15	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	6847	08/20/21 09:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6841	08/21/21 02:14	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	6788	08/19/21 11:19	CH	XEN MID
Soluble	Analysis	300.0		1			6944	08/23/21 17:49	CH	XEN MID

Eurofins Xenco, Midland

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Client Sample ID: TP11-20

Lab Sample ID: 880-5219-9

Date Collected: 08/17/21 10:25

Matrix: Solid

Date Received: 08/18/21 10:18

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	6819	08/20/21 08:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6871	08/21/21 07:35	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	6847	08/20/21 09:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6841	08/21/21 02:35	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	6788	08/19/21 11:19	CH	XEN MID
Soluble	Analysis	300.0		1			6944	08/23/21 18:06	CH	XEN MID

Client Sample ID: TP12-4

Lab Sample ID: 880-5219-10

Date Collected: 08/17/21 10:45

Matrix: Solid

Date Received: 08/18/21 10:18

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	6819	08/20/21 08:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6871	08/21/21 07:56	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	6847	08/20/21 09:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6841	08/21/21 02:57	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	6788	08/19/21 11:19	CH	XEN MID
Soluble	Analysis	300.0		5			6944	08/24/21 13:02	CH	XEN MID

Client Sample ID: TP12-8

Lab Sample ID: 880-5219-11

Date Collected: 08/17/21 10:50

Matrix: Solid

Date Received: 08/18/21 10:18

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	6819	08/20/21 08:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6871	08/21/21 09:18	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	6847	08/20/21 09:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6841	08/21/21 03:40	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	6788	08/19/21 11:19	CH	XEN MID
Soluble	Analysis	300.0		1			6944	08/23/21 18:18	CH	XEN MID

Client Sample ID: TP12-14

Lab Sample ID: 880-5219-12

Date Collected: 08/17/21 11:00

Matrix: Solid

Date Received: 08/18/21 10:18

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	6819	08/20/21 08:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6871	08/21/21 09:38	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	6847	08/20/21 09:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6841	08/21/21 04:02	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	6788	08/19/21 11:19	CH	XEN MID
Soluble	Analysis	300.0		1			6944	08/23/21 18:23	CH	XEN MID

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Lab Chronicle

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Client Sample ID: TP13-S

Lab Sample ID: 880-5219-13

Date Collected: 08/17/21 11:20

Matrix: Solid

Date Received: 08/18/21 10:18

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	6819	08/20/21 08:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6871	08/21/21 09:59	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	6847	08/20/21 09:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6841	08/21/21 04:23	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	6788	08/19/21 11:19	CH	XEN MID
Soluble	Analysis	300.0		1			6944	08/23/21 18:40	CH	XEN MID

Client Sample ID: TP13-4

Lab Sample ID: 880-5219-14

Date Collected: 08/17/21 11:25

Matrix: Solid

Date Received: 08/18/21 10:18

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	6819	08/20/21 08:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6871	08/21/21 10:19	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	6847	08/20/21 09:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6841	08/21/21 04:43	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	6788	08/19/21 11:19	CH	XEN MID
Soluble	Analysis	300.0		1			6944	08/23/21 18:46	CH	XEN MID

Client Sample ID: TP13-6

Lab Sample ID: 880-5219-15

Date Collected: 08/17/21 11:30

Matrix: Solid

Date Received: 08/18/21 10:18

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	6819	08/20/21 08:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6871	08/21/21 10:40	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	6847	08/20/21 09:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6841	08/21/21 05:04	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	6788	08/19/21 11:19	CH	XEN MID
Soluble	Analysis	300.0		1			6944	08/23/21 18:52	CH	XEN MID

Client Sample ID: TP14-S

Lab Sample ID: 880-5219-16

Date Collected: 08/17/21 12:30

Matrix: Solid

Date Received: 08/18/21 10:18

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	6819	08/20/21 08:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6871	08/21/21 11:00	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	6847	08/20/21 09:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6841	08/21/21 05:24	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	6788	08/19/21 11:19	CH	XEN MID
Soluble	Analysis	300.0		1			6944	08/23/21 18:57	CH	XEN MID

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Lab Chronicle

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Client Sample ID: TP14-4

Lab Sample ID: 880-5219-17

Date Collected: 08/17/21 12:35

Matrix: Solid

Date Received: 08/18/21 10:18

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	6819	08/20/21 08:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6871	08/21/21 11:20	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	6847	08/20/21 09:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6841	08/21/21 05:43	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	6788	08/19/21 11:19	CH	XEN MID
Soluble	Analysis	300.0		1			6944	08/23/21 19:03	CH	XEN MID

Client Sample ID: TP14-6

Lab Sample ID: 880-5219-18

Date Collected: 08/17/21 12:40

Matrix: Solid

Date Received: 08/18/21 10:18

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	6819	08/20/21 08:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6871	08/21/21 11:41	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	6847	08/20/21 09:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6841	08/21/21 06:04	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	6788	08/19/21 11:19	CH	XEN MID
Soluble	Analysis	300.0		1			6944	08/23/21 19:09	CH	XEN MID

Client Sample ID: TP15-4

Lab Sample ID: 880-5219-19

Date Collected: 08/17/21 13:00

Matrix: Solid

Date Received: 08/18/21 10:18

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	6819	08/20/21 08:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6871	08/21/21 12:01	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	6847	08/20/21 09:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6841	08/21/21 06:23	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	6788	08/19/21 11:19	CH	XEN MID
Soluble	Analysis	300.0		1			6944	08/23/21 19:26	CH	XEN MID

Client Sample ID: TP15-12

Lab Sample ID: 880-5219-20

Date Collected: 08/17/21 13:15

Matrix: Solid

Date Received: 08/18/21 10:18

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	6819	08/20/21 08:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6871	08/21/21 12:22	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	6847	08/20/21 09:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6841	08/21/21 06:44	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	6788	08/19/21 11:19	CH	XEN MID
Soluble	Analysis	300.0		10			6944	08/23/21 19:31	CH	XEN MID

Eurofins Xenco, Midland

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Client Sample ID: TP15-20

Lab Sample ID: 880-5219-21

Date Collected: 08/17/21 13:35

Matrix: Solid

Date Received: 08/18/21 10:18

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	6740	08/18/21 14:09	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6879	08/22/21 05:43	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	6751	08/18/21 15:17	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6802	08/19/21 21:18	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	6788	08/19/21 11:19	CH	XEN MID
Soluble	Analysis	300.0		10			6944	08/23/21 19:48	CH	XEN MID

Client Sample ID: TP16-S

Lab Sample ID: 880-5219-22

Date Collected: 08/17/21 13:55

Matrix: Solid

Date Received: 08/18/21 10:18

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	6740	08/18/21 14:09	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6879	08/22/21 06:08	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	6751	08/18/21 15:17	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6802	08/19/21 21:38	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	6788	08/19/21 11:19	CH	XEN MID
Soluble	Analysis	300.0		1			6944	08/23/21 19:54	CH	XEN MID

Client Sample ID: TP16-4

Lab Sample ID: 880-5219-23

Date Collected: 08/17/21 14:00

Matrix: Solid

Date Received: 08/18/21 10:18

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	6740	08/18/21 14:09	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6879	08/22/21 06:34	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	6751	08/18/21 15:17	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6802	08/19/21 22:02	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	6788	08/19/21 11:19	CH	XEN MID
Soluble	Analysis	300.0		1			6944	08/23/21 20:00	CH	XEN MID

Client Sample ID: TP16-6

Lab Sample ID: 880-5219-24

Date Collected: 08/17/21 14:05

Matrix: Solid

Date Received: 08/18/21 10:18

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	6740	08/18/21 14:09	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6879	08/22/21 07:01	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	6751	08/18/21 15:17	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6802	08/19/21 22:23	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	6788	08/19/21 11:19	CH	XEN MID
Soluble	Analysis	300.0		1			6944	08/23/21 20:05	CH	XEN MID

Eurofins Xenco, Midland

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Client Sample ID: TP17-S

Lab Sample ID: 880-5219-25

Date Collected: 08/17/21 14:20

Matrix: Solid

Date Received: 08/18/21 10:18

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	6740	08/18/21 14:09	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6879	08/22/21 07:28	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	6751	08/18/21 15:17	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6802	08/19/21 22:50	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	6788	08/19/21 11:19	CH	XEN MID
Soluble	Analysis	300.0		1			6944	08/23/21 20:11	CH	XEN MID

Client Sample ID: TP17-4

Lab Sample ID: 880-5219-26

Date Collected: 08/17/21 14:25

Matrix: Solid

Date Received: 08/18/21 10:18

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	6740	08/18/21 14:09	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6879	08/22/21 07:55	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	6751	08/18/21 15:17	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6802	08/19/21 23:15	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	6788	08/19/21 11:19	CH	XEN MID
Soluble	Analysis	300.0		1			6944	08/23/21 20:17	CH	XEN MID

Client Sample ID: TP17-6

Lab Sample ID: 880-5219-27

Date Collected: 08/17/21 14:30

Matrix: Solid

Date Received: 08/18/21 10:18

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	6740	08/18/21 14:09	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6879	08/22/21 08:22	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	6811	08/19/21 13:30	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6797	08/20/21 08:41	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	6788	08/19/21 11:19	CH	XEN MID
Soluble	Analysis	300.0		1			6944	08/23/21 20:22	CH	XEN MID

Laboratory References:

XEN MID = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Xenco, Midland

Accreditation/Certification Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Laboratory: Eurofins Xenco, Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	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
8015B NM	8015NM Prep	Solid	Total TPH
8021B	5035	Solid	Total BTEX

Method Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5219-1
SDG: 11220756

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (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.

Laboratory References:

XEN MID = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Xenco, Midland

Sample Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

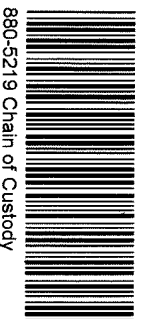
Job ID: 880-5219-1
SDG: 11220756

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-5219-1	TP9-S	Solid	08/17/21 08:30	08/18/21 10:18
880-5219-2	TP9-4	Solid	08/17/21 08:35	08/18/21 10:18
880-5219-3	TP9-6	Solid	08/17/21 08:40	08/18/21 10:18
880-5219-4	TP10-4	Solid	08/17/21 09:00	08/18/21 10:18
880-5219-5	TP10-12	Solid	08/17/21 09:15	08/18/21 10:18
880-5219-6	TP10-20	Solid	08/17/21 09:35	08/18/21 10:18
880-5219-7	TP11-4	Solid	08/17/21 10:00	08/18/21 10:18
880-5219-8	TP11-12	Solid	08/17/21 10:15	08/18/21 10:18
880-5219-9	TP11-20	Solid	08/17/21 10:25	08/18/21 10:18
880-5219-10	TP12-4	Solid	08/17/21 10:45	08/18/21 10:18
880-5219-11	TP12-8	Solid	08/17/21 10:50	08/18/21 10:18
880-5219-12	TP12-14	Solid	08/17/21 11:00	08/18/21 10:18
880-5219-13	TP13-S	Solid	08/17/21 11:20	08/18/21 10:18
880-5219-14	TP13-4	Solid	08/17/21 11:25	08/18/21 10:18
880-5219-15	TP13-6	Solid	08/17/21 11:30	08/18/21 10:18
880-5219-16	TP14-S	Solid	08/17/21 12:30	08/18/21 10:18
880-5219-17	TP14-4	Solid	08/17/21 12:35	08/18/21 10:18
880-5219-18	TP14-6	Solid	08/17/21 12:40	08/18/21 10:18
880-5219-19	TP15-4	Solid	08/17/21 13:00	08/18/21 10:18
880-5219-20	TP15-12	Solid	08/17/21 13:15	08/18/21 10:18
880-5219-21	TP15-20	Solid	08/17/21 13:35	08/18/21 10:18
880-5219-22	TP16-S	Solid	08/17/21 13:55	08/18/21 10:18
880-5219-23	TP16-4	Solid	08/17/21 14:00	08/18/21 10:18
880-5219-24	TP16-6	Solid	08/17/21 14:05	08/18/21 10:18
880-5219-25	TP17-S	Solid	08/17/21 14:20	08/18/21 10:18
880-5219-26	TP17-4	Solid	08/17/21 14:25	08/18/21 10:18
880-5219-27	TP17-6	Solid	08/17/21 14:30	08/18/21 10:18



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



880-5219 Chain of Custody

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Project Manager	Becky Haskell, Tom Larson	Bill to (if different)	James Kennedy w/ EOL
Company Name	CHD	Company Name	
Address	2135 S Loop 250 W.	Address	
City, State ZIP	Midland, TX 79703	City, State ZIP	
Phone	(432) 250-7917	Email	Becky.Haskell@CHD.com, Tom.Larson@CHD.com

Work Order Comments	
Program: UST/PST ☐ PRF ☐ Brownfield ☐ RRD ☐ Superfund ☐	
State of Project:	
Reporting Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐	
Deliverables EDD ☐ ADAPT ☐ Other	

Project Name:	WOCAL #11M Federal #1	Turn Around	☒ Routine ☐ Rush	Pres. Code	
Project Number	11220756	Due Date			
Project Location	Lee County, NM				
Sampler's Name	Heath Boyd	TAT starts the day received by the lab if received by 4:30pm			
PO #:					
SAMPLE RECEIPT	Temp Blank	Yes ☒ No ☐	Wet Ice	Yes ☒ No ☐	
Samples Received In tact:	Yes ☒ No ☐	Thermometer ID	123		
Cooler Custody Seals	Yes ☒ No ☐	Correction Factor	0.5		
Sample Custody Seals:	Yes ☒ No ☐	Temperature Reading	1.3		
Total Containers		Corrected Temperature	1.7		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/comp	# of Cont	Parameters	ANALYSIS REQUEST	Preservative Codes	Sample Comments
TP9-5	S	8/17/21	830		Grab	1	BEX 8021 B			
TP9-4			835				TPH 8015 m.			
TP9-6			840				Chloride Method 300			
TP10-4			900							
TP10-12			915							
TP10-20			935							
TP11-4			1000							
TP11-12			1015							
TP11-20			1025							

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	Ti	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	Ti	U					Hg	1631	1245	117470	17471				

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 <i>[Signature]</i>	2 <i>[Signature]</i>	8/17/21 1550	3 <i>[Signature]</i>	4 <i>[Signature]</i>	8-18-21
5			6		1005



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

880-5219

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Project Manager	Becky Haskett, Tom Larsen	Bill to (if different)	James Kennedy w/ EOG
Company Name	EGTP	Company Name	
Address	2135 S. Loop 250 W.	Address	
City, State Zip	Midland, TX 79703	City, State Zip	
Phone	(432) 250-7917	Email	

Work Order Comments	
Program: UST/PST ☐ PRF ☐ Brownfield ☐ RRD ☐ Superfund ☐	
State of Project:	
Reporting Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐	
Deliverables EDD ☐ ADAPT ☐ Other	

Project Name	Unocal Affm Federal #1	Turn Around	☒ Routine ☐ Rush	Pres. Code		ANALYSIS REQUEST																Preservative Codes		
Project Number	11220756																					None NO	DI Water H ₂ O	
Project Location	Lea County, NM	Due Date																				Cool Cool	MeOH Me	
Sampler's Name	Heaven Boyd																					HCL HC	HNO ₃ HN	
PO #																						H ₂ SO ₄ H ₂	NaOH Na	
SAMPLE RECEIPT	Temp Blank	Yes No	Wet Ice	Yes No																		H ₃ PO ₄ HP		
Samples Received Intact	Yes No	Thermometer ID																				NaHSO ₄ NABIS		
Cooler Custody Seals	Yes No	Correction Factor																				Na ₂ S ₂ O ₃ NASO ₃		
Sample Custody Seals	Yes No	Temperature Reading																				Zn Acetate+NaOH Zn		
Total Containers		Corrected Temperature																				NaOH+Ascorbic Acid SAPC		
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grav/Comp	# of Cont	Parameters																Sample Comments	
TP12-4	S	8/7/21	1045		Grav	1	BTEX 3021 B																	
TP12-8			1050				TPH 8015 M.																	
TP12-14			1100				Chloride Method 300																	
TP13-5			1120																					
TP13-4			1125																					
TP13-6			1130																					
TP14-5			1230																					
TP14-4			1235																					
TP14-6			1240																					

Total 200.7 / 6010	200.8 / 6020:	8RCRA 13PPM Texas 11	AI Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti 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 Ti U	Hg 1631 / 2451 / 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. <i>[Signature]</i>	<i>[Signature]</i>	8/17/21 1550	2. <i>[Signature]</i>	<i>[Signature]</i>	8/18/21
3.			4.		
5.			6.		1005



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) 998-3199

Work Order No: _____

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Project Manager	Betty Haskeil, Tom Larson	Bill to: (if different)	James Kennedy w/ EOLs
Company Name	GH&D	Company Name	
Address	2135 S. Loop 250 W.	Address	
City, State ZIP	Midland, TX 79703	City, State ZIP	
Phone	(432) 250-7917	Email	Betty.Haskeil@gh&d.com, Tom.Larson@gh&d.com

Program: UST/PST ☐ PRF ☐ Brownfields ☐ RRD ☐ Superfund ☐	
State of Project:	
Reporting Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐	
Deliverables EDD ☐ ADAPT ☐ Other	

Project Name:	Local ATM Federal #1	Turn Around		ANALYSIS REQUEST																Preservative Codes							
Project Number	11720756	☒ Routine ☐ Rush		Para. Code																None NO	DI Water H ₂ O						
Project Location	Lee County, NM	Due Date																		Cool Cool	MeOH Me						
Sampler's Name	Heath Boyd	TAT starts the day received by the lab if received by 4:30pm																		HCL HC	HNO ₃ HN						
PO #																				H ₂ SO ₄ H ₂	NaOH Na						
SAMPLE RECEIPT				Temp Blank	Yes No	Wet Ice	Yes No	Parameters																H ₃ PO ₄ HP			
Samples Received intact:				Yes No	Thermometer ID	Yes No		BTX 8021 B																NaHSO ₄ NABIS			
Cooler Custody Seals:				Yes No	Correction Factor	Yes No		TPH 8015 M.																Na ₂ S ₂ O ₃ NaSO ₃			
Sample Custody Seals:				Yes No	Temperature Reading	Yes No		Chloride Method 300																Zn Acetate+NaOH Zn			
Total Containers				Yes No	Corrected Temperature	Yes No																		NaOH+Ascorbic Acid SAPC			
Sample Identification				Matrix	Date Sampled	Time Sampled	Depth	Grav/Comp	# of Cont	Sample Comments																	
TP15-4				S	6/17/21	1300		End	1																		
TP15-12						1315																					
TP15-20						1335																					
TP16-5						1355																					
TP16-4						1400																					
TP16-6						1405																					
TP17-5						1420																					
TP17-4						1425																					
TP17-6				X		1430																					

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 SiO₂ Na Sr Ti 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 Ti U Hg 1631 / 2451 / 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 \$65.00 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 <i>[Signature]</i>	2 <i>[Signature]</i>	6/17/21 1550	3 <i>[Signature]</i>	4 <i>[Signature]</i>	6/18/21 1003
5			6		

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 880-5219-1

SDG Number: 11220756

Login Number: 5219

List Number: 1

Creator: Teel, Brianna

List Source: Eurofins Xenco, 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	



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 880-5254-1

Laboratory Sample Delivery Group: 11220756

Client Project/Site: Unocal AHM Federal #1

For:

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

Attn: Becky Haskell

A handwritten signature in black ink, reading "Debbie Simmons".

Authorized for release by:
8/25/2021 4:21:03 PM

Debbie Simmons, Project Manager
(281)240-4200
debbie.simmons@eurofinset.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: Unocal AHM Federal #1

Laboratory Job ID: 880-5254-1
SDG: 11220756

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Definitions/Glossary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5254-1
SDG: 11220756

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, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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.

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: Unocal AHM Federal #1

Job ID: 880-5254-1
SDG: 11220756

Job ID: 880-5254-1

Laboratory: Eurofins Xenco, Midland

Narrative	
	Job Narrative 880-5254-1

Receipt

The samples were received on 8/19/2021 10:30 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 3.0°C

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-6739 and analytical batch 880-6871 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: Surrogate recovery for the following sample was outside control limits: (LCS 880-6739/1-A). 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

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.

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Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5254-1
SDG: 11220756

Client Sample ID: TP18-S

Lab Sample ID: 880-5254-1

Date Collected: 08/18/21 08:30

Matrix: Solid

Date Received: 08/19/21 10:30

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		08/20/21 08:30	08/20/21 20:42	1
Toluene	<0.000452	U	0.00198	0.000452	mg/Kg		08/20/21 08:30	08/20/21 20:42	1
Ethylbenzene	<0.000561	U	0.00198	0.000561	mg/Kg		08/20/21 08:30	08/20/21 20:42	1
m-Xylene & p-Xylene	<0.00100	U	0.00397	0.00100	mg/Kg		08/20/21 08:30	08/20/21 20:42	1
o-Xylene	<0.000341	U	0.00198	0.000341	mg/Kg		08/20/21 08:30	08/20/21 20:42	1
Xylenes, Total	<0.00100	U	0.00397	0.00100	mg/Kg		08/20/21 08:30	08/20/21 20:42	1
Total BTEX	<0.00100	U	0.00397	0.00100	mg/Kg		08/20/21 08:30	08/20/21 20:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	117		70 - 130	08/20/21 08:30	08/20/21 20:42	1
1,4-Difluorobenzene (Surr)	100		70 - 130	08/20/21 08:30	08/20/21 20:42	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	<15.0	U	50.0	15.0	mg/Kg		08/20/21 08:58	08/21/21 03:39	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/20/21 08:58	08/21/21 03:39	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/20/21 08:58	08/21/21 03:39	1
Total TPH	<15.0	U	50.0	15.0	mg/Kg		08/20/21 08:58	08/21/21 03:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130	08/20/21 08:58	08/21/21 03:39	1
o-Terphenyl	111		70 - 130	08/20/21 08:58	08/21/21 03:39	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.855	U	4.98	0.855	mg/Kg			08/23/21 21:36	1

Client Sample ID: TP18-4

Lab Sample ID: 880-5254-2

Date Collected: 08/18/21 08:35

Matrix: Solid

Date Received: 08/19/21 10:30

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		08/20/21 08:30	08/20/21 21:03	1
Toluene	<0.000458	U	0.00201	0.000458	mg/Kg		08/20/21 08:30	08/20/21 21:03	1
Ethylbenzene	<0.000567	U	0.00201	0.000567	mg/Kg		08/20/21 08:30	08/20/21 21:03	1
m-Xylene & p-Xylene	<0.00101	U	0.00402	0.00101	mg/Kg		08/20/21 08:30	08/20/21 21:03	1
o-Xylene	<0.000345	U	0.00201	0.000345	mg/Kg		08/20/21 08:30	08/20/21 21:03	1
Xylenes, Total	<0.00101	U	0.00402	0.00101	mg/Kg		08/20/21 08:30	08/20/21 21:03	1
Total BTEX	<0.00101	U	0.00402	0.00101	mg/Kg		08/20/21 08:30	08/20/21 21:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	08/20/21 08:30	08/20/21 21:03	1
1,4-Difluorobenzene (Surr)	76		70 - 130	08/20/21 08:30	08/20/21 21:03	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		08/20/21 08:58	08/21/21 04:01	1

Eurofins Xenco, Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5254-1
SDG: 11220756

Client Sample ID: TP18-4

Lab Sample ID: 880-5254-2

Date Collected: 08/18/21 08:35

Matrix: Solid

Date Received: 08/19/21 10:30

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		08/20/21 08:58	08/21/21 04:01	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/20/21 08:58	08/21/21 04:01	1
Total TPH	<15.0	U	50.0	15.0	mg/Kg		08/20/21 08:58	08/21/21 04:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	108		70 - 130				08/20/21 08:58	08/21/21 04:01	1
o-Terphenyl	115		70 - 130				08/20/21 08:58	08/21/21 04:01	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.850	U	4.95	0.850	mg/Kg			08/23/21 21:41	1

Client Sample ID: TP18-6

Lab Sample ID: 880-5254-3

Date Collected: 08/18/21 08:40

Matrix: Solid

Date Received: 08/19/21 10:30

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U F1	0.00200	0.000385	mg/Kg		08/20/21 14:05	08/21/21 15:45	1
Toluene	<0.000456	U F1	0.00200	0.000456	mg/Kg		08/20/21 14:05	08/21/21 15:45	1
Ethylbenzene	<0.000565	U F1	0.00200	0.000565	mg/Kg		08/20/21 14:05	08/21/21 15:45	1
m-Xylene & p-Xylene	<0.00101	U F1	0.00400	0.00101	mg/Kg		08/20/21 14:05	08/21/21 15:45	1
o-Xylene	<0.000344	U F1	0.00200	0.000344	mg/Kg		08/20/21 14:05	08/21/21 15:45	1
Xylenes, Total	<0.00101	U F1	0.00400	0.00101	mg/Kg		08/20/21 14:05	08/21/21 15:45	1
Total BTEX	<0.00101	U F1	0.00400	0.00101	mg/Kg		08/20/21 14:05	08/21/21 15:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130				08/20/21 14:05	08/21/21 15:45	1
1,4-Difluorobenzene (Surr)	98		70 - 130				08/20/21 14:05	08/21/21 15:45	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		08/20/21 08:58	08/21/21 04:22	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		08/20/21 08:58	08/21/21 04:22	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		08/20/21 08:58	08/21/21 04:22	1
Total TPH	<15.0	U	49.9	15.0	mg/Kg		08/20/21 08:58	08/21/21 04:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	88		70 - 130				08/20/21 08:58	08/21/21 04:22	1
o-Terphenyl	98		70 - 130				08/20/21 08:58	08/21/21 04:22	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9.91		4.97	0.853	mg/Kg			08/23/21 21:58	1

Eurofins Xenco, Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5254-1
SDG: 11220756

Client Sample ID: TP19-S

Lab Sample ID: 880-5254-4

Date Collected: 08/18/21 08:50

Matrix: Solid

Date Received: 08/19/21 10:30

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		08/20/21 14:05	08/21/21 16:05	1
Toluene	<0.000454	U	0.00199	0.000454	mg/Kg		08/20/21 14:05	08/21/21 16:05	1
Ethylbenzene	<0.000563	U	0.00199	0.000563	mg/Kg		08/20/21 14:05	08/21/21 16:05	1
m-Xylene & p-Xylene	<0.00101	U	0.00398	0.00101	mg/Kg		08/20/21 14:05	08/21/21 16:05	1
o-Xylene	<0.000343	U	0.00199	0.000343	mg/Kg		08/20/21 14:05	08/21/21 16:05	1
Xylenes, Total	<0.00101	U	0.00398	0.00101	mg/Kg		08/20/21 14:05	08/21/21 16:05	1
Total BTEX	<0.00101	U	0.00398	0.00101	mg/Kg		08/20/21 14:05	08/21/21 16:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130	08/20/21 14:05	08/21/21 16:05	1
1,4-Difluorobenzene (Surr)	96		70 - 130	08/20/21 14:05	08/21/21 16:05	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		08/20/21 08:58	08/21/21 04:43	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		08/20/21 08:58	08/21/21 04:43	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		08/20/21 08:58	08/21/21 04:43	1
Total TPH	<15.0	U	49.9	15.0	mg/Kg		08/20/21 08:58	08/21/21 04:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	91		70 - 130	08/20/21 08:58	08/21/21 04:43	1
o-Terphenyl	103		70 - 130	08/20/21 08:58	08/21/21 04:43	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.51	J	5.00	0.858	mg/Kg			08/23/21 22:04	1

Client Sample ID: TP19-4

Lab Sample ID: 880-5254-5

Date Collected: 08/18/21 08:55

Matrix: Solid

Date Received: 08/19/21 10:30

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		08/20/21 14:05	08/21/21 16:26	1
Toluene	<0.000451	U	0.00198	0.000451	mg/Kg		08/20/21 14:05	08/21/21 16:26	1
Ethylbenzene	<0.000559	U	0.00198	0.000559	mg/Kg		08/20/21 14:05	08/21/21 16:26	1
m-Xylene & p-Xylene	<0.00100	U	0.00396	0.00100	mg/Kg		08/20/21 14:05	08/21/21 16:26	1
o-Xylene	0.000392	J	0.00198	0.000341	mg/Kg		08/20/21 14:05	08/21/21 16:26	1
Xylenes, Total	<0.00100	U	0.00396	0.00100	mg/Kg		08/20/21 14:05	08/21/21 16:26	1
Total BTEX	<0.00100	U	0.00396	0.00100	mg/Kg		08/20/21 14:05	08/21/21 16:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130	08/20/21 14:05	08/21/21 16:26	1
1,4-Difluorobenzene (Surr)	91		70 - 130	08/20/21 14:05	08/21/21 16:26	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		08/20/21 08:58	08/21/21 05:05	1

Eurofins Xenco, Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5254-1
SDG: 11220756

Client Sample ID: TP19-4

Lab Sample ID: 880-5254-5

Date Collected: 08/18/21 08:55

Matrix: Solid

Date Received: 08/19/21 10:30

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)	<14.9	U	49.8	14.9	mg/Kg		08/20/21 08:58	08/21/21 05:05	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		08/20/21 08:58	08/21/21 05:05	1
Total TPH	<14.9	U	49.8	14.9	mg/Kg		08/20/21 08:58	08/21/21 05:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	91		70 - 130				08/20/21 08:58	08/21/21 05:05	1
o-Terphenyl	97		70 - 130				08/20/21 08:58	08/21/21 05:05	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.75	J	4.99	0.857	mg/Kg			08/23/21 22:10	1

Client Sample ID: TP19-6

Lab Sample ID: 880-5254-6

Date Collected: 08/18/21 09:00

Matrix: Solid

Date Received: 08/19/21 10:30

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		08/20/21 14:05	08/21/21 16:46	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		08/20/21 14:05	08/21/21 16:46	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		08/20/21 14:05	08/21/21 16:46	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		08/20/21 14:05	08/21/21 16:46	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		08/20/21 14:05	08/21/21 16:46	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		08/20/21 14:05	08/21/21 16:46	1
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg		08/20/21 14:05	08/21/21 16:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130				08/20/21 14:05	08/21/21 16:46	1
1,4-Difluorobenzene (Surr)	100		70 - 130				08/20/21 14:05	08/21/21 16:46	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		08/20/21 08:58	08/21/21 05:26	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		08/20/21 08:58	08/21/21 05:26	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		08/20/21 08:58	08/21/21 05:26	1
Total TPH	<15.0	U	49.9	15.0	mg/Kg		08/20/21 08:58	08/21/21 05:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130				08/20/21 08:58	08/21/21 05:26	1
o-Terphenyl	106		70 - 130				08/20/21 08:58	08/21/21 05:26	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.38		5.01	0.860	mg/Kg			08/23/21 22:15	1

Eurofins Xenco, Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5254-1
SDG: 11220756

Client Sample ID: TP20-S

Lab Sample ID: 880-5254-7

Date Collected: 08/18/21 09:15

Matrix: Solid

Date Received: 08/19/21 10:30

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		08/20/21 14:05	08/21/21 17:06	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		08/20/21 14:05	08/21/21 17:06	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		08/20/21 14:05	08/21/21 17:06	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		08/20/21 14:05	08/21/21 17:06	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		08/20/21 14:05	08/21/21 17:06	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		08/20/21 14:05	08/21/21 17:06	1
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg		08/20/21 14:05	08/21/21 17:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130	08/20/21 14:05	08/21/21 17:06	1
1,4-Difluorobenzene (Surr)	99		70 - 130	08/20/21 14:05	08/21/21 17:06	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		08/20/21 08:58	08/21/21 05:46	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/20/21 08:58	08/21/21 05:46	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/20/21 08:58	08/21/21 05:46	1
Total TPH	<15.0	U	50.0	15.0	mg/Kg		08/20/21 08:58	08/21/21 05:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130	08/20/21 08:58	08/21/21 05:46	1
o-Terphenyl	109		70 - 130	08/20/21 08:58	08/21/21 05:46	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9.09		4.98	0.855	mg/Kg			08/23/21 22:21	1

Client Sample ID: TP20-4

Lab Sample ID: 880-5254-8

Date Collected: 08/18/21 09:20

Matrix: Solid

Date Received: 08/19/21 10:30

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		08/20/21 14:05	08/21/21 17:27	1
Toluene	<0.000460	U	0.00202	0.000460	mg/Kg		08/20/21 14:05	08/21/21 17:27	1
Ethylbenzene	<0.000570	U	0.00202	0.000570	mg/Kg		08/20/21 14:05	08/21/21 17:27	1
m-Xylene & p-Xylene	<0.00102	U	0.00403	0.00102	mg/Kg		08/20/21 14:05	08/21/21 17:27	1
o-Xylene	<0.000347	U	0.00202	0.000347	mg/Kg		08/20/21 14:05	08/21/21 17:27	1
Xylenes, Total	<0.00102	U	0.00403	0.00102	mg/Kg		08/20/21 14:05	08/21/21 17:27	1
Total BTEX	<0.00102	U	0.00403	0.00102	mg/Kg		08/20/21 14:05	08/21/21 17:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130	08/20/21 14:05	08/21/21 17:27	1
1,4-Difluorobenzene (Surr)	92		70 - 130	08/20/21 14:05	08/21/21 17:27	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		08/20/21 08:58	08/21/21 06:07	1

Eurofins Xenco, Midland

Client Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5254-1
SDG: 11220756

Client Sample ID: TP20-4

Lab Sample ID: 880-5254-8

Date Collected: 08/18/21 09:20

Matrix: Solid

Date Received: 08/19/21 10:30

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)	<14.9	U	49.8	14.9	mg/Kg		08/20/21 08:58	08/21/21 06:07	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		08/20/21 08:58	08/21/21 06:07	1
Total TPH	<14.9	U	49.8	14.9	mg/Kg		08/20/21 08:58	08/21/21 06:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130				08/20/21 08:58	08/21/21 06:07	1
o-Terphenyl	109		70 - 130				08/20/21 08:58	08/21/21 06:07	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.86	J	5.00	0.858	mg/Kg			08/23/21 22:27	1

Client Sample ID: TP20-6

Lab Sample ID: 880-5254-9

Date Collected: 08/18/21 09:25

Matrix: Solid

Date Received: 08/19/21 10:30

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		08/20/21 14:05	08/21/21 17:47	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		08/20/21 14:05	08/21/21 17:47	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		08/20/21 14:05	08/21/21 17:47	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		08/20/21 14:05	08/21/21 17:47	1
o-Xylene	<0.000342	U	0.00199	0.000342	mg/Kg		08/20/21 14:05	08/21/21 17:47	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		08/20/21 14:05	08/21/21 17:47	1
Total BTEX	<0.00100	U	0.00398	0.00100	mg/Kg		08/20/21 14:05	08/21/21 17:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130				08/20/21 14:05	08/21/21 17:47	1
1,4-Difluorobenzene (Surr)	91		70 - 130				08/20/21 14:05	08/21/21 17:47	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		08/20/21 08:58	08/21/21 06:28	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/20/21 08:58	08/21/21 06:28	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/20/21 08:58	08/21/21 06:28	1
Total TPH	<15.0	U	50.0	15.0	mg/Kg		08/20/21 08:58	08/21/21 06:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130				08/20/21 08:58	08/21/21 06:28	1
o-Terphenyl	121		70 - 130				08/20/21 08:58	08/21/21 06:28	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	186		4.98	0.855	mg/Kg			08/23/21 22:44	1

Eurofins Xenco, Midland

Surrogate Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5254-1
SDG: 11220756

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)
880-5254-1	TP18-S	117	100
880-5254-2	TP18-4	112	76
880-5254-3	TP18-6	114	98
880-5254-3 MS	TP18-6	116	105
880-5254-3 MSD	TP18-6	104	105
880-5254-4	TP19-S	116	96
880-5254-5	TP19-4	93	91
880-5254-6	TP19-6	113	100
880-5254-7	TP20-S	115	99
880-5254-8	TP20-4	102	92
880-5254-9	TP20-6	99	91
LCS 880-6739/1-A	Lab Control Sample	140 S1+	104
LCS 880-6835/1-A	Lab Control Sample	109	104
LCSD 880-6739/2-A	Lab Control Sample Dup	110	105
LCSD 880-6835/2-A	Lab Control Sample Dup	112	101
MB 880-6739/5-A	Method Blank	115	97
MB 880-6819/5-A	Method Blank	104	96
MB 880-6835/5-A	Method Blank	104	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)
880-5254-1	TP18-S	98	111
880-5254-2	TP18-4	108	115
880-5254-3	TP18-6	88	98
880-5254-4	TP19-S	91	103
880-5254-5	TP19-4	91	97
880-5254-6	TP19-6	96	106
880-5254-7	TP20-S	98	109
880-5254-8	TP20-4	96	109
880-5254-9	TP20-6	106	121
LCS 880-6836/2-A	Lab Control Sample	96	105
LCSD 880-6836/3-A	Lab Control Sample Dup	110	119
MB 880-6836/1-A	Method Blank	107	116
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

Eurofins Xenco, Midland

QC Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5254-1
SDG: 11220756

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-6739/5-A

Matrix: Solid

Analysis Batch: 6871

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6739

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		08/20/21 14:05	08/21/21 15:23	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		08/20/21 14:05	08/21/21 15:23	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		08/20/21 14:05	08/21/21 15:23	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/20/21 14:05	08/21/21 15:23	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		08/20/21 14:05	08/21/21 15:23	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/20/21 14:05	08/21/21 15:23	1
Total BTEX	<0.00101	U	0.00400	0.00101	mg/Kg		08/20/21 14:05	08/21/21 15:23	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130	08/20/21 14:05	08/21/21 15:23	1
1,4-Difluorobenzene (Surr)	97		70 - 130	08/20/21 14:05	08/21/21 15:23	1

Lab Sample ID: LCS 880-6739/1-A

Matrix: Solid

Analysis Batch: 6871

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6739

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.08462		mg/Kg		85	70 - 130
Toluene	0.100	0.08432		mg/Kg		84	70 - 130
Ethylbenzene	0.100	0.08920		mg/Kg		89	70 - 130
m-Xylene & p-Xylene	0.200	0.1804		mg/Kg		90	70 - 130
o-Xylene	0.100	0.09574		mg/Kg		96	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	140	S1+	70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: LCSD 880-6739/2-A

Matrix: Solid

Analysis Batch: 6871

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6739

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.07561		mg/Kg		76	70 - 130	11	35
Toluene	0.100	0.07357		mg/Kg		74	70 - 130	14	35
Ethylbenzene	0.100	0.07617		mg/Kg		76	70 - 130	16	35
m-Xylene & p-Xylene	0.200	0.1515		mg/Kg		76	70 - 130	17	35
o-Xylene	0.100	0.07973		mg/Kg		80	70 - 130	18	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	110		70 - 130
1,4-Difluorobenzene (Surr)	105		70 - 130

Lab Sample ID: 880-5254-3 MS

Matrix: Solid

Analysis Batch: 6871

Client Sample ID: TP18-6

Prep Type: Total/NA

Prep Batch: 6739

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.000385	U F1	0.100	0.06348	F1	mg/Kg		63	70 - 130

Eurofins Xenco, Midland

QC Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5254-1
SDG: 11220756

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

Lab Sample ID: 880-5254-3 MS

Matrix: Solid

Analysis Batch: 6871

Client Sample ID: TP18-6

Prep Type: Total/NA

Prep Batch: 6739

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	<0.000456	U F1	0.100	0.05149	F1	mg/Kg		51	70 - 130
Ethylbenzene	<0.000565	U F1	0.100	0.04465	F1	mg/Kg		45	70 - 130
m-Xylene & p-Xylene	<0.00101	U F1	0.200	0.09072	F1	mg/Kg		45	70 - 130
o-Xylene	<0.000344	U F1	0.100	0.04496	F1	mg/Kg		45	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	116		70 - 130						
1,4-Difluorobenzene (Surr)	105		70 - 130						

Lab Sample ID: 880-5254-3 MSD

Matrix: Solid

Analysis Batch: 6871

Client Sample ID: TP18-6

Prep Type: Total/NA

Prep Batch: 6739

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.000385	U F1	0.0990	0.06071	F1	mg/Kg		61	70 - 130	4	35
Toluene	<0.000456	U F1	0.0990	0.04938	F1	mg/Kg		50	70 - 130	4	35
Ethylbenzene	<0.000565	U F1	0.0990	0.04252	F1	mg/Kg		43	70 - 130	5	35
m-Xylene & p-Xylene	<0.00101	U F1	0.198	0.08327	F1	mg/Kg		42	70 - 130	9	35
o-Xylene	<0.000344	U F1	0.0990	0.04087	F1	mg/Kg		41	70 - 130	10	35
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	104		70 - 130								
1,4-Difluorobenzene (Surr)	105		70 - 130								

Lab Sample ID: MB 880-6819/5-A

Matrix: Solid

Analysis Batch: 6871

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6819

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		08/20/21 08:45	08/21/21 04:31	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		08/20/21 08:45	08/21/21 04:31	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		08/20/21 08:45	08/21/21 04:31	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/20/21 08:45	08/21/21 04:31	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		08/20/21 08:45	08/21/21 04:31	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/20/21 08:45	08/21/21 04:31	1
Total BTEX	<0.00101	U	0.00400	0.00101	mg/Kg		08/20/21 08:45	08/21/21 04:31	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130				08/20/21 08:45	08/21/21 04:31	1
1,4-Difluorobenzene (Surr)	96		70 - 130				08/20/21 08:45	08/21/21 04:31	1

Lab Sample ID: MB 880-6835/5-A

Matrix: Solid

Analysis Batch: 6871

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6835

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		08/20/21 08:30	08/20/21 17:37	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		08/20/21 08:30	08/20/21 17:37	1

Eurofins Xenco, Midland

QC Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5254-1
SDG: 11220756

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

Lab Sample ID: MB 880-6835/5-A

Matrix: Solid

Analysis Batch: 6871

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6835

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		08/20/21 08:30	08/20/21 17:37	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		08/20/21 08:30	08/20/21 17:37	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		08/20/21 08:30	08/20/21 17:37	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		08/20/21 08:30	08/20/21 17:37	1
Total BTEX	<0.00101	U	0.00400	0.00101	mg/Kg		08/20/21 08:30	08/20/21 17:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130	08/20/21 08:30	08/20/21 17:37	1
1,4-Difluorobenzene (Surr)	95		70 - 130	08/20/21 08:30	08/20/21 17:37	1

Lab Sample ID: LCS 880-6835/1-A

Matrix: Solid

Analysis Batch: 6871

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6835

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.08032		mg/Kg		80	70 - 130
Toluene	0.100	0.07765		mg/Kg		78	70 - 130
Ethylbenzene	0.100	0.08182		mg/Kg		82	70 - 130
m-Xylene & p-Xylene	0.200	0.1655		mg/Kg		83	70 - 130
o-Xylene	0.100	0.08486		mg/Kg		85	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	109		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: LCSD 880-6835/2-A

Matrix: Solid

Analysis Batch: 6871

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6835

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.100	0.07845		mg/Kg		78	70 - 130	2	35
Toluene	0.100	0.07820		mg/Kg		78	70 - 130	1	35
Ethylbenzene	0.100	0.08387		mg/Kg		84	70 - 130	2	35
m-Xylene & p-Xylene	0.200	0.1694		mg/Kg		85	70 - 130	2	35
o-Xylene	0.100	0.08761		mg/Kg		88	70 - 130	3	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	112		70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

Eurofins Xenco, Midland

QC Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5254-1
SDG: 11220756

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

Lab Sample ID: MB 880-6836/1-A

Matrix: Solid

Analysis Batch: 6839

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6836

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		08/20/21 08:58	08/20/21 21:57	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		08/20/21 08:58	08/20/21 21:57	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		08/20/21 08:58	08/20/21 21:57	1
Total TPH	<15.0	U	50.0	15.0	mg/Kg		08/20/21 08:58	08/20/21 21:57	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	107		70 - 130	08/20/21 08:58	08/20/21 21:57	1
o-Terphenyl	116		70 - 130	08/20/21 08:58	08/20/21 21:57	1

Lab Sample ID: LCS 880-6836/2-A

Matrix: Solid

Analysis Batch: 6839

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6836

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	942.0		mg/Kg		94	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1018		mg/Kg		102	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	96		70 - 130
o-Terphenyl	105		70 - 130

Lab Sample ID: LCSD 880-6836/3-A

Matrix: Solid

Analysis Batch: 6839

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6836

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1113		mg/Kg		111	70 - 130	17	20
Diesel Range Organics (Over C10-C28)	1000	1151		mg/Kg		115	70 - 130	12	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	110		70 - 130
o-Terphenyl	119		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-6792/1-A

Matrix: Solid

Analysis Batch: 6951

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			08/23/21 20:51	1

Eurofins Xenco, Midland

QC Sample Results

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5254-1
SDG: 11220756

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-6792/2-A

Matrix: Solid

Analysis Batch: 6951

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	274.1		mg/Kg		110	90 - 110		

Lab Sample ID: LCSD 880-6792/3-A

Matrix: Solid

Analysis Batch: 6951

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	1	20

Lab Sample ID: 880-5254-8 MS

Matrix: Solid

Analysis Batch: 6951

Client Sample ID: TP20-4

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	1.86	J	250	269.1		mg/Kg		107	90 - 110		

Lab Sample ID: 880-5254-8 MSD

Matrix: Solid

Analysis Batch: 6951

Client Sample ID: TP20-4

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1.86	J	250	269.2		mg/Kg		107	90 - 110	0	20

QC Association Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5254-1
SDG: 11220756

GC VOA

Prep Batch: 6739

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5254-3	TP18-6	Total/NA	Solid	5035	
880-5254-4	TP19-S	Total/NA	Solid	5035	
880-5254-5	TP19-4	Total/NA	Solid	5035	
880-5254-6	TP19-6	Total/NA	Solid	5035	
880-5254-7	TP20-S	Total/NA	Solid	5035	
880-5254-8	TP20-4	Total/NA	Solid	5035	
880-5254-9	TP20-6	Total/NA	Solid	5035	
MB 880-6739/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-6739/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-6739/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-5254-3 MS	TP18-6	Total/NA	Solid	5035	
880-5254-3 MSD	TP18-6	Total/NA	Solid	5035	

Prep Batch: 6819

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-6819/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 6835

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5254-1	TP18-S	Total/NA	Solid	5035	
880-5254-2	TP18-4	Total/NA	Solid	5035	
MB 880-6835/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-6835/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-6835/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 6871

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5254-1	TP18-S	Total/NA	Solid	8021B	6835
880-5254-2	TP18-4	Total/NA	Solid	8021B	6835
880-5254-3	TP18-6	Total/NA	Solid	8021B	6739
880-5254-4	TP19-S	Total/NA	Solid	8021B	6739
880-5254-5	TP19-4	Total/NA	Solid	8021B	6739
880-5254-6	TP19-6	Total/NA	Solid	8021B	6739
880-5254-7	TP20-S	Total/NA	Solid	8021B	6739
880-5254-8	TP20-4	Total/NA	Solid	8021B	6739
880-5254-9	TP20-6	Total/NA	Solid	8021B	6739
MB 880-6739/5-A	Method Blank	Total/NA	Solid	8021B	6739
MB 880-6819/5-A	Method Blank	Total/NA	Solid	8021B	6819
MB 880-6835/5-A	Method Blank	Total/NA	Solid	8021B	6835
LCS 880-6739/1-A	Lab Control Sample	Total/NA	Solid	8021B	6739
LCS 880-6835/1-A	Lab Control Sample	Total/NA	Solid	8021B	6835
LCSD 880-6739/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	6739
LCSD 880-6835/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	6835
880-5254-3 MS	TP18-6	Total/NA	Solid	8021B	6739
880-5254-3 MSD	TP18-6	Total/NA	Solid	8021B	6739

GC Semi VOA

Prep Batch: 6836

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5254-1	TP18-S	Total/NA	Solid	8015NM Prep	

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QC Association Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5254-1
SDG: 11220756

GC Semi VOA (Continued)

Prep Batch: 6836 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5254-2	TP18-4	Total/NA	Solid	8015NM Prep	
880-5254-3	TP18-6	Total/NA	Solid	8015NM Prep	
880-5254-4	TP19-S	Total/NA	Solid	8015NM Prep	
880-5254-5	TP19-4	Total/NA	Solid	8015NM Prep	
880-5254-6	TP19-6	Total/NA	Solid	8015NM Prep	
880-5254-7	TP20-S	Total/NA	Solid	8015NM Prep	
880-5254-8	TP20-4	Total/NA	Solid	8015NM Prep	
880-5254-9	TP20-6	Total/NA	Solid	8015NM Prep	
MB 880-6836/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-6836/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-6836/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 6839

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5254-1	TP18-S	Total/NA	Solid	8015B NM	6836
880-5254-2	TP18-4	Total/NA	Solid	8015B NM	6836
880-5254-3	TP18-6	Total/NA	Solid	8015B NM	6836
880-5254-4	TP19-S	Total/NA	Solid	8015B NM	6836
880-5254-5	TP19-4	Total/NA	Solid	8015B NM	6836
880-5254-6	TP19-6	Total/NA	Solid	8015B NM	6836
880-5254-7	TP20-S	Total/NA	Solid	8015B NM	6836
880-5254-8	TP20-4	Total/NA	Solid	8015B NM	6836
880-5254-9	TP20-6	Total/NA	Solid	8015B NM	6836
MB 880-6836/1-A	Method Blank	Total/NA	Solid	8015B NM	6836
LCS 880-6836/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	6836
LCSD 880-6836/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	6836

HPLC/IC

Leach Batch: 6792

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5254-1	TP18-S	Soluble	Solid	DI Leach	
880-5254-2	TP18-4	Soluble	Solid	DI Leach	
880-5254-3	TP18-6	Soluble	Solid	DI Leach	
880-5254-4	TP19-S	Soluble	Solid	DI Leach	
880-5254-5	TP19-4	Soluble	Solid	DI Leach	
880-5254-6	TP19-6	Soluble	Solid	DI Leach	
880-5254-7	TP20-S	Soluble	Solid	DI Leach	
880-5254-8	TP20-4	Soluble	Solid	DI Leach	
880-5254-9	TP20-6	Soluble	Solid	DI Leach	
MB 880-6792/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-6792/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-6792/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-5254-8 MS	TP20-4	Soluble	Solid	DI Leach	
880-5254-8 MSD	TP20-4	Soluble	Solid	DI Leach	

Analysis Batch: 6951

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5254-1	TP18-S	Soluble	Solid	300.0	6792
880-5254-2	TP18-4	Soluble	Solid	300.0	6792
880-5254-3	TP18-6	Soluble	Solid	300.0	6792

Eurofins Xenco, Midland

QC Association Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5254-1
SDG: 11220756

HPLC/IC (Continued)

Analysis Batch: 6951 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5254-4	TP19-S	Soluble	Solid	300.0	6792
880-5254-5	TP19-4	Soluble	Solid	300.0	6792
880-5254-6	TP19-6	Soluble	Solid	300.0	6792
880-5254-7	TP20-S	Soluble	Solid	300.0	6792
880-5254-8	TP20-4	Soluble	Solid	300.0	6792
880-5254-9	TP20-6	Soluble	Solid	300.0	6792
MB 880-6792/1-A	Method Blank	Soluble	Solid	300.0	6792
LCS 880-6792/2-A	Lab Control Sample	Soluble	Solid	300.0	6792
LCSD 880-6792/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	6792
880-5254-8 MS	TP20-4	Soluble	Solid	300.0	6792
880-5254-8 MSD	TP20-4	Soluble	Solid	300.0	6792

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5254-1
SDG: 11220756

Client Sample ID: TP18-S

Lab Sample ID: 880-5254-1

Date Collected: 08/18/21 08:30

Matrix: Solid

Date Received: 08/19/21 10:30

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	6835	08/20/21 08:30	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6871	08/20/21 20:42	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	6836	08/20/21 08:58	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6839	08/21/21 03:39	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	6792	08/19/21 11:28	CH	XEN MID
Soluble	Analysis	300.0		1			6951	08/23/21 21:36	CH	XEN MID

Client Sample ID: TP18-4

Lab Sample ID: 880-5254-2

Date Collected: 08/18/21 08:35

Matrix: Solid

Date Received: 08/19/21 10:30

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	6835	08/20/21 08:30	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6871	08/20/21 21:03	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	6836	08/20/21 08:58	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6839	08/21/21 04:01	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	6792	08/19/21 11:28	CH	XEN MID
Soluble	Analysis	300.0		1			6951	08/23/21 21:41	CH	XEN MID

Client Sample ID: TP18-6

Lab Sample ID: 880-5254-3

Date Collected: 08/18/21 08:40

Matrix: Solid

Date Received: 08/19/21 10:30

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	6739	08/20/21 14:05	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6871	08/21/21 15:45	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	6836	08/20/21 08:58	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6839	08/21/21 04:22	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	6792	08/19/21 11:28	CH	XEN MID
Soluble	Analysis	300.0		1			6951	08/23/21 21:58	CH	XEN MID

Client Sample ID: TP19-S

Lab Sample ID: 880-5254-4

Date Collected: 08/18/21 08:50

Matrix: Solid

Date Received: 08/19/21 10:30

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	6739	08/20/21 14:05	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6871	08/21/21 16:05	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	6836	08/20/21 08:58	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6839	08/21/21 04:43	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	6792	08/19/21 11:28	CH	XEN MID
Soluble	Analysis	300.0		1			6951	08/23/21 22:04	CH	XEN MID

Eurofins Xenco, Midland

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5254-1
SDG: 11220756

Client Sample ID: TP19-4

Lab Sample ID: 880-5254-5

Date Collected: 08/18/21 08:55

Matrix: Solid

Date Received: 08/19/21 10:30

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	6739	08/20/21 14:05	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6871	08/21/21 16:26	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	6836	08/20/21 08:58	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6839	08/21/21 05:05	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	6792	08/19/21 11:28	CH	XEN MID
Soluble	Analysis	300.0		1			6951	08/23/21 22:10	CH	XEN MID

Client Sample ID: TP19-6

Lab Sample ID: 880-5254-6

Date Collected: 08/18/21 09:00

Matrix: Solid

Date Received: 08/19/21 10:30

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	6739	08/20/21 14:05	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6871	08/21/21 16:46	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	6836	08/20/21 08:58	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6839	08/21/21 05:26	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	6792	08/19/21 11:28	CH	XEN MID
Soluble	Analysis	300.0		1			6951	08/23/21 22:15	CH	XEN MID

Client Sample ID: TP20-S

Lab Sample ID: 880-5254-7

Date Collected: 08/18/21 09:15

Matrix: Solid

Date Received: 08/19/21 10:30

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	6739	08/20/21 14:05	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6871	08/21/21 17:06	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	6836	08/20/21 08:58	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6839	08/21/21 05:46	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	6792	08/19/21 11:28	CH	XEN MID
Soluble	Analysis	300.0		1			6951	08/23/21 22:21	CH	XEN MID

Client Sample ID: TP20-4

Lab Sample ID: 880-5254-8

Date Collected: 08/18/21 09:20

Matrix: Solid

Date Received: 08/19/21 10:30

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	6739	08/20/21 14:05	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6871	08/21/21 17:27	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	6836	08/20/21 08:58	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6839	08/21/21 06:07	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	6792	08/19/21 11:28	CH	XEN MID
Soluble	Analysis	300.0		1			6951	08/23/21 22:27	CH	XEN MID

Eurofins Xenco, Midland

Lab Chronicle

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5254-1
SDG: 11220756

Client Sample ID: TP20-6
Date Collected: 08/18/21 09:25
Date Received: 08/19/21 10:30

Lab Sample ID: 880-5254-9
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			5.03 g	5 mL	6739	08/20/21 14:05	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6871	08/21/21 17:47	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	6836	08/20/21 08:58	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6839	08/21/21 06:28	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	6792	08/19/21 11:28	CH	XEN MID
Soluble	Analysis	300.0		1			6951	08/23/21 22:44	CH	XEN MID

Laboratory References:
XEN MID = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5254-1
SDG: 11220756

Laboratory: Eurofins Xenco, Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	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
8015B NM	8015NM Prep	Solid	Total TPH
8021B	5035	Solid	Total BTEX

Method Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5254-1
SDG: 11220756

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (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.

Laboratory References:

XEN MID = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Xenco, Midland

Sample Summary

Client: GHD Services Inc.
Project/Site: Unocal AHM Federal #1

Job ID: 880-5254-1
SDG: 11220756

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-5254-1	TP18-S	Solid	08/18/21 08:30	08/19/21 10:30
880-5254-2	TP18-4	Solid	08/18/21 08:35	08/19/21 10:30
880-5254-3	TP18-6	Solid	08/18/21 08:40	08/19/21 10:30
880-5254-4	TP19-S	Solid	08/18/21 08:50	08/19/21 10:30
880-5254-5	TP19-4	Solid	08/18/21 08:55	08/19/21 10:30
880-5254-6	TP19-6	Solid	08/18/21 09:00	08/19/21 10:30
880-5254-7	TP20-S	Solid	08/18/21 09:15	08/19/21 10:30
880-5254-8	TP20-4	Solid	08/18/21 09:20	08/19/21 10:30
880-5254-9	TP20-6	Solid	08/18/21 09:25	08/19/21 10:30



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) 794-1266
 Hobbs NM (575) 392-7550 Carlsbad NM (575) 988-3199



Worl
 880-5254 Chain of Custody

www.xenco.com Page ____ of ____

Project Manager	Becky Harker, Tom Larson	Bill to: (if different)	Samuel Kennedy w/ EOC
Company Name	GHID	Company Name	
Address	2135 S. Loop 280 W.	Address	
City, State ZIP	Midland, TX 79703	City, State ZIP	
Phone	(432) 250-7917	Email	

Work Order Comments	
Program: UST/PST ☐ PRF ☐ Brownfield ☐ RRD ☐ Superfund ☐	
State of Project:	
Reporting Level: ☐ Level I ☐ Level II ☐ Level III ☐ Level IV ☐ Level V ☐	
Deliverables EDD ☐ ADAPT ☐ Other ☐	

Project Name	Unsub. AHA Federal #1	Turn Around	☒ Routine ☐ Rush	Pres. Code		ANALYSIS REQUEST		Preservative Codes
Project Number	11220756	Due Date						None: NO DI Water: H ₂ O Cool: Cool MeOH: Me HCL: HCl H ₂ SO ₄ : H ₂ H ₂ PO ₄ : HP NaHSO ₄ : NABIS Na ₂ S ₂ O ₃ : NaSO ₃ Zn Acetate+NaOH: Zn NaOH+Ascorbic Acid: SAPC
Project Location	Lee County, NM	TAT starts the day received by the lab if received by 4:30pm						
Sampler's Name	Heath Boyd							
PO #								
SAMPLE RECEIPT		Temp Blank	Yes ☒ No ☐	Wet Ice	Yes ☒ No ☐			
Samples Received Intact:		Thermometer ID						
Cooler Custody Seals		Correction Factor						
Sample Custody Seals		Temperature Reading						
Total Containers		Corrected Temperature						
Sample Identification	Matrix	Date Sampled	Time	Depth	Grab/Comp	# of Cont	Parameters	Sample Comments
TP18-5	S	8/18/21	730		6m	1	BTEX 2021 B.	
TP18-4			835				TRH 8015 M.	
TP18-6			840				Chloride Method 300	
TP19-5			850					
TP19-4			855					
TP19-6			900					
TP20-5			915					
TP20-4			920					
TP20-6			925					

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Pb Mn Mo Ni K Se Ag SiO₂ Na Sr Ti 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 Ti U Hg 1631 / 245 / 17470 / 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 \$3 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 <i>[Signature]</i>	2 <i>[Signature]</i>	8/18/21 1300	3 <i>[Signature]</i>	4 <i>[Signature]</i>	8/19/21
5	6				1030

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 880-5254-1

SDG Number: 11220756

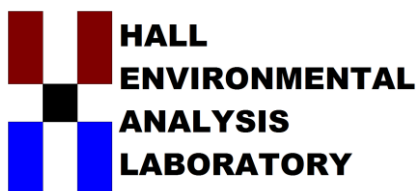
Login Number: 5254

List Number: 1

Creator: Teel, Brianna

List Source: Eurofins Xenco, 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	



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

November 02, 2022

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

RE: Unocal AHU FED 1

OrderNo.: 2210B60

Dear JT Murrey:

Hall Environmental Analysis Laboratory received 12 sample(s) on 10/22/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 2210B60

Date Reported: 11/2/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP1-0

Project: Unocal AHU FED 1

Collection Date: 10/20/2022 12:00:00 PM

Lab ID: 2210B60-001

Matrix: SOIL

Received Date: 10/22/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	1200	60		mg/Kg	20	10/28/2022 4:55:41 PM	71146
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	10/27/2022 12:25:25 PM	71068
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/27/2022 12:25:25 PM	71068
Surr: DNOP	94.5	21-129		%Rec	1	10/27/2022 12:25:25 PM	71068
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/27/2022 3:28:00 PM	71050
Surr: BFB	108	37.7-212		%Rec	1	10/27/2022 3:28:00 PM	71050
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	10/27/2022 3:28:00 PM	71050
Toluene	ND	0.048		mg/Kg	1	10/27/2022 3:28:00 PM	71050
Ethylbenzene	ND	0.048		mg/Kg	1	10/27/2022 3:28:00 PM	71050
Xylenes, Total	ND	0.095		mg/Kg	1	10/27/2022 3:28:00 PM	71050
Surr: 4-Bromofluorobenzene	114	70-130		%Rec	1	10/27/2022 3:28:00 PM	71050

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2210B60

Date Reported: 11/2/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP1-2'

Project: Unocal AHU FED 1

Collection Date: 10/20/2022 12:10:00 PM

Lab ID: 2210B60-002

Matrix: SOIL

Received Date: 10/22/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	130	60		mg/Kg	20	10/28/2022 5:32:44 PM	71146
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/27/2022 12:36:00 PM	71068
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/27/2022 12:36:00 PM	71068
Surr: DNOP	89.2	21-129		%Rec	1	10/27/2022 12:36:00 PM	71068
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	10/27/2022 3:47:00 PM	71050
Surr: BFB	98.8	37.7-212		%Rec	1	10/27/2022 3:47:00 PM	71050
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.023		mg/Kg	1	10/27/2022 3:47:00 PM	71050
Toluene	ND	0.046		mg/Kg	1	10/27/2022 3:47:00 PM	71050
Ethylbenzene	ND	0.046		mg/Kg	1	10/27/2022 3:47:00 PM	71050
Xylenes, Total	ND	0.093		mg/Kg	1	10/27/2022 3:47:00 PM	71050
Surr: 4-Bromofluorobenzene	111	70-130		%Rec	1	10/27/2022 3:47:00 PM	71050

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2210B60

Date Reported: 11/2/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP4-0'

Project: Unocal AHU FED 1

Collection Date: 10/20/2022 12:20:00 PM

Lab ID: 2210B60-003

Matrix: SOIL

Received Date: 10/22/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	ND	60		mg/Kg	20	10/28/2022 5:45:04 PM	71146
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/27/2022 12:46:34 PM	71068
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/27/2022 12:46:34 PM	71068
Surr: DNOP	103	21-129		%Rec	1	10/27/2022 12:46:34 PM	71068
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/27/2022 4:27:00 PM	71050
Surr: BFB	99.3	37.7-212		%Rec	1	10/27/2022 4:27:00 PM	71050
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	10/27/2022 4:27:00 PM	71050
Toluene	ND	0.048		mg/Kg	1	10/27/2022 4:27:00 PM	71050
Ethylbenzene	ND	0.048		mg/Kg	1	10/27/2022 4:27:00 PM	71050
Xylenes, Total	ND	0.096		mg/Kg	1	10/27/2022 4:27:00 PM	71050
Surr: 4-Bromofluorobenzene	113	70-130		%Rec	1	10/27/2022 4:27:00 PM	71050

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2210B60

Date Reported: 11/2/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP4-2'

Project: Unocal AHU FED 1

Collection Date: 10/20/2022 12:30:00 PM

Lab ID: 2210B60-004

Matrix: SOIL

Received Date: 10/22/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	ND	60		mg/Kg	20	10/28/2022 5:57:26 PM	71147
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/27/2022 12:57:10 PM	71068
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	10/27/2022 12:57:10 PM	71068
Surr: DNOP	123	21-129		%Rec	1	10/27/2022 12:57:10 PM	71068
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/27/2022 4:46:00 PM	71050
Surr: BFB	104	37.7-212		%Rec	1	10/27/2022 4:46:00 PM	71050
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	10/27/2022 4:46:00 PM	71050
Toluene	ND	0.049		mg/Kg	1	10/27/2022 4:46:00 PM	71050
Ethylbenzene	ND	0.049		mg/Kg	1	10/27/2022 4:46:00 PM	71050
Xylenes, Total	ND	0.097		mg/Kg	1	10/27/2022 4:46:00 PM	71050
Surr: 4-Bromofluorobenzene	115	70-130		%Rec	1	10/27/2022 4:46:00 PM	71050

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2210B60

Date Reported: 11/2/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP10-1'

Project: Unocal AHU FED 1

Collection Date: 10/20/2022 12:45:00 PM

Lab ID: 2210B60-005

Matrix: SOIL

Received Date: 10/22/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	2000	60		mg/Kg	20	10/28/2022 6:34:27 PM	71147
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	10/27/2022 1:07:47 PM	71068
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/27/2022 1:07:47 PM	71068
Surr: DNOP	97.9	21-129		%Rec	1	10/27/2022 1:07:47 PM	71068
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/27/2022 5:06:00 PM	71050
Surr: BFB	101	37.7-212		%Rec	1	10/27/2022 5:06:00 PM	71050
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	10/27/2022 5:06:00 PM	71050
Toluene	ND	0.049		mg/Kg	1	10/27/2022 5:06:00 PM	71050
Ethylbenzene	ND	0.049		mg/Kg	1	10/27/2022 5:06:00 PM	71050
Xylenes, Total	ND	0.097		mg/Kg	1	10/27/2022 5:06:00 PM	71050
Surr: 4-Bromofluorobenzene	115	70-130		%Rec	1	10/27/2022 5:06:00 PM	71050

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2210B60

Date Reported: 11/2/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP10-3'

Project: Unocal AHU FED 1

Collection Date: 10/20/2022 12:55:00 PM

Lab ID: 2210B60-006

Matrix: SOIL

Received Date: 10/22/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	1800	60		mg/Kg	20	10/28/2022 7:11:29 PM	71147
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	10/27/2022 2:15:48 PM	71068
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	10/27/2022 2:15:48 PM	71068
Surr: DNOP	98.5	21-129		%Rec	1	10/27/2022 2:15:48 PM	71068
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/27/2022 5:26:00 PM	71050
Surr: BFB	104	37.7-212		%Rec	1	10/27/2022 5:26:00 PM	71050
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	10/27/2022 5:26:00 PM	71050
Toluene	ND	0.049		mg/Kg	1	10/27/2022 5:26:00 PM	71050
Ethylbenzene	ND	0.049		mg/Kg	1	10/27/2022 5:26:00 PM	71050
Xylenes, Total	ND	0.097		mg/Kg	1	10/27/2022 5:26:00 PM	71050
Surr: 4-Bromofluorobenzene	118	70-130		%Rec	1	10/27/2022 5:26:00 PM	71050

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2210B60

Date Reported: 11/2/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP11-0'

Project: Unocal AHU FED 1

Collection Date: 10/20/2022 1:00:00 PM

Lab ID: 2210B60-007

Matrix: SOIL

Received Date: 10/22/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	ND	60		mg/Kg	20	10/28/2022 7:23:50 PM	71147
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/27/2022 2:26:25 PM	71068
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	10/27/2022 2:26:25 PM	71068
Surr: DNOP	97.5	21-129		%Rec	1	10/27/2022 2:26:25 PM	71068
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/27/2022 5:45:00 PM	71050
Surr: BFB	102	37.7-212		%Rec	1	10/27/2022 5:45:00 PM	71050
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	10/27/2022 5:45:00 PM	71050
Toluene	ND	0.049		mg/Kg	1	10/27/2022 5:45:00 PM	71050
Ethylbenzene	ND	0.049		mg/Kg	1	10/27/2022 5:45:00 PM	71050
Xylenes, Total	ND	0.099		mg/Kg	1	10/27/2022 5:45:00 PM	71050
Surr: 4-Bromofluorobenzene	118	70-130		%Rec	1	10/27/2022 5:45:00 PM	71050

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2210B60

Date Reported: 11/2/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP11-2'

Project: Unocal AHU FED 1

Collection Date: 10/20/2022 1:10:00 PM

Lab ID: 2210B60-008

Matrix: SOIL

Received Date: 10/22/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	ND	60		mg/Kg	20	10/28/2022 7:36:10 PM	71147
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	10/27/2022 2:37:04 PM	71068
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/27/2022 2:37:04 PM	71068
Surr: DNOP	107	21-129		%Rec	1	10/27/2022 2:37:04 PM	71068
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/27/2022 6:05:00 PM	71050
Surr: BFB	101	37.7-212		%Rec	1	10/27/2022 6:05:00 PM	71050
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	10/27/2022 6:05:00 PM	71050
Toluene	ND	0.049		mg/Kg	1	10/27/2022 6:05:00 PM	71050
Ethylbenzene	ND	0.049		mg/Kg	1	10/27/2022 6:05:00 PM	71050
Xylenes, Total	ND	0.099		mg/Kg	1	10/27/2022 6:05:00 PM	71050
Surr: 4-Bromofluorobenzene	114	70-130		%Rec	1	10/27/2022 6:05:00 PM	71050

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2210B60

Date Reported: 11/2/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP12-1'

Project: Unocal AHU FED 1

Collection Date: 10/20/2022 1:25:00 PM

Lab ID: 2210B60-009

Matrix: SOIL

Received Date: 10/22/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	1200	60		mg/Kg	20	10/28/2022 7:48:32 PM	71147
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	10/27/2022 2:47:45 PM	71068
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/27/2022 2:47:45 PM	71068
Surr: DNOP	98.3	21-129		%Rec	1	10/27/2022 2:47:45 PM	71068
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/27/2022 6:25:00 PM	71050
Surr: BFB	103	37.7-212		%Rec	1	10/27/2022 6:25:00 PM	71050
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.023		mg/Kg	1	10/27/2022 6:25:00 PM	71050
Toluene	ND	0.047		mg/Kg	1	10/27/2022 6:25:00 PM	71050
Ethylbenzene	ND	0.047		mg/Kg	1	10/27/2022 6:25:00 PM	71050
Xylenes, Total	ND	0.094		mg/Kg	1	10/27/2022 6:25:00 PM	71050
Surr: 4-Bromofluorobenzene	115	70-130		%Rec	1	10/27/2022 6:25:00 PM	71050

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2210B60

Date Reported: 11/2/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP12-3'

Project: Unocal AHU FED 1

Collection Date: 10/20/2022 1:35:00 PM

Lab ID: 2210B60-010

Matrix: SOIL

Received Date: 10/22/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	660	60		mg/Kg	20	10/28/2022 8:00:53 PM	71147
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	10/27/2022 2:58:28 PM	71068
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/27/2022 2:58:28 PM	71068
Surr: DNOP	96.4	21-129		%Rec	1	10/27/2022 2:58:28 PM	71068
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/27/2022 6:44:00 PM	71050
Surr: BFB	100	37.7-212		%Rec	1	10/27/2022 6:44:00 PM	71050
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	10/27/2022 6:44:00 PM	71050
Toluene	ND	0.049		mg/Kg	1	10/27/2022 6:44:00 PM	71050
Ethylbenzene	ND	0.049		mg/Kg	1	10/27/2022 6:44:00 PM	71050
Xylenes, Total	ND	0.097		mg/Kg	1	10/27/2022 6:44:00 PM	71050
Surr: 4-Bromofluorobenzene	116	70-130		%Rec	1	10/27/2022 6:44:00 PM	71050

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2210B60

Date Reported: 11/2/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP15-1'

Project: Unocal AHU FED 1

Collection Date: 10/20/2022 1:45:00 PM

Lab ID: 2210B60-011

Matrix: SOIL

Received Date: 10/22/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	780	60		mg/Kg	20	10/28/2022 8:13:14 PM	71147
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	10/27/2022 3:09:19 PM	71068
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/27/2022 3:09:19 PM	71068
Surr: DNOP	99.4	21-129		%Rec	1	10/27/2022 3:09:19 PM	71068
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/27/2022 7:04:00 PM	71050
Surr: BFB	105	37.7-212		%Rec	1	10/27/2022 7:04:00 PM	71050
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	10/27/2022 7:04:00 PM	71050
Toluene	ND	0.048		mg/Kg	1	10/27/2022 7:04:00 PM	71050
Ethylbenzene	ND	0.048		mg/Kg	1	10/27/2022 7:04:00 PM	71050
Xylenes, Total	ND	0.096		mg/Kg	1	10/27/2022 7:04:00 PM	71050
Surr: 4-Bromofluorobenzene	116	70-130		%Rec	1	10/27/2022 7:04:00 PM	71050

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2210B60

Date Reported: 11/2/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: TP15-3'

Project: Unocal AHU FED 1

Collection Date: 10/20/2022 1:55:00 PM

Lab ID: 2210B60-012

Matrix: SOIL

Received Date: 10/22/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	2100	60		mg/Kg	20	10/28/2022 8:25:33 PM	71147
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	10/27/2022 3:20:08 PM	71068
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/27/2022 3:20:08 PM	71068
Surr: DNOP	117	21-129		%Rec	1	10/27/2022 3:20:08 PM	71068
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/27/2022 7:24:00 PM	71050
Surr: BFB	101	37.7-212		%Rec	1	10/27/2022 7:24:00 PM	71050
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	10/27/2022 7:24:00 PM	71050
Toluene	ND	0.048		mg/Kg	1	10/27/2022 7:24:00 PM	71050
Ethylbenzene	ND	0.048		mg/Kg	1	10/27/2022 7:24:00 PM	71050
Xylenes, Total	ND	0.095		mg/Kg	1	10/27/2022 7:24:00 PM	71050
Surr: 4-Bromofluorobenzene	115	70-130		%Rec	1	10/27/2022 7:24:00 PM	71050

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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

WO#: 2210B60

02-Nov-22

Client: GHD Midland
Project: Unocal AHU FED 1

Sample ID: MB-71146	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 71146	RunNo: 92199								
Prep Date: 10/28/2022	Analysis Date: 10/28/2022	SeqNo: 3310619 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-71146	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 71146	RunNo: 92199								
Prep Date: 10/28/2022	Analysis Date: 10/28/2022	SeqNo: 3310620 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.5	90	110			

Sample ID: MB-71147	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 71147	RunNo: 92199								
Prep Date: 10/28/2022	Analysis Date: 10/28/2022	SeqNo: 3310623 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-71147	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 71147	RunNo: 92199								
Prep Date: 10/28/2022	Analysis Date: 10/28/2022	SeqNo: 3310624 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.3	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 2210B60
02-Nov-22

Client: GHD Midland
Project: Unocal AHU FED 1

Sample ID: MB-71068	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 71068	RunNo: 92087								
Prep Date: 10/25/2022	Analysis Date: 10/27/2022	SeqNo: 3306947		Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		103	21	129			

Sample ID: LCS-71068	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 71068	RunNo: 92087								
Prep Date: 10/25/2022	Analysis Date: 10/27/2022	SeqNo: 3306948		Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	59	15	50.00	0	118	64.4	127			
Surr: DNOP	5.9		5.000		117	21	129			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quantitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2210B60

02-Nov-22

Client: GHD Midland
Project: Unocal AHU FED 1

Sample ID: lcs-71050	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 71050			RunNo: 92168						
Prep Date: 10/25/2022	Analysis Date: 10/27/2022			SeqNo: 3309054		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	101	72.3	137			
Surr: BFB	2300		1000		228	37.7	212			S

Sample ID: mb-71050	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 71050			RunNo: 92168						
Prep Date: 10/25/2022	Analysis Date: 10/27/2022			SeqNo: 3309055		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		106	37.7	212			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

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

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

WO#: 2210B60

02-Nov-22

Client: GHD Midland
Project: Unocal AHU FED 1

Sample ID: lcs-71050	SampType: LCS			TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS	Batch ID: 71050			RunNo: 92168						
Prep Date: 10/25/2022	Analysis Date: 10/27/2022			SeqNo: 3309121		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	113	80	120			
Toluene	1.1	0.050	1.000	0	113	80	120			
Ethylbenzene	1.1	0.050	1.000	0	113	80	120			
Xylenes, Total	3.4	0.10	3.000	0	113	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		116	70	130			

Sample ID: mb-71050	SampType: MBLK			TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS	Batch ID: 71050			RunNo: 92168						
Prep Date: 10/25/2022	Analysis Date: 10/27/2022			SeqNo: 3309122		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.2		1.000		117	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		



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

Sample Log-In Check List

Client Name: GHD Midland

Work Order Number: 2210B60

RcptNo: 1

Received By: Juan Rojas

10/22/2022 8:00:00 AM

Juan Rojas

Completed By: Juan Rojas

10/22/2022 9:55:34 AM

Juan Rojas

Reviewed By:

See 10/27/22
see 10/24

Chain of Custody

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

Log In

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

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted? _____

Checked by: *See 10/22/22*

Special Handling (if applicable)

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

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.4	Good				

Chain-of-Custody Record

Client: GHD

Turn-Around Time:

☒ Standard☒ Rush

5 days

Project Name:

Unocal A4U Fed #1

Mailing Address: 324 W Main St

Artesia, NM 88210

Phone #: (505) 377-4218

email or Fax#: nate.reese@ghd.com

QA/QC Package:

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

Sampler: Liam Giersdorf

On Ice: ☒ Yes ☐ No

of Coolers:

Cooler Temp (including cap): 0.9-0.20.4 (°C)

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
10/20	1200	Sq. I	TP1-0'	Jar	Ice	220360
	1210		TP1-2'			-001
	1220		TP4-0'			-002
	1230		TP4-2'			-003
	1245		TP10-1'			-004
	1255		TP10-3'			-005
	1300		TP11-0'			-006
	1310		TP11-2'			-007
	1325		TP12-1'			-008
	1335		TP12-3'			-009
	1345		TP15-1'			-010
	1355		TP15-3'			-011
						-012

Relinquished by: Liam Giersdorf

Date: 10/20

Time: 0800

Relinquished by: Liam Giersdorf

Date: 10/20

Time: 0800

Received by: acmurray

Date: 10/21/22

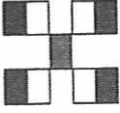
Time: 0800

Received by: acmurray

Date: 10/22/22

Time: 0800

Remarks: Please email chase-settle@agresources.com, jt.murray@ghd.com, amber-griffin@agresources.com, liam.giersdorf@ghd.com, nate.reese@ghd.com, along w/ Note Recd. Bill to Chase Settle, EOG



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

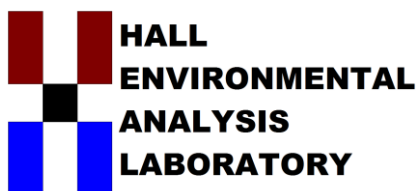
4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

BTEX / MTBE / TMB's (8021)	TPH: 8015D (GRO / DRO / MRO)	8081 Pesticides / 8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cr, F, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
X	X					X	Mod	Mod	300

Remarks: Please email chase-settle@agresources.com, jt.murray@ghd.com, amber-griffin@agresources.com, liam.giersdorf@ghd.com, nate.reese@ghd.com, along w/ Note Recd. Bill to Chase Settle, EOG



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

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

RE: Unocal AHU Federal 1

OrderNo.: 2212907

Dear JT Murrey:

Hall Environmental Analysis Laboratory received 32 sample(s) on 12/15/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHA1

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 10:30:00 AM

Lab ID: 2212907-001

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	61		mg/Kg	20	12/16/2022 9:10:01 PM	72145
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/19/2022 9:49:18 AM	72140
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/19/2022 9:49:18 AM	72140
Surr: DNOP	102	21-129		%Rec	1	12/19/2022 9:49:18 AM	72140
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/17/2022 11:30:19 AM	72124
Surr: BFB	81.8	37.7-212		%Rec	1	12/17/2022 11:30:19 AM	72124
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	12/17/2022 11:30:19 AM	72124
Toluene	ND	0.050		mg/Kg	1	12/17/2022 11:30:19 AM	72124
Ethylbenzene	ND	0.050		mg/Kg	1	12/17/2022 11:30:19 AM	72124
Xylenes, Total	ND	0.099		mg/Kg	1	12/17/2022 11:30:19 AM	72124
Surr: 4-Bromofluorobenzene	84.3	70-130		%Rec	1	12/17/2022 11:30:19 AM	72124

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHA2

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 10:35:00 AM

Lab ID: 2212907-002

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	59		mg/Kg	20	12/16/2022 9:47:14 PM	72145
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/19/2022 10:21:00 AM	72140
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/19/2022 10:21:00 AM	72140
Surr: DNOP	101	21-129		%Rec	1	12/19/2022 10:21:00 AM	72140
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/17/2022 11:53:31 AM	72124
Surr: BFB	81.1	37.7-212		%Rec	1	12/17/2022 11:53:31 AM	72124
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	12/17/2022 11:53:31 AM	72124
Toluene	ND	0.049		mg/Kg	1	12/17/2022 11:53:31 AM	72124
Ethylbenzene	ND	0.049		mg/Kg	1	12/17/2022 11:53:31 AM	72124
Xylenes, Total	ND	0.098		mg/Kg	1	12/17/2022 11:53:31 AM	72124
Surr: 4-Bromofluorobenzene	82.7	70-130		%Rec	1	12/17/2022 11:53:31 AM	72124

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHA3

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 10:40:00 AM

Lab ID: 2212907-003

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	560	60		mg/Kg	20	12/16/2022 9:59:39 PM	72145
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/19/2022 10:31:30 AM	72140
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/19/2022 10:31:30 AM	72140
Surr: DNOP	101	21-129		%Rec	1	12/19/2022 10:31:30 AM	72140
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/17/2022 12:16:45 PM	72124
Surr: BFB	84.6	37.7-212		%Rec	1	12/17/2022 12:16:45 PM	72124
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	12/17/2022 12:16:45 PM	72124
Toluene	ND	0.050		mg/Kg	1	12/17/2022 12:16:45 PM	72124
Ethylbenzene	ND	0.050		mg/Kg	1	12/17/2022 12:16:45 PM	72124
Xylenes, Total	ND	0.10		mg/Kg	1	12/17/2022 12:16:45 PM	72124
Surr: 4-Bromofluorobenzene	85.3	70-130		%Rec	1	12/17/2022 12:16:45 PM	72124

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHA4

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 10:45:00 AM

Lab ID: 2212907-004

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	ND	60		mg/Kg	20	12/16/2022 10:12:03 PM	72145
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/19/2022 10:42:06 AM	72140
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/19/2022 10:42:06 AM	72140
Surr: DNOP	104	21-129		%Rec	1	12/19/2022 10:42:06 AM	72140
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/17/2022 12:39:59 PM	72124
Surr: BFB	84.1	37.7-212		%Rec	1	12/17/2022 12:39:59 PM	72124
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	12/17/2022 12:39:59 PM	72124
Toluene	ND	0.049		mg/Kg	1	12/17/2022 12:39:59 PM	72124
Ethylbenzene	ND	0.049		mg/Kg	1	12/17/2022 12:39:59 PM	72124
Xylenes, Total	ND	0.098		mg/Kg	1	12/17/2022 12:39:59 PM	72124
Surr: 4-Bromofluorobenzene	85.7	70-130		%Rec	1	12/17/2022 12:39:59 PM	72124

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWA1

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 10:50:00 AM

Lab ID: 2212907-005

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	12/21/2022 11:58:22 AM	72246
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/19/2022 10:52:40 AM	72140
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/19/2022 10:52:40 AM	72140
Surr: DNOP	111	21-129		%Rec	1	12/19/2022 10:52:40 AM	72140
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/17/2022 1:03:17 PM	72124
Surr: BFB	85.2	37.7-212		%Rec	1	12/17/2022 1:03:17 PM	72124
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	12/17/2022 1:03:17 PM	72124
Toluene	ND	0.049		mg/Kg	1	12/17/2022 1:03:17 PM	72124
Ethylbenzene	ND	0.049		mg/Kg	1	12/17/2022 1:03:17 PM	72124
Xylenes, Total	ND	0.097		mg/Kg	1	12/17/2022 1:03:17 PM	72124
Surr: 4-Bromofluorobenzene	85.8	70-130		%Rec	1	12/17/2022 1:03:17 PM	72124

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWA2

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 10:55:00 AM

Lab ID: 2212907-006

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	61		mg/Kg	20	12/21/2022 1:00:25 PM	72246
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/19/2022 11:03:14 AM	72140
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/19/2022 11:03:14 AM	72140
Surr: DNOP	124	21-129		%Rec	1	12/19/2022 11:03:14 AM	72140
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/17/2022 2:13:15 PM	72124
Surr: BFB	86.1	37.7-212		%Rec	1	12/17/2022 2:13:15 PM	72124
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	12/17/2022 2:13:15 PM	72124
Toluene	ND	0.049		mg/Kg	1	12/17/2022 2:13:15 PM	72124
Ethylbenzene	ND	0.049		mg/Kg	1	12/17/2022 2:13:15 PM	72124
Xylenes, Total	ND	0.098		mg/Kg	1	12/17/2022 2:13:15 PM	72124
Surr: 4-Bromofluorobenzene	86.8	70-130		%Rec	1	12/17/2022 2:13:15 PM	72124

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWA3

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 11:00:00 AM

Lab ID: 2212907-007

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	12/21/2022 1:37:39 PM	72246
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/19/2022 11:13:49 AM	72140
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/19/2022 11:13:49 AM	72140
Surr: DNOP	98.4	21-129		%Rec	1	12/19/2022 11:13:49 AM	72140
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/17/2022 2:36:37 PM	72124
Surr: BFB	85.6	37.7-212		%Rec	1	12/17/2022 2:36:37 PM	72124
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	12/17/2022 2:36:37 PM	72124
Toluene	ND	0.049		mg/Kg	1	12/17/2022 2:36:37 PM	72124
Ethylbenzene	ND	0.049		mg/Kg	1	12/17/2022 2:36:37 PM	72124
Xylenes, Total	ND	0.098		mg/Kg	1	12/17/2022 2:36:37 PM	72124
Surr: 4-Bromofluorobenzene	86.5	70-130		%Rec	1	12/17/2022 2:36:37 PM	72124

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHB1

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 11:05:00 AM

Lab ID: 2212907-008

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	550	59		mg/Kg	20	12/21/2022 1:50:03 PM	72246
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/19/2022 11:24:25 AM	72140
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/19/2022 11:24:25 AM	72140
Surr: DNOP	102	21-129		%Rec	1	12/19/2022 11:24:25 AM	72140
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/17/2022 3:00:03 PM	72124
Surr: BFB	86.0	37.7-212		%Rec	1	12/17/2022 3:00:03 PM	72124
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	12/17/2022 3:00:03 PM	72124
Toluene	ND	0.048		mg/Kg	1	12/17/2022 3:00:03 PM	72124
Ethylbenzene	ND	0.048		mg/Kg	1	12/17/2022 3:00:03 PM	72124
Xylenes, Total	ND	0.097		mg/Kg	1	12/17/2022 3:00:03 PM	72124
Surr: 4-Bromofluorobenzene	87.0	70-130		%Rec	1	12/17/2022 3:00:03 PM	72124

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHB2

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 11:10:00 AM

Lab ID: 2212907-009

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	730	60		mg/Kg	20	12/21/2022 2:02:28 PM	72246
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/19/2022 1:41:20 PM	72140
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/19/2022 1:41:20 PM	72140
Surr: DNOP	118	21-129		%Rec	1	12/19/2022 1:41:20 PM	72140
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/17/2022 3:23:25 PM	72124
Surr: BFB	85.6	37.7-212		%Rec	1	12/17/2022 3:23:25 PM	72124
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	12/17/2022 3:23:25 PM	72124
Toluene	ND	0.048		mg/Kg	1	12/17/2022 3:23:25 PM	72124
Ethylbenzene	ND	0.048		mg/Kg	1	12/17/2022 3:23:25 PM	72124
Xylenes, Total	ND	0.096		mg/Kg	1	12/17/2022 3:23:25 PM	72124
Surr: 4-Bromofluorobenzene	85.7	70-130		%Rec	1	12/17/2022 3:23:25 PM	72124

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHB3

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 11:15:00 AM

Lab ID: 2212907-010

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	510	60		mg/Kg	20	12/21/2022 2:14:53 PM	72246
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/19/2022 1:51:56 PM	72140
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/19/2022 1:51:56 PM	72140
Surr: DNOP	113	21-129		%Rec	1	12/19/2022 1:51:56 PM	72140
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/17/2022 3:46:50 PM	72124
Surr: BFB	84.6	37.7-212		%Rec	1	12/17/2022 3:46:50 PM	72124
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	12/17/2022 3:46:50 PM	72124
Toluene	ND	0.048		mg/Kg	1	12/17/2022 3:46:50 PM	72124
Ethylbenzene	ND	0.048		mg/Kg	1	12/17/2022 3:46:50 PM	72124
Xylenes, Total	ND	0.097		mg/Kg	1	12/17/2022 3:46:50 PM	72124
Surr: 4-Bromofluorobenzene	85.1	70-130		%Rec	1	12/17/2022 3:46:50 PM	72124

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHB4

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 11:20:00 AM

Lab ID: 2212907-011

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	280	61		mg/Kg	20	12/21/2022 2:27:17 PM	72246
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/19/2022 2:02:33 PM	72140
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/19/2022 2:02:33 PM	72140
Surr: DNOP	107	21-129		%Rec	1	12/19/2022 2:02:33 PM	72140
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/17/2022 4:10:16 PM	72124
Surr: BFB	87.0	37.7-212		%Rec	1	12/17/2022 4:10:16 PM	72124
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	12/17/2022 4:10:16 PM	72124
Toluene	ND	0.048		mg/Kg	1	12/17/2022 4:10:16 PM	72124
Ethylbenzene	ND	0.048		mg/Kg	1	12/17/2022 4:10:16 PM	72124
Xylenes, Total	ND	0.096		mg/Kg	1	12/17/2022 4:10:16 PM	72124
Surr: 4-Bromofluorobenzene	87.2	70-130		%Rec	1	12/17/2022 4:10:16 PM	72124

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHB5

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 11:25:00 AM

Lab ID: 2212907-012

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	400	60		mg/Kg	20	12/21/2022 3:04:31 PM	72246
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/19/2022 2:13:20 PM	72140
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/19/2022 2:13:20 PM	72140
Surr: DNOP	107	21-129		%Rec	1	12/19/2022 2:13:20 PM	72140
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/17/2022 4:33:45 PM	72124
Surr: BFB	86.0	37.7-212		%Rec	1	12/17/2022 4:33:45 PM	72124
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	12/17/2022 4:33:45 PM	72124
Toluene	ND	0.048		mg/Kg	1	12/17/2022 4:33:45 PM	72124
Ethylbenzene	ND	0.048		mg/Kg	1	12/17/2022 4:33:45 PM	72124
Xylenes, Total	ND	0.096		mg/Kg	1	12/17/2022 4:33:45 PM	72124
Surr: 4-Bromofluorobenzene	86.6	70-130		%Rec	1	12/17/2022 4:33:45 PM	72124

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHB6

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 11:30:00 AM

Lab ID: 2212907-013

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	12/21/2022 3:16:56 PM	72246
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/19/2022 2:24:08 PM	72140
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/19/2022 2:24:08 PM	72140
Surr: DNOP	107	21-129		%Rec	1	12/19/2022 2:24:08 PM	72140
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/17/2022 4:57:06 PM	72124
Surr: BFB	86.0	37.7-212		%Rec	1	12/17/2022 4:57:06 PM	72124
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	12/17/2022 4:57:06 PM	72124
Toluene	ND	0.048		mg/Kg	1	12/17/2022 4:57:06 PM	72124
Ethylbenzene	ND	0.048		mg/Kg	1	12/17/2022 4:57:06 PM	72124
Xylenes, Total	ND	0.097		mg/Kg	1	12/17/2022 4:57:06 PM	72124
Surr: 4-Bromofluorobenzene	87.1	70-130		%Rec	1	12/17/2022 4:57:06 PM	72124

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWB1

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 11:35:00 AM

Lab ID: 2212907-014

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	65	60		mg/Kg	20	12/21/2022 3:29:21 PM	72246
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/19/2022 2:34:54 PM	72140
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/19/2022 2:34:54 PM	72140
Surr: DNOP	110	21-129		%Rec	1	12/19/2022 2:34:54 PM	72140
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/17/2022 5:20:31 PM	72124
Surr: BFB	86.0	37.7-212		%Rec	1	12/17/2022 5:20:31 PM	72124
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	12/17/2022 5:20:31 PM	72124
Toluene	ND	0.048		mg/Kg	1	12/17/2022 5:20:31 PM	72124
Ethylbenzene	ND	0.048		mg/Kg	1	12/17/2022 5:20:31 PM	72124
Xylenes, Total	ND	0.097		mg/Kg	1	12/17/2022 5:20:31 PM	72124
Surr: 4-Bromofluorobenzene	86.5	70-130		%Rec	1	12/17/2022 5:20:31 PM	72124

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWB2

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 11:40:00 AM

Lab ID: 2212907-015

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	210	60		mg/Kg	20	12/21/2022 3:41:45 PM	72246
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/19/2022 2:45:37 PM	72140
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/19/2022 2:45:37 PM	72140
Surr: DNOP	110	21-129		%Rec	1	12/19/2022 2:45:37 PM	72140
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/17/2022 5:43:54 PM	72124
Surr: BFB	86.3	37.7-212		%Rec	1	12/17/2022 5:43:54 PM	72124
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	12/17/2022 5:43:54 PM	72124
Toluene	ND	0.049		mg/Kg	1	12/17/2022 5:43:54 PM	72124
Ethylbenzene	ND	0.049		mg/Kg	1	12/17/2022 5:43:54 PM	72124
Xylenes, Total	ND	0.098		mg/Kg	1	12/17/2022 5:43:54 PM	72124
Surr: 4-Bromofluorobenzene	86.2	70-130		%Rec	1	12/17/2022 5:43:54 PM	72124

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWB3

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 11:45:00 AM

Lab ID: 2212907-016

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	12/21/2022 3:54:10 PM	72246
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/19/2022 2:56:34 PM	72140
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/19/2022 2:56:34 PM	72140
Surr: DNOP	111	21-129		%Rec	1	12/19/2022 2:56:34 PM	72140
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/16/2022 9:37:00 PM	72134
Surr: BFB	94.9	37.7-212		%Rec	1	12/16/2022 9:37:00 PM	72134
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	12/16/2022 9:37:00 PM	72134
Toluene	ND	0.049		mg/Kg	1	12/16/2022 9:37:00 PM	72134
Ethylbenzene	ND	0.049		mg/Kg	1	12/16/2022 9:37:00 PM	72134
Xylenes, Total	ND	0.099		mg/Kg	1	12/16/2022 9:37:00 PM	72134
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	12/16/2022 9:37:00 PM	72134

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHC1

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 11:50:00 AM

Lab ID: 2212907-017

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	59		mg/Kg	20	12/21/2022 4:06:35 PM	72246
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/19/2022 3:07:30 PM	72140
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/19/2022 3:07:30 PM	72140
Surr: DNOP	109	21-129		%Rec	1	12/19/2022 3:07:30 PM	72140
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/16/2022 10:36:00 PM	72134
Surr: BFB	100	37.7-212		%Rec	1	12/16/2022 10:36:00 PM	72134
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	12/16/2022 10:36:00 PM	72134
Toluene	ND	0.049		mg/Kg	1	12/16/2022 10:36:00 PM	72134
Ethylbenzene	ND	0.049		mg/Kg	1	12/16/2022 10:36:00 PM	72134
Xylenes, Total	ND	0.097		mg/Kg	1	12/16/2022 10:36:00 PM	72134
Surr: 4-Bromofluorobenzene	107	70-130		%Rec	1	12/16/2022 10:36:00 PM	72134

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHC2

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 11:55:00 AM

Lab ID: 2212907-018

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	12/21/2022 4:18:59 PM	72246
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/19/2022 4:26:36 PM	72140
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/19/2022 4:26:36 PM	72140
Surr: DNOP	110	21-129		%Rec	1	12/19/2022 4:26:36 PM	72140
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/16/2022 11:34:00 PM	72134
Surr: BFB	97.6	37.7-212		%Rec	1	12/16/2022 11:34:00 PM	72134
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	12/16/2022 11:34:00 PM	72134
Toluene	ND	0.048		mg/Kg	1	12/16/2022 11:34:00 PM	72134
Ethylbenzene	ND	0.048		mg/Kg	1	12/16/2022 11:34:00 PM	72134
Xylenes, Total	ND	0.097		mg/Kg	1	12/16/2022 11:34:00 PM	72134
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	12/16/2022 11:34:00 PM	72134

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHC3

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 12:00:00 PM

Lab ID: 2212907-019

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	110	60		mg/Kg	20	12/21/2022 4:31:23 PM	72246
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/19/2022 4:37:33 PM	72140
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/19/2022 4:37:33 PM	72140
Surr: DNOP	111	21-129		%Rec	1	12/19/2022 4:37:33 PM	72140
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/16/2022 11:53:00 PM	72134
Surr: BFB	96.6	37.7-212		%Rec	1	12/16/2022 11:53:00 PM	72134
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	12/16/2022 11:53:00 PM	72134
Toluene	ND	0.049		mg/Kg	1	12/16/2022 11:53:00 PM	72134
Ethylbenzene	ND	0.049		mg/Kg	1	12/16/2022 11:53:00 PM	72134
Xylenes, Total	ND	0.097		mg/Kg	1	12/16/2022 11:53:00 PM	72134
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	12/16/2022 11:53:00 PM	72134

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHC4

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 12:05:00 PM

Lab ID: 2212907-020

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	12/21/2022 5:33:26 PM	72247
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/19/2022 5:25:28 PM	72144
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/19/2022 5:25:28 PM	72144
Surr: DNOP	134	21-129	S	%Rec	1	12/19/2022 5:25:28 PM	72144
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/17/2022 12:13:00 AM	72134
Surr: BFB	96.9	37.7-212		%Rec	1	12/17/2022 12:13:00 AM	72134
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	12/17/2022 12:13:00 AM	72134
Toluene	ND	0.049		mg/Kg	1	12/17/2022 12:13:00 AM	72134
Ethylbenzene	ND	0.049		mg/Kg	1	12/17/2022 12:13:00 AM	72134
Xylenes, Total	ND	0.097		mg/Kg	1	12/17/2022 12:13:00 AM	72134
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	12/17/2022 12:13:00 AM	72134

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHC5

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 12:10:00 PM

Lab ID: 2212907-021

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	110	60		mg/Kg	20	12/21/2022 5:45:51 PM	72247
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/19/2022 5:57:33 PM	72144
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/19/2022 5:57:33 PM	72144
Surr: DNOP	110	21-129		%Rec	1	12/19/2022 5:57:33 PM	72144
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/17/2022 12:32:00 AM	72134
Surr: BFB	94.6	37.7-212		%Rec	1	12/17/2022 12:32:00 AM	72134
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	12/17/2022 12:32:00 AM	72134
Toluene	ND	0.050		mg/Kg	1	12/17/2022 12:32:00 AM	72134
Ethylbenzene	ND	0.050		mg/Kg	1	12/17/2022 12:32:00 AM	72134
Xylenes, Total	ND	0.099		mg/Kg	1	12/17/2022 12:32:00 AM	72134
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	12/17/2022 12:32:00 AM	72134

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWC1

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 12:15:00 PM

Lab ID: 2212907-022

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	12/21/2022 5:58:15 PM	72247
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/19/2022 6:18:31 PM	72144
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/19/2022 6:18:31 PM	72144
Surr: DNOP	112	21-129		%Rec	1	12/19/2022 6:18:31 PM	72144
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/17/2022 12:52:00 AM	72134
Surr: BFB	94.0	37.7-212		%Rec	1	12/17/2022 12:52:00 AM	72134
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	12/17/2022 12:52:00 AM	72134
Toluene	ND	0.048		mg/Kg	1	12/17/2022 12:52:00 AM	72134
Ethylbenzene	ND	0.048		mg/Kg	1	12/17/2022 12:52:00 AM	72134
Xylenes, Total	ND	0.096		mg/Kg	1	12/17/2022 12:52:00 AM	72134
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	12/17/2022 12:52:00 AM	72134

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWC2

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 12:20:00 PM

Lab ID: 2212907-023

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	12/21/2022 6:35:30 PM	72247
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/19/2022 6:29:03 PM	72144
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/19/2022 6:29:03 PM	72144
Surr: DNOP	110	21-129		%Rec	1	12/19/2022 6:29:03 PM	72144
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/17/2022 1:11:00 AM	72134
Surr: BFB	94.6	37.7-212		%Rec	1	12/17/2022 1:11:00 AM	72134
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	12/17/2022 1:11:00 AM	72134
Toluene	ND	0.048		mg/Kg	1	12/17/2022 1:11:00 AM	72134
Ethylbenzene	ND	0.048		mg/Kg	1	12/17/2022 1:11:00 AM	72134
Xylenes, Total	ND	0.097		mg/Kg	1	12/17/2022 1:11:00 AM	72134
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	12/17/2022 1:11:00 AM	72134

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWC3

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 12:25:00 PM

Lab ID: 2212907-024

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	12/21/2022 7:12:45 PM	72247
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/19/2022 6:39:33 PM	72144
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/19/2022 6:39:33 PM	72144
Surr: DNOP	112	21-129		%Rec	1	12/19/2022 6:39:33 PM	72144
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/17/2022 1:31:00 AM	72134
Surr: BFB	97.6	37.7-212		%Rec	1	12/17/2022 1:31:00 AM	72134
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	12/17/2022 1:31:00 AM	72134
Toluene	ND	0.049		mg/Kg	1	12/17/2022 1:31:00 AM	72134
Ethylbenzene	ND	0.049		mg/Kg	1	12/17/2022 1:31:00 AM	72134
Xylenes, Total	ND	0.097		mg/Kg	1	12/17/2022 1:31:00 AM	72134
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	12/17/2022 1:31:00 AM	72134

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHD1

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 12:30:00 PM

Lab ID: 2212907-025

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	61		mg/Kg	20	12/21/2022 7:25:10 PM	72247
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/19/2022 6:50:01 PM	72144
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/19/2022 6:50:01 PM	72144
Surr: DNOP	124	21-129		%Rec	1	12/19/2022 6:50:01 PM	72144
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/17/2022 1:50:00 AM	72134
Surr: BFB	95.2	37.7-212		%Rec	1	12/17/2022 1:50:00 AM	72134
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	12/17/2022 1:50:00 AM	72134
Toluene	ND	0.049		mg/Kg	1	12/17/2022 1:50:00 AM	72134
Ethylbenzene	ND	0.049		mg/Kg	1	12/17/2022 1:50:00 AM	72134
Xylenes, Total	ND	0.099		mg/Kg	1	12/17/2022 1:50:00 AM	72134
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	12/17/2022 1:50:00 AM	72134

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHD2

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 12:35:00 PM

Lab ID: 2212907-026

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	61		mg/Kg	20	12/21/2022 8:02:23 PM	72247
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/19/2022 7:00:29 PM	72144
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/19/2022 7:00:29 PM	72144
Surr: DNOP	120	21-129		%Rec	1	12/19/2022 7:00:29 PM	72144
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/17/2022 2:29:00 AM	72134
Surr: BFB	91.9	37.7-212		%Rec	1	12/17/2022 2:29:00 AM	72134
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	12/17/2022 2:29:00 AM	72134
Toluene	ND	0.048		mg/Kg	1	12/17/2022 2:29:00 AM	72134
Ethylbenzene	ND	0.048		mg/Kg	1	12/17/2022 2:29:00 AM	72134
Xylenes, Total	ND	0.097		mg/Kg	1	12/17/2022 2:29:00 AM	72134
Surr: 4-Bromofluorobenzene	99.8	70-130		%Rec	1	12/17/2022 2:29:00 AM	72134

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHD3

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 12:40:00 PM

Lab ID: 2212907-027

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	59		mg/Kg	20	12/21/2022 8:14:47 PM	72247
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/19/2022 7:10:56 PM	72144
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/19/2022 7:10:56 PM	72144
Surr: DNOP	122	21-129		%Rec	1	12/19/2022 7:10:56 PM	72144
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/17/2022 2:48:00 AM	72134
Surr: BFB	91.4	37.7-212		%Rec	1	12/17/2022 2:48:00 AM	72134
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	12/17/2022 2:48:00 AM	72134
Toluene	ND	0.048		mg/Kg	1	12/17/2022 2:48:00 AM	72134
Ethylbenzene	ND	0.048		mg/Kg	1	12/17/2022 2:48:00 AM	72134
Xylenes, Total	ND	0.097		mg/Kg	1	12/17/2022 2:48:00 AM	72134
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	12/17/2022 2:48:00 AM	72134

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHD4

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 12:45:00 PM

Lab ID: 2212907-028

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	170	60		mg/Kg	20	12/21/2022 8:27:13 PM	72247
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/19/2022 7:21:25 PM	72144
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/19/2022 7:21:25 PM	72144
Surr: DNOP	118	21-129		%Rec	1	12/19/2022 7:21:25 PM	72144
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/17/2022 3:08:00 AM	72134
Surr: BFB	94.1	37.7-212		%Rec	1	12/17/2022 3:08:00 AM	72134
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	12/17/2022 3:08:00 AM	72134
Toluene	ND	0.049		mg/Kg	1	12/17/2022 3:08:00 AM	72134
Ethylbenzene	ND	0.049		mg/Kg	1	12/17/2022 3:08:00 AM	72134
Xylenes, Total	ND	0.098		mg/Kg	1	12/17/2022 3:08:00 AM	72134
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	12/17/2022 3:08:00 AM	72134

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: BHD5

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 12:50:00 PM

Lab ID: 2212907-029

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	61	60		mg/Kg	20	12/21/2022 8:39:37 PM	72247
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/19/2022 7:31:55 PM	72144
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/19/2022 7:31:55 PM	72144
Surr: DNOP	114	21-129		%Rec	1	12/19/2022 7:31:55 PM	72144
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/17/2022 3:27:00 AM	72134
Surr: BFB	94.0	37.7-212		%Rec	1	12/17/2022 3:27:00 AM	72134
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	12/17/2022 3:27:00 AM	72134
Toluene	ND	0.050		mg/Kg	1	12/17/2022 3:27:00 AM	72134
Ethylbenzene	ND	0.050		mg/Kg	1	12/17/2022 3:27:00 AM	72134
Xylenes, Total	ND	0.10		mg/Kg	1	12/17/2022 3:27:00 AM	72134
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	12/17/2022 3:27:00 AM	72134

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWD1

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 12:55:00 PM

Lab ID: 2212907-030

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	12/21/2022 8:52:02 PM	72247
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/19/2022 7:42:26 PM	72144
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/19/2022 7:42:26 PM	72144
Surr: DNOP	120	21-129		%Rec	1	12/19/2022 7:42:26 PM	72144
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/17/2022 3:46:00 AM	72134
Surr: BFB	97.3	37.7-212		%Rec	1	12/17/2022 3:46:00 AM	72134
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	12/17/2022 3:46:00 AM	72134
Toluene	ND	0.049		mg/Kg	1	12/17/2022 3:46:00 AM	72134
Ethylbenzene	ND	0.049		mg/Kg	1	12/17/2022 3:46:00 AM	72134
Xylenes, Total	ND	0.098		mg/Kg	1	12/17/2022 3:46:00 AM	72134
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	12/17/2022 3:46:00 AM	72134

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWD2

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 1:00:00 PM

Lab ID: 2212907-031

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	240	60		mg/Kg	20	12/21/2022 9:04:26 PM	72247
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/19/2022 7:52:57 PM	72144
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/19/2022 7:52:57 PM	72144
Surr: DNOP	109	21-129		%Rec	1	12/19/2022 7:52:57 PM	72144
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/17/2022 4:06:00 AM	72134
Surr: BFB	95.7	37.7-212		%Rec	1	12/17/2022 4:06:00 AM	72134
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	12/17/2022 4:06:00 AM	72134
Toluene	ND	0.048		mg/Kg	1	12/17/2022 4:06:00 AM	72134
Ethylbenzene	ND	0.048		mg/Kg	1	12/17/2022 4:06:00 AM	72134
Xylenes, Total	ND	0.096		mg/Kg	1	12/17/2022 4:06:00 AM	72134
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	12/17/2022 4:06:00 AM	72134

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2212907

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Midland

Client Sample ID: SWD3

Project: Unocal AHU Federal 1

Collection Date: 12/13/2022 1:05:00 PM

Lab ID: 2212907-032

Matrix: SOIL

Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	140	60		mg/Kg	20	12/21/2022 9:16:50 PM	72247
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/19/2022 8:03:28 PM	72144
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/19/2022 8:03:28 PM	72144
Surr: DNOP	108	21-129		%Rec	1	12/19/2022 8:03:28 PM	72144
EPA METHOD 8015D: GASOLINE RANGE							Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/17/2022 4:25:00 AM	72134
Surr: BFB	90.4	37.7-212		%Rec	1	12/17/2022 4:25:00 AM	72134
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	12/17/2022 4:25:00 AM	72134
Toluene	ND	0.049		mg/Kg	1	12/17/2022 4:25:00 AM	72134
Ethylbenzene	ND	0.049		mg/Kg	1	12/17/2022 4:25:00 AM	72134
Xylenes, Total	ND	0.098		mg/Kg	1	12/17/2022 4:25:00 AM	72134
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	12/17/2022 4:25:00 AM	72134

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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

WO#: 2212907

23-Dec-22

Client: GHD Midland
Project: Unocal AHU Federal 1

Sample ID: MB-72145	SampType: mblk				TestCode: EPA Method 300.0: Anions					
Client ID: PBS	Batch ID: 72145				RunNo: 93360					
Prep Date: 12/16/2022	Analysis Date: 12/16/2022				SeqNo: 3367791	Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-72145	SampType: lcs				TestCode: EPA Method 300.0: Anions					
Client ID: LCSS	Batch ID: 72145				RunNo: 93360					
Prep Date: 12/16/2022	Analysis Date: 12/16/2022				SeqNo: 3367792	Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.0	90	110			

Sample ID: MB-72246	SampType: mblk				TestCode: EPA Method 300.0: Anions					
Client ID: PBS	Batch ID: 72246				RunNo: 93460					
Prep Date: 12/21/2022	Analysis Date: 12/21/2022				SeqNo: 3372167	Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-72246	SampType: lcs				TestCode: EPA Method 300.0: Anions					
Client ID: LCSS	Batch ID: 72246				RunNo: 93460					
Prep Date: 12/21/2022	Analysis Date: 12/21/2022				SeqNo: 3372168	Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.4	90	110			

Sample ID: MB-72247	SampType: mblk				TestCode: EPA Method 300.0: Anions					
Client ID: PBS	Batch ID: 72247				RunNo: 93460					
Prep Date: 12/21/2022	Analysis Date: 12/21/2022				SeqNo: 3372197	Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-72247	SampType: lcs				TestCode: EPA Method 300.0: Anions					
Client ID: LCSS	Batch ID: 72247				RunNo: 93460					
Prep Date: 12/21/2022	Analysis Date: 12/21/2022				SeqNo: 3372198	Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.0	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

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

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

WO#: 2212907

23-Dec-22

Client: GHD Midland
Project: Unocal AHU Federal 1

Sample ID: 2212907-001AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: BHA1	Batch ID: 72140	RunNo: 93393								
Prep Date: 12/16/2022	Analysis Date: 12/19/2022	SeqNo: 3368165 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	39	15	48.40	0	81.5	36.1	154			
Surr: DNOP	5.2		4.840		107	21	129			

Sample ID: 2212907-001AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: BHA1	Batch ID: 72140	RunNo: 93393								
Prep Date: 12/16/2022	Analysis Date: 12/19/2022	SeqNo: 3368166 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	39	15	49.65	0	78.4	36.1	154	1.32	33.9	
Surr: DNOP	5.3		4.965		107	21	129	0	0	

Sample ID: LCS-72140	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 72140	RunNo: 93393								
Prep Date: 12/16/2022	Analysis Date: 12/19/2022	SeqNo: 3368186 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	38	15	50.00	0	76.4	64.4	127			
Surr: DNOP	5.2		5.000		103	21	129			

Sample ID: MB-72140	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 72140	RunNo: 93393								
Prep Date: 12/16/2022	Analysis Date: 12/19/2022	SeqNo: 3368187 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.6		10.00		96.2	21	129			

Sample ID: 2212907-020AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: BHC4	Batch ID: 72144	RunNo: 93393								
Prep Date: 12/16/2022	Analysis Date: 12/19/2022	SeqNo: 3369414 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	38	14	48.26	0	78.0	36.1	154			
Surr: DNOP	5.4		4.826		112	21	129			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

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

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

WO#: 2212907

23-Dec-22

Client: GHD Midland
Project: Unocal AHU Federal 1

Sample ID: 2212907-020AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: BHC4	Batch ID: 72144	RunNo: 93393								
Prep Date: 12/16/2022	Analysis Date: 12/19/2022	SeqNo: 3369415 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	15	49.70	0	87.0	36.1	154	13.8	33.9	
Surr: DNOP	5.7		4.970		114	21	129	0	0	

Sample ID: LCS-72144	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 72144	RunNo: 93393								
Prep Date: 12/16/2022	Analysis Date: 12/19/2022	SeqNo: 3369432 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	37	15	50.00	0	75.0	64.4	127			
Surr: DNOP	5.1		5.000		103	21	129			

Sample ID: MB-72144	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 72144	RunNo: 93393								
Prep Date: 12/16/2022	Analysis Date: 12/19/2022	SeqNo: 3369433 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		105	21	129			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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

WO#: 2212907

23-Dec-22

Client: GHD Midland
Project: Unocal AHU Federal 1

Sample ID: mb-72124	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 72124			RunNo: 93355						
Prep Date: 12/15/2022	Analysis Date: 12/17/2022			SeqNo: 3366805		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	790		1000		78.7	37.7	212			

Sample ID: lcs-72124	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 72124			RunNo: 93355						
Prep Date: 12/15/2022	Analysis Date: 12/17/2022			SeqNo: 3366806		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	86.7	72.3	137			
Surr: BFB	1700		1000		170	37.7	212			

Sample ID: lcs-72134	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 72134			RunNo: 93374						
Prep Date: 12/15/2022	Analysis Date: 12/16/2022			SeqNo: 3366948		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	97.8	72.3	137			
Surr: BFB	2200		1000		220	37.7	212			S

Sample ID: mb-72134	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 72134			RunNo: 93374						
Prep Date: 12/15/2022	Analysis Date: 12/16/2022			SeqNo: 3366949		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	990		1000		98.9	37.7	212			

Sample ID: 2212907-016ams	SampType: MS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: SWB3	Batch ID: 72134			RunNo: 93374						
Prep Date: 12/15/2022	Analysis Date: 12/16/2022			SeqNo: 3366951		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	4.9	24.58	0	104	70	130			
Surr: BFB	2200		983.3		225	37.7	212			S

Sample ID: 2212907-016amsd	SampType: MSD			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: SWB3	Batch ID: 72134			RunNo: 93374						
Prep Date: 12/15/2022	Analysis Date: 12/16/2022			SeqNo: 3366952		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2212907

23-Dec-22

Client: GHD Midland

Project: Unocal AHU Federal 1

Sample ID: 2212907-016amsd		SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range						
Client ID: SWB3		Batch ID: 72134		RunNo: 93374						
Prep Date: 12/15/2022		Analysis Date: 12/16/2022		SeqNo: 3366952		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	4.9	24.68	0	98.8	70	130	4.35	20	
Surr: BFB	2100		987.2		215	37.7	212	0	0	S

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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

WO#: 2212907

23-Dec-22

Client: GHD Midland
Project: Unocal AHU Federal 1

Sample ID: mb-72124	SampType: MBLK			TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS	Batch ID: 72124			RunNo: 93355						
Prep Date: 12/15/2022	Analysis Date: 12/17/2022			SeqNo: 3366878			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.82		1.000		81.6	70	130			

Sample ID: LCS-72124	SampType: LCS			TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS	Batch ID: 72124			RunNo: 93355						
Prep Date: 12/15/2022	Analysis Date: 12/17/2022			SeqNo: 3366879			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.84	0.025	1.000	0	84.5	80	120			
Toluene	0.87	0.050	1.000	0	86.8	80	120			
Ethylbenzene	0.85	0.050	1.000	0	84.9	80	120			
Xylenes, Total	2.6	0.10	3.000	0	85.1	80	120			
Surr: 4-Bromofluorobenzene	0.83		1.000		83.4	70	130			

Sample ID: lcs-72134	SampType: LCS			TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS	Batch ID: 72134			RunNo: 93374						
Prep Date: 12/15/2022	Analysis Date: 12/16/2022			SeqNo: 3367017			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.025	1.000	0	98.8	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.0	0.050	1.000	0	102	80	120			
Xylenes, Total	3.1	0.10	3.000	0	102	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		107	70	130			

Sample ID: mb-72134	SampType: MBLK			TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS	Batch ID: 72134			RunNo: 93374						
Prep Date: 12/15/2022	Analysis Date: 12/16/2022			SeqNo: 3367018			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		105	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2212907

23-Dec-22

Client: GHD Midland
Project: Unocal AHU Federal 1

Sample ID: 2212907-017ams	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: BHC1	Batch ID: 72134	RunNo: 93374								
Prep Date: 12/15/2022	Analysis Date: 12/16/2022	SeqNo: 3367021	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.024	0.9756	0	103	68.8	120			
Toluene	1.0	0.049	0.9756	0	106	73.6	124			
Ethylbenzene	1.1	0.049	0.9756	0	108	72.7	129			
Xylenes, Total	3.2	0.098	2.927	0	108	75.7	126			
Surr: 4-Bromofluorobenzene	1.1		0.9756		108	70	130			

Sample ID: 2212907-017amsd	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: BHC1	Batch ID: 72134	RunNo: 93374								
Prep Date: 12/15/2022	Analysis Date: 12/16/2022	SeqNo: 3367022	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.024	0.9756	0	106	68.8	120	2.86	20	
Toluene	1.1	0.049	0.9756	0	110	73.6	124	3.47	20	
Ethylbenzene	1.1	0.049	0.9756	0	110	72.7	129	1.89	20	
Xylenes, Total	3.2	0.098	2.927	0	110	75.7	126	1.90	20	
Surr: 4-Bromofluorobenzene	1.0		0.9756		106	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Sample Log-In Check List

Client Name: GHD Midland

Work Order Number: 2212907

RcptNo: 1

Received By: **Tracy Casarrubias** 12/15/2022 7:55:00 AM

Completed By: **Tracy Casarrubias** 12/15/2022 8:16:52 AM

Reviewed By: *AS* 12-15-22

Chain of Custody

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

Log In

- | | | | |
|--|---|--|--|
| 3. Was an attempt made to cool the samples? | Yes ☒ | No ☐ | NA ☐ |
| 4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C | Yes ☒ | No ☐ | NA ☐ |
| 5. Sample(s) in proper container(s)? | Yes ☒ | No ☐ | |
| 6. Sufficient sample volume for indicated test(s)? | Yes ☒ | No ☐ | |
| 7. Are samples (except VOA and ONG) properly preserved? | Yes ☒ | No ☐ | |
| 8. Was preservative added to bottles? | Yes ☐ | No ☒ | NA ☐ |
| 9. Received at least 1 vial with headspace $<1/4"$ for AQ VOA? | Yes ☐ | No ☐ | NA ☒ |
| 10. Were any sample containers received broken? | Yes ☐ | No ☒ | |
| 11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) | Yes ☒ | No ☐ | |
| 12. Are matrices correctly identified on Chain of Custody? | Yes ☒ | No ☐ | |
| 13. Is it clear what analyses were requested? | Yes ☒ | No ☐ | |
| 14. Were all holding times able to be met?
(If no, notify customer for authorization.) | Yes ☒ | No ☐ | |
- # of preserved bottles checked for pH: (<2)

Adjusted? Adjusted by: _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.1	Good	Yes			

Chain-of-Custody Record

Client: GHD

Mailing Address: 324 W Main St.

Artesia, NM 88210

Phone #: (505) 377-4218

email or Fax#: nate.rece@ghd.com

QA/QC Package:

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

Turn-Around Time:

☐ Standard☒ Rush

Project Name:

Unocal AHU Federal #1

Project #:

11220756

Project Manager: Nate Reece

ST Marney

Sampler: Liam Giersdorf

On Ice: ☒ Yes ☐ No

of Coolers: 1

Cooler Temp (including cap): 11-18-11 (°C)

Container Type and #

Ice

Preservative Type

Ice

HEAL No.

2212907

Date

12/13

Time

10:30

Matrix

Soil

Sample Name

BH41

Date

10/35

Time

10:40

Matrix

Soil

Sample Name

BH42

Date

10/45

Time

10:50

Matrix

Soil

Sample Name

BH43

Date

10/50

Time

11:00

Matrix

Soil

Sample Name

BH44

Date

10/50

Time

11:05

Matrix

Soil

Sample Name

BH45

Date

11/10

Time

11:15

Matrix

Soil

Sample Name

BH46

Date

11/15

Time

11:20

Matrix

Soil

Sample Name

BH47

Date

11/20

Time

11:25

Matrix

Soil

Sample Name

BH48

Date

11/25

Time

11:30

Matrix

Soil

Sample Name

BH49

Date

11/30

Time

11:35

Matrix

Soil

Sample Name

BH50

Date

12/01

Time

11:40

Matrix

Soil

Sample Name

BH51

Date

12/05

Time

11:45

Matrix

Soil

Sample Name

BH52

Date

12/10

Time

11:50

Matrix

Soil

Sample Name

BH53

Date

12/15

Time

11:55

Matrix

Soil

Sample Name

BH54

Date

12/20

Time

12:00

Matrix

Soil

Sample Name

BH55

Date

12/25

Time

12:05

Matrix

Soil

Sample Name

BH56

Date

12/30

Time

12:10

Matrix

Soil

Sample Name

BH57

Date

12/31

Time

12:15

Matrix

Soil

Sample Name

BH58

Date

1/1/24

Time

12:20

Matrix

Soil

Sample Name

BH59

Date

1/2/24

Time

12:25

Matrix

Soil

Sample Name

BH60

Date

1/3/24

Time

12:30

Matrix

Soil

Sample Name

BH61

Date

1/4/24

Time

12:35

Matrix

Soil

Sample Name

BH62

Date

1/5/24

Time

12:40

Matrix

Soil

Sample Name

BH63

Date

1/6/24

Time

12:45

Matrix

Soil

Sample Name

BH64

Date

1/7/24

Time

12:50

Matrix

Soil

Sample Name

BH65

Date

1/8/24

Time

12:55

Matrix

Soil

Sample Name

BH66

Date

1/9/24

Time

1:00

Matrix

Soil

Sample Name

BH67

Date

1/10/24

Time

1:05

Matrix

Soil

Sample Name

BH68

Date

1/11/24

Time

1:10

Matrix

Soil

Sample Name

BH69

Date

1/12/24

Time

1:15

Matrix

Soil

Sample Name

BH70

Date

1/13/24

Time

1:20

Matrix

Soil

Sample Name

BH71

Date

1/14/24

Time

1:25

Matrix

Soil

Sample Name

BH72

Date

1/15/24

Time

1:30

Matrix

Soil

Sample Name

BH73

Date

1/16/24

Time

1:35

Matrix

Soil

Sample Name

BH74

Date

1/17/24

Time

1:40

Matrix

Soil

Sample Name

BH75

Date

1/18/24

Time

1:45

Matrix

Soil

Sample Name

BH76

Date

1/19/24

Time

1:50

Matrix

Soil

Sample Name

BH77

Date

1/20/24

Time

1:55

Matrix

Soil

Sample Name

BH78

Date

1/21/24

Time

2:00

Matrix

Soil

Sample Name

BH79

Date

1/22/24

Time

2:05

Matrix

Soil

Sample Name

BH80

Date

1/23/24

Time

2:10

Matrix

Appendix D

Photographic Log



View of Area A facing southwest.



View of Area B facing east.

Site Photograph

EOG Unocal AHU Federal #1 Release Site.



GHD | Report for EOG | 11220756



View of Area C excavation facing northeast.



View of Area D excavation facing northeast.

Site Photograph

EOG Unocal AHU Federal #1 Release Site.



Appendix E

Sampling Notifications

Nate Reece

From: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Sent: Wednesday, December 7, 2022 9:19 AM
To: Nate Reece
Cc: Bratcher, Michael, EMNRD; Billings, Bradford, EMNRD
Subject: RE: [EXTERNAL] Sampling Notifications

You don't often get email from ocd.enviro@emnrd.nm.gov. [Learn why this is important](#)

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

Jocelyn Harimon • Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov
<http://www.emnrd.nm.gov>



From: Nate Reece <Nate.Reece@ghd.com>
Sent: Wednesday, December 7, 2022 7:35 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: J.T. Murrey <JT.Murrey@ghd.com>; Liam Giersdorf <Liam.Giersdorf@ghd.com>; James Kennedy <james_kennedy@eogresources.com>
Subject: [EXTERNAL] Sampling Notifications

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

To Whom it May Concern,

GHD on behalf of EOG Resources, respectfully submits notification of tentative sampling to be conducted at the below locations:

Hunt APO State #1
L-4-21S-34E
Lea County, NM
1RP-4892

Livingston Ridge SWD System
H-35-22S-31E
Eddy County, NM
2RP-3486

Unocal AHU Federal #1
J-1-22S-31E

Eddy County, NM
2RP-321

Sampling will begin at 7:00 a.m. on Monday, December 12 – December 16, 2022.

Thank You,

Nate Reece
Environmental Scientist

GHD
Proudly employee-owned | ghd.com
11451 Katy Fwy #400, Houston, TX 77079 United States
M +1 281 386 7158 | E nate.reece@ghd.com

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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

COMMENTS

Action 224647

COMMENTS

Operator: EOG RESOURCES INC P.O. Box 2267 Midland, TX 79702	OGRID: 7377
	Action Number: 224647
	Action Type: [C-141] Release Corrective Action (C-141)

COMMENTS

Created By	Comment	Comment Date
csmith	Returned to OCD Review, Application Coordinates didnt line up with documents coordinates, will rereview.	7/27/2023

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 224647

CONDITIONS

Operator: EOG RESOURCES INC P.O. Box 2267 Midland, TX 79702	OGRID: 7377
	Action Number: 224647
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	7/27/2023